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I. Letter from the Secretary-General

Highly Esteemed Delegates,
First of all, I would like to thank all of you for your enthusiasm and interest in our conference. My name is Yaren Keçili and I would like to express my gratitude to be able to welcome you to the seventh annual session of Troy Model United Nations Conference 2024 as your Secretary-General. This year, as always, we feel great joy to present to you our hard work. Both the academic and operations teams have been working very hard to serve you to the best of their abilities and give you an unforgettable experience.

This year, the delegates of UNEP will face the problem of Protection and Restoration of Ocean Habitats and Life. Oftentimes, as human beings, we tend to forget about the living that are not similar to us. Sea life is a neglected matter in awareness programs and for this reason, we wish for our delegates to contribute and ponder on this matter. As a part of the Academic team, I am delighted to be able to witness the work of both the chair board and you. I hope to see genuine interest and attentiveness in the committee. I also wish to thank Nur Elif Battal, who will serve as your Under-Secretary-General in UNEP and her chair board for their intricate work.

Once again I would like to welcome you all to both the conference and the committee. Buckle up and get ready because we have prepared an incredible ride for you. Let's have three days full of fun, diplomacy, and memories not to be forgotten.

Yours Sincerely,

Yaren Keçili
Secretary-General of TroyMUN

II. Letter From The Under-Secretary-General

Esteemed Delegates,
It is an honour to welcome you all to the UN Environment Programme of TROYMUN'24 on behalf of my chair board. I am Nur Elif Battal and very excited to be taking part in this conference once again. My wishes are for you to have a great time filled with diplomacy and dance in November.

The negative impacts of human activity to marine life and environment is often neglected and not spoken of. That is why this year's agenda item is about the oceans and the lives they are home to. My chair board and I hope that this committee will broaden our understanding of the world and make us fully aware of other living beings around us. With this study guide we provided you with information on the triple planetary crisis oceans face, what their effects on marine life are and what the world leaders have done to protect until now. It is time to hear your original ideas on the topic.

Lastly I would like to thank Ms. Cağlayan Nazlıca and Ms. Arzu Kotan for their years of efforts to make TROYMUN conferences a reality for all. And I also would like to thank my Secretary-General Yaren Keçili for supporting us until now.

See you all in November.

Sincerely,

Nur Elif Battal
Under-Secretary-General responsible for UN Environment Programme

III. Introduction to the Committee: The United Nations Environment Programme

Set up in 1972, the United Nations Environment Programme (UNEP, known as UN Environment) is the global authority on the environment that sets the environmental agenda, promotes the coherent implementation of the environmental dimension of sustainable development within the United Nations system. It focuses on everything from disasters to the green economy and biosafety.

UNEP was founded in 1972 following the landmark UN Conference on the Human Environment and is responsible for monitoring the state of the environment, informing policy making with science and coordinating responses to the world's environmental challenges.

For over 50 years, UNEP has worked with governments, civil society, the private sector and UN entities to address humanity's most pressing environmental challenges - from restoring the ozone layer to protecting the world's seas and promoting a green, inclusive economy.

UNEP has been and is driving transformational change by drilling down on the root causes of the triple planetary crisis:

a. Climate Change

Climate change refers to long-term shifts in temperatures and weather patterns. Such shifts can be natural, due to changes in the sun's activity or large volcanic eruptions. But since the 1800s, human activities have been the main driver of climate change, primarily due to the burning of fossil fuels like coal, oil and gas. Burning fossil fuels generates greenhouse gas emissions that act like a blanket wrapped around the Earth, trapping the sun's heat and raising temperatures.

The consequences of climate change include, among others, intense droughts, water scarcity, severe fires, rising sea levels, flooding, melting polar ice, catastrophic storms and declining biodiversity.

b. Nature and Biodiversity Loss

Biodiversity loss refers to the decline or disappearance of biological diversity, which includes animals, plants and ecosystems. The reasons for biodiversity loss include everything from overfishing to habitat loss (e.g. deforestation to make way for development) to desertification due to climate change. Biodiversity is the baseline for everything on the planet. Biodiversity loss impacts food supplies and access to clean water – without it we have no future on our planet.

c. Pollution

Pollution refers to the process of contaminating land, water, air or other parts of the environment with chemicals, plastics or other unnatural substances and making them not safe or suitable to use. This can be done through the introduction of a contaminant into a natural environment. Things as simple as light, sound and temperature can be considered pollutants when introduced artificially into an environment.

Pollution has major consequences on living beings including us humans. According to Pure Earth, a non-profit environmental organisation, toxic pollution affects more than 200 million people worldwide. In some of the world's worst polluted places, babies are born with birth defects, children have lost 30 to 40 IQ points, and life expectancy may be as low as 45 years because of cancers and other diseases.

IV. Introduction to the Agenda Item: Protection and Restoration of Ocean Habitats and Life

A. The Sustainable Development Goals-Goal 14

The Sustainable Development Goals (SDGs), otherwise known as the Global Goals, are a universal call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity.

The Sustainable Development Goals (SDGs), also known as the Global Goals, were adopted by the United Nations in 2015 as a universal call to action to end poverty, protect the planet, and ensure that by 2030 all people enjoy peace and prosperity.

The 17 SDGs are integrated—they recognize that action in one area will affect outcomes in others, and that development must balance social, economic and environmental sustainability.

Countries have committed to prioritise progress for those who're furthest behind. The SDGs are designed to end poverty, hunger, AIDS, and discrimination against women and girls.

The creativity, knowhow, technology and financial resources from all of society is necessary to achieve the SDGs in every context.

Goal 14

The world’s oceans – their temperature, chemistry, currents and life – drive global systems that make the Earth habitable for humankind. How we manage this vital resource is essential for humanity as a whole, and to counterbalance the effects of climate change.

Over three billion people depend on marine and coastal biodiversity for their livelihoods. However, today we are seeing 30 percent of the world’s fish stocks overexploited, reaching below the level at which they can produce sustainable yields.

Oceans also absorb about 30 percent of the carbon dioxide produced by humans, and we are seeing a 26 percent rise in ocean acidification since the beginning of the industrial revolution.

Marine pollution, an overwhelming majority of which comes from land-based sources, is reaching alarming levels.

- If all plastic waste in the ocean were collected, it would fill 5 million shipping containers. [1]
- Almost 90% of that waste comes from single-use products like plastic bags. [2]
- The ocean is where you'll find the Great Atlantic Sargassum Belt, a drifting blob of seaweed that is twice the width of the United States.
- Deforestation, mining pollution, and industrial runoff have all been linked to recent, record-breaking sargassum blooms. [3]

The ocean is a victim of the triple planetary crisis yet it offers solutions to it. Because of its ability to trap heat, for instance, the ocean plays a key role in regulating climate and weather patterns. It absorbs 50 times as much carbon as the atmosphere, meaning it is one of the world's most effective carbon sinks. [4] Put simply and profoundly, the ocean is saving humans from far worse climate impacts.

Offshore renewable energy and wave energy also offer opportunities to support much-needed energy transitions away from fossil fuels. The International Maritime Organization has gotten a head start, too. In July 2023, IMO Member States agreed to reduce greenhouse gas emissions from international shipping by 2050, including commitments to an increase of alternative zero and near-zero GHG fuels by 2030. [5]

And through the conservation and restoration of "blue carbon" ecosystems such as submerged aquatic vegetation, the ocean could be even more powerful in fighting global warming. This means, for example, harnessing the carbon sequestration potential of mangroves, seagrasses, salt marsh, and kelp, in addition to exploring sargassum as a solution.

The ocean can also provide economic opportunities, from blue bonds to tourism and recreation to shipping and renewable energy. Preserving the ocean and protecting its resources can provide the solutions we seek.

The ocean covers 70% of the Earth's surface and produces nearly half of our oxygen. It regulates the planet's air, temperature, and water cycles. It's the main source of protein for more than 1 billion people and a major economic driver: The shipping industry transports

80% of all goods on our shelves, and ocean-based industries will employ some 40 million people by 2030. [6]

Yet of all 17 Sustainable Development Goals, SDG 14: Life Below Water remains the least funded. Meanwhile, SDG 14's targets have only become more urgent. [7]

Goal targets

- By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution
- By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans
- Minimise and address the impacts of ocean acidification, including through enhanced scientific cooperation at all levels
- By 2020, effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science-based management plans, in order to restore fish stocks in the shortest time possible, at least to levels that can produce maximum sustainable yield as determined by their biological characteristics
- By 2020, conserve at least 10 percent of coastal and marine areas, consistent with national and international law and based on the best available scientific information
- By 2020, prohibit certain forms of fisheries subsidies which contribute to overcapacity and overfishing, eliminate subsidies that contribute to illegal, unreported and unregulated fishing and refrain from introducing new such subsidies, recognizing that appropriate and effective special and differential treatment for developing and least developed countries should be an integral part of the World Trade Organization fisheries subsidies negotiation
- By 2030, increase the economic benefits to Small Island developing States and least developed countries from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism
- Increase scientific knowledge, develop research capacity and transfer marine technology, taking into account the Intergovernmental Oceanographic Commission

Criteria and Guidelines on the Transfer of Marine Technology, in order to improve ocean health and to enhance the contribution of marine biodiversity to the development of developing countries, in particular small island developing States and least developed countries

- Provide access for small-scale artisanal fishers to marine resources and markets
- Enhance the conservation and sustainable use of oceans and their resources by implementing international law as reflected in UNCLOS, which provides the legal framework for the conservation and sustainable use of oceans and their resources, as recalled in paragraph 158 of The Future We Want

Progress Chart

A midpoint evaluation of SDG progress on the journey to 2030 reveals significant challenges. Insight derived from the latest global-level data and custodian agencies analysis paints a concerning picture. Among the Goal 14 targets, 30 per cent are on track to be achieved by 2030. It is twice as much as the average of all the targets of SDGs. Only about 10 per cent of the targets show moderate or severe deviations from the desired trajectory. Furthermore, over a half—60 percent—of these targets have experienced no progress or, even worse, have regressed below the 2015 baseline. This comprehensive assessment underscores the urgent need for intensified efforts to ensure the Sustainable Development Goals stay on course.

The Sustainable Development Goals Progress Chart 2023 below presents a comprehensive overview of global progress in the targets of Goal 14 of the 2030 Agenda for Sustainable Development.

B. Threats Against Marine Life

1. Climate Change

The ocean is a powerful carbon sink. Absorbing a quarter of the carbon dioxide (CO2) released since humans started burning fossil fuels, it has also trapped an estimated 90% of the excess heat created by climate warming gases.

But everything comes with a cost. The ocean has also warmed, lost oxygen and acidified, currents are changing, and sea levels are rising. To continue along this path not only threatens marine ecosystems, but also the future ability of the ocean to indirectly support life.

In the present, warming of ocean water is rising global sea level because water expands when it warms. Combined with water from melting glaciers on land, the rising sea threatens natural ecosystems and human structures near coastlines around the world. Warming ocean waters are also implicated in the thinning of ice shelves and sea ice, both of which have further consequences for Earth's climate system.

Warming ocean waters also threaten marine ecosystems and human livelihoods. For example, warm waters jeopardise the health of corals, and in turn, the communities of marine life that depend upon them for shelter and food. Ultimately, people who depend upon marine fisheries for food and jobs now face negative impacts from climate change.

2. Ocean Acidification

The ocean absorbs about 30% of the carbon dioxide (CO_2) that is released in the atmosphere. As levels of atmospheric CO_2 increase from human activity such as burning fossil fuels (e.g., car emissions) and changing land use (e.g., deforestation), the amount of carbon dioxide

absorbed by the ocean also increases. When CO_2 is absorbed by seawater, a series of chemical reactions occur resulting in the increased concentration of hydrogen ions. This process has far reaching implications for the ocean and the creatures that live there.

Because of human-driven increased levels of carbon dioxide in the atmosphere, there is now more CO_2 dissolving into the ocean. The ocean's average pH is now around 8.1, which is basic (or alkaline), but if the ocean continues to absorb more CO_2, the pH will decrease and the ocean will become more and more acidic.

Ocean acidification is already impacting many ocean species, especially organisms like *oysters* and *corals* that make hard shells and skeletons by combining calcium and carbonate from seawater. However, as ocean acidification increases, available carbonate ions (CO32-) bond with excess hydrogen, resulting in fewer carbonate ions available for calcifying organisms to build and maintain their shells, skeletons, and other calcium carbonate structures. If the pH gets too low, shells and skeletons can even begin to dissolve.

Changes in ocean chemistry affects the behaviour of other organisms as well. The ability of some fish, like clownfish, to detect predators is decreased in more acidic waters. Studies have shown that decreased pH levels also affect the ability of larval clownfish to locate suitable habitat. When these organisms are at risk, the entire food web may also be at risk.

Ocean acidification is currently affecting the entire ocean, including coastal estuaries and waterways. Billions of people worldwide rely on food from the ocean as their primary source of protein. Many jobs and economies around the world depend on the fish and shellfish that live in the ocean. [8]

3. Pollution

Marine pollution is a combination of chemicals and trash, most of which comes from land sources and is washed or blown into the ocean. This pollution results in damage to the environment, to the health of all organisms, and to economic structures worldwide.

Marine pollution is a growing problem in today's world. Our ocean is being flooded with two main types of pollution: chemicals and trash.

a. **Chemical contamination**, or nutrient pollution, is concerning for health, environmental, and economic reasons. This type of pollution occurs when human activities, notably the use of fertiliser on farms, lead to the runoff of chemicals into waterways that ultimately flow into the ocean. The increased concentration of chemicals, such as nitrogen and phosphorus, in the coastal ocean promotes the growth of algal blooms, which can be toxic to wildlife and harmful to humans. The negative effects on health and the environment caused by algal blooms hurt local fishing and tourism industries.

Eutrophication is characterised by excessive plant and algal growth due to the increased availability of one or more limiting growth factors needed for photosynthesis such as sunlight, carbon dioxide, and nutrient fertilisers. Eutrophication occurs naturally over centuries as lakes age and are filled in with sediments.

However, human activities have accelerated the rate and extent of eutrophication (cultural eutrophication). For example, aquaculture scientists and pond managers often intentionally eutrophy water bodies by adding fertilisers to increase the density and biomass of economically important fishes. However, during the 1960s and 1970s, scientists linked algal blooms to nutrient enrichment resulting from human activities such as agriculture, industry, and sewage disposal. The known consequences of cultural eutrophication include blooms of blue-green algae (cyanobacteria), tainted drinking water supplies, degradation of recreational opportunities, and hypoxia. [9]

b. **Marine trash** includes all manufactured products—most of them plastic—that end up in the ocean. Littering, storm winds, and poor waste management all contribute to the accumulation of this debris, 80 percent of which comes from sources on land. Common types of marine debris include various plastic items like shopping bags and beverage bottles, along with cigarette butts, bottle caps, food wrappers, and fishing gear. Plastic waste

is particularly problematic as a pollutant because it is so long-lasting. Plastic items can take hundreds of years to decompose.

This trash poses dangers to both humans and animals. Fish become tangled and injured in the debris, and some animals mistake items like plastic bags for food and eat them. Small organisms feed on tiny bits of broken-down plastic, called microplastic, and absorb the chemicals from the plastic into their tissues. Microplastics are less than five millimetres (0.2 inches) in diameter and have been detected in a range of marine species, including plankton and whales. When small organisms that consume microplastics are eaten by larger animals, the toxic chemicals then become part of their tissues. In this way, the microplastic pollution migrates up the food chain, eventually becoming part of the food that humans eat.

4. Overfishing

Overfishing happens when people catch too many fish from the ocean, not leaving enough behind for the population to recover. It occurs when fish are caught faster than they can reproduce and replace themselves. Overfishing can happen with any type of fish, from small fish like sardines to large fish like tuna.

Overfishing is a global problem, affecting oceans all over the world. Some of the most heavily overfished areas include the Mediterranean Sea, the North Atlantic Ocean, and the coastal waters of Southeast Asia. Many fish species that are popular for food, like cod, salmon, and tuna, are overfished in multiple regions.

As human populations have grown and fishing technology has advanced, the demand for fish has increased dramatically. Some fishing practices, like bottom trawling and the use of huge nets, can catch large numbers of fish indiscriminately, including young fish and non-target species also known as bycatch. Illegal, unreported, and unregulated (IUU) fishing also contributes to overfishing, as it’s difficult to monitor and control.

More than 1/3 of global fisheries have been fished beyond sustainable limits, and this number continues to grow daily. Each year, fishers remove over 77 billion kilograms (170 billion pounds) of marine wildlife from the oceans. Scientists are concerned that if fishing continues at this rate, it could lead to a collapse of the world’s fisheries by the middle of this century.

When fish populations collapse, it can disrupt entire marine ecosystems. Also affecting the livelihoods of people. [10]

C. Ocean Habitats and Life

Blue ecosystems play indispensable roles in sustaining nature, humanity, and our planet. They offer essential services such as regulating Earth's temperature by absorbing excess heat, storing and purifying freshwater, providing natural infrastructure to protect from storms and erosion, and generating more than half of the oxygen we breathe. Additionally, they serve as crucial habitats for an astonishing array of biodiversity.

However, the health of these ecosystems and their ability to provide vital services, faces a grave threat from the triple planetary crisis and other pressures including unsustainable use for food production, energy generation, water extraction, mining, and unsustainable coastal development.

That’s why we should protect, conserve and restore healthy and productive blue ecosystems, and their biodiversity. Here is a deeper dive into these marvellous ecosystems:

1. Pelagic habitats

Pelagic habitats exist within the water column itself, away from the shores and from the bottom of the ocean. Conditions in the pelagic environment are very changeable and strongly influenced by atmospheric conditions and water masses. The pelagic habitat is moving with currents and eddies, affecting marine life in various ways. Life in Pelagic zones include sharks, sea turtles, crustaceans, zooplanktons, jellyfish, squids, octopus, krill and many more.

Sharks

Sharks have evolved over thousands of years to become one of the most powerful creatures in the sea. There are more than 500 species of sharks swimming in the oceans today each having unique characteristics and behaviours.

Even though many of us fear them, sharks actually have many more reasons to fear us than we do them. Humans kill more than 100 million annually for various reasons, one of them being the atrocious “shark finning”. The practice consists of cutting only the fins of sharks on the open ocean and throwing the rest of the body back in the ocean with sharks ending up bleeding to death or attacked by other predators. [11]

Sea turtles

Sea turtles have survived for millions of years and are considered to be the “dinosaurs” of the ocean. Now humans are endangering their survival. Six out of seven sea turtle species are currently threatened. They are hunted for food, die as bycatch in fishing nets or get entangled in plastic debris which they also sometimes eat.

2. Coastal habitats

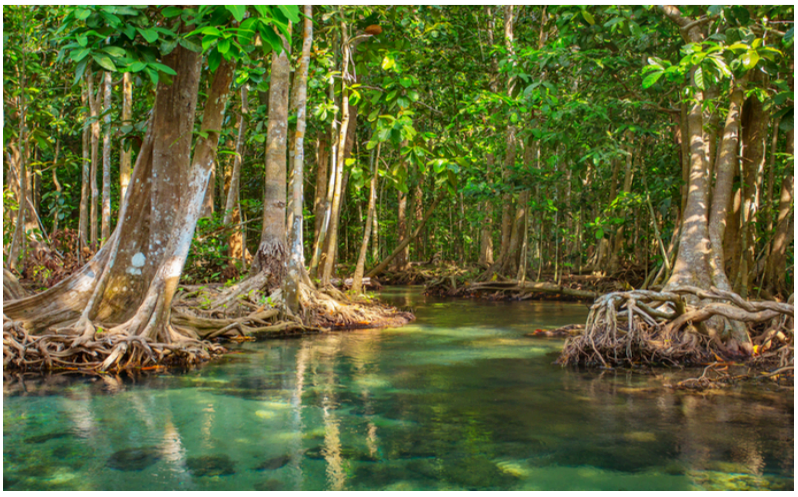
Coastal habitats are found near the shore, including intertidal zones, estuaries, coral reefs, and more. Coastal habitats—areas both along and close to marine shorelines—are vital ecosystems. They help mitigate the impacts of climate change, for example by storing carbon and buffering the effects of floods and storms, and provide a range of other services, including serving as nurseries for a range of species and absorbing chemical pollutants.

Here are the four types of coastal habitats: mangroves, salt marshes, seagrass meadows, and coral reefs.

Mangroves

Mangroves are tropical trees that thrive in conditions most timber could never tolerate — salty, coastal waters, and the interminable ebb and flow of the tide. With the ability to store vast amounts of carbon, mangrove forests are key weapons in the fight against climate change, but they are under threat worldwide.

Mangroves, specifically the underwater habitat their roots provide, offer critical nursing environments for juveniles of many marine species, from tiny gobies to massive crocodiles



In a single square mile, blue carbon ecosystems like mangroves hold as much carbon as the annual emissions of 90,000 cars, making them a critical solution in the fight against climate change.

Mangrove forests — specifically, their thick, impenetrable roots — are vital to shoreline communities as natural

buffers against storm surges, an increasing threat in a changing global climate with rising sea levels.

Salt marshes

Salt marshes form where mud and silt build up in sheltered areas of coastline. This build-up of fine sediment becomes what's known as a mudflat and, over time, it grows in size and elevation. As a result, flooding of the area becomes less intense – and plants begin to colonise it.

Throughout human history, salt marshes have been threatened. As far back as Roman times, marshes are recorded as having been 'reclaimed' from the ocean for use as agricultural land. In modern day, urban development is narrowing the gap between land and sea, pushing out salt marsh habitats. Further still, increasingly harsh storms and rising seas due to climate change are eroding salt marshes the world over.

But as more work is done to study their importance, more people are looking for effective conservation strategies. The good news is that salt marshes typically tend to need little management if we only let well alone. They're also invaluable as natural pollutant filters and carbon sinks; there are projects aiming to create salt marshes to meet some countries' carbon targets. [12]

Seagrass Meadows

Seagrasses are the only flowering plants able to live in seawater and pollinate while submerged. They often grow in large groups giving the appearance of terrestrial grassland – an underwater meadow. Similarly to trees taking carbon from the air to build their trunks, seagrasses take carbon from the water to build their leaves and roots.

Considering that seagrass captures carbon at a rate 35 times faster than tropical rainforests, they are one of our most important natural solutions to the climate change crisis.

Seagrass is dependent on high levels of light for photosynthesis to grow and can therefore only be found in shallow water to a depth of around 4 metres. However when sewage discharges high in nutrients (nutrient pollution) stimulate algae growth the algae can outcompete the seagrass by reducing the available sunlight. [13]

Coral reefs

Coral reefs are the most biodiverse ecosystem in our ocean. They occur in more than 100 countries and territories, and whilst they cover less than 1 percent of the seafloor, they support at least 25 percent of marine species – harbouring the highest biodiversity of any ecosystem globally and making them one of the most valuable ecosystems on the planet.

Coral reefs underpin the safety, coastal protection, well-being, food and economic security of hundreds of millions of coastal people in least-developed countries, economies in transition, and small island developing states around the world. The value of goods and services provided by coral reefs, for example from tourism, fisheries, coastal protection or medicinal compounds, is estimated at US$2.7 trillion per year.

Unfortunately, coral reefs are among the most vulnerable ecosystems on the planet to damage from human pressures. The 2019 IPCC Special Report on the Ocean and Cryosphere in a Changing Climate identified coral reefs as the marine ecosystem most at risk from triple planetary crisis.

The Global Coral Reef Monitoring Network's 'Status of Coral Reefs of the World: 2020' report, supported by UNEP, paints a picture of four decades of declining coral abundance. It found that multiple coral bleaching events driven by warming temperatures and climate change, coupled with local pressures, caused the loss of 14 percent of the coral from the

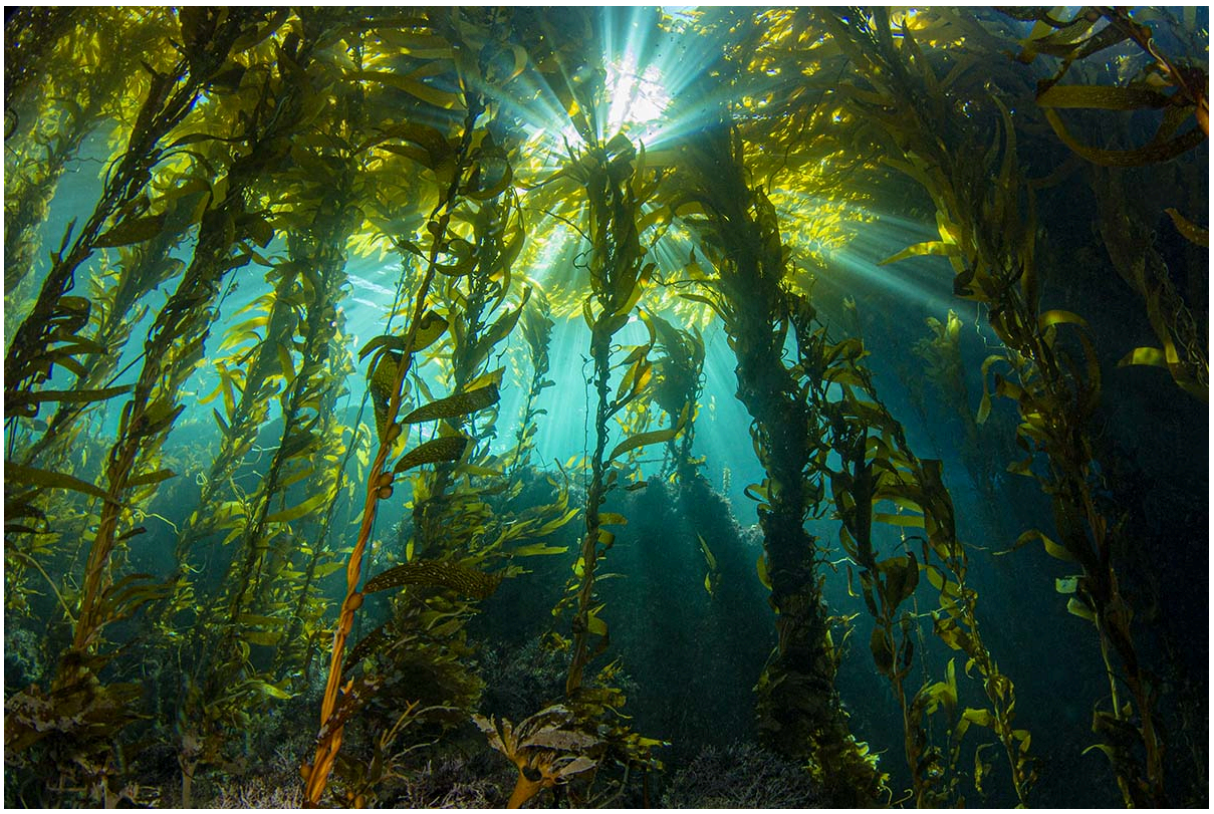
world's coral reefs between 2009 and 2018. This represents the loss of more than all the coral currently living on Australia's coral reefs.

However, coral reefs have also shown remarkable resilience in many instances and have been shown to have the ability to recover from coral bleaching and mass mortality events if they are protected from other human stressors.

3. Seafloor habitats

Seafloor habitats, also known as benthic habitats, comprise various ecosystems found at the bottom of the ocean

Kelp forests



Kelp forests are one of the most productive marine ecosystems in the world. This canopy-forming algae can grow more than 2 feet a day, absorbing carbon dioxide as it grows and, in some cases, reducing the effects of ocean acidification in surrounding waters. It provides food, shelter, and nursery areas for an array of marine life, including otter, salmon,

rockfish, shellfish, sea stars, and other invertebrates that are vital first foods for Indigenous communities and are critical to commercial and recreational fishing.

Kelp only grows in the cool temperate and polar regions of the planet; global warming could change the distribution of kelp forests, or make the water too warm for them to survive. Losing our kelp forests would cause a ripple effect, impacting the many species that depend on them. [14]

D. Protection efforts for marine life and habitats

1. United Nations Convention on the Law of the Sea (UNCLOS)

The United Nations Convention on the Law of the Sea (UNCLOS) plays a pivotal role in the protection and restoration of marine life and biology. Adopted in 1982, UNCLOS establishes a comprehensive legal framework for the use and conservation of the world's oceans and their resources. One of its primary objectives is to balance the exploitation of marine resources with the need to preserve marine environments.

Article 192 of UNCLOS sets the stage for marine protection by obligating states to protect and preserve the marine environment. This broad mandate underpins various provisions aimed at safeguarding marine life and ecosystems. For instance, Article 194 requires states to take measures to prevent, reduce, and control pollution of the marine environment, which includes pollution from land-based sources, sea-based sources, and dumping.

A significant aspect of UNCLOS is its provisions on marine biodiversity. Articles 61 and 62 focus on the conservation and management of living resources in the exclusive economic zone (EEZ), emphasising that states must ensure that their use of marine resources is sustainable. This includes setting catch limits and adopting conservation measures to avoid overfishing and protect marine species.

Moreover, UNCLOS addresses the protection of marine biodiversity in areas beyond national jurisdiction through its framework for international cooperation. Article 65 allows for the conservation of highly migratory species, while the Convention on Biological Diversity (CBD), which complements UNCLOS, further supports marine conservation efforts.

Additionally, UNCLOS encourages the establishment of marine protected areas (MPAs), where specific measures are implemented to conserve marine life and habitats. These areas help mitigate human impacts, safeguard critical habitats, and support the restoration of marine ecosystems.

Overall, UNCLOS provides a crucial foundation for international marine conservation, facilitating cooperative efforts among states to protect and restore marine life and biological diversity, ensuring the health and sustainability of ocean ecosystems for future generations.

2. Marine Protected Areas (MPAs)

An MPA is a section of the ocean where the government has placed limits on human activity. It allows people to use that area without damaging that place or directly bans it from usage. By establishing MPAs, we can ensure that our oceans remain healthy and full of life for future generations to come. Research has shown that MPAs can significantly improve carbon sequestration, coastal protection, biodiversity, and the reproductive capacity of marine organisms.

More than 5.000 MPAs have been established until now which covers a little more than 8% of the ocean as of 2023. While some of them are in the open ocean, the vast majority of them are in coastlines. Some lakes and rivers are also a part of these areas.

The MPAs can be established for different goals. While the main one is to protect marine life, the others can be conserving historic sites such as shipwrecks or ensuring that aqua resources are sustainable.

MPAs **provide shelter** for marine species. With over 90% of fish stocks being fully or overfished, it is important to protect the breeding and places they live for them to survive. Fully and highly protected MPAs create safe spaces where fish populations can thrive, reproduce, and grow in numbers. In turn, this supports the larger oceanic ecosystem.

The MPAs **help to protect diversity**. The oceans are areas full of life that need to be protected. MPAs help to preserve this biodiversity by providing a range of habitats for different species. By protecting the sub-habitats of the ocean (coral reefs, seagrass etc.) MPAs ensure that a diverse range of marine life can continue to exist in our oceans.

MPAs also **support local communities** that depend on fishing for their livelihoods whether in providing food or income. A way to manage and sustain these resources is to prevent overfishing generally and in breeding areas.

3. Convention on Biological Diversity (CBD)

At the 1992 Earth Summit in Rio de Janeiro, world leaders agreed on a comprehensive strategy for "sustainable development" – meeting our needs while ensuring that we leave a healthy and viable world for future generations. One of the key agreements adopted at Rio was the Convention on Biological Diversity. This pact among the vast majority of the world's governments sets out commitments for maintaining the world's ecological underpinnings as we go about the business of economic development. The Convention establishes three main goals:

a. the conservation of biological diversity,
b. the sustainable use of its components,
c. the fair and equitable sharing of the benefits from the use of genetic resources.

The Convention is comprehensive in its goals, and deals with an issue so vital to humanity's future, that it stands as a landmark in international law. It recognizes-for the first time-that the conservation of biological diversity is "a common concern of humankind" and is an integral part of the development process. The agreement covers all ecosystems, species, and genetic resources. It links traditional conservation efforts to the economic goal of using biological resources sustainably. It covers the rapidly expanding field of biotechnology, addressing technology development and transfer, benefit-sharing and biosafety. Importantly, the Convention is legally binding; countries that join it are obliged to implement its provisions.

The Convention also offers decision-makers guidance based on the precautionary principle that where there is a threat of significant reduction or loss of biological diversity, lack of full scientific certainty should not be used as a reason for postponing measures to avoid or minimise such a threat. The Convention acknowledges that substantial investments are required to conserve biological diversity.

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