

PRESIDIUM *for* CHANGE

FOR A BETTER WORLD

PRESIDIUM MODEL UNITED NATIONS CONFERENCE 2024

UNEP

BACKGROUND GUIDE



UNITED NATIONS
ENVIRONMENT PROGRAMME



AGENDA:

Addressing plastic pollution
in the aquatic food chain.

PRESIDIUM SCHOOL MUN 2024

LETTER FROM THE EXECUTIVE BOARD

Greetings,

We welcome you all, in the capacity of the members of the Executive Board of 9th Edition of Presidium MUN taking place on 18th & 19th October 2024. Since this conference shall be a learning experience for all of you, it shall be for us as well. Our only objective shall be to make you all speak and participate in the discussion, and we pledge to give every effort for the same.

How to research for the agenda and beyond? There are several things to consider. This background guide shall be different from the background guides you might have come across in other MUNs and will emphasize more on providing you sources where you find matter for your research than to provide you matter itself, because we do not believe in spoon-feeding you, nor do we believe in leaving you to swim in the pond all by yourself. We promise that if you read the entire set of documents, you shall be able to cover 70% of your research for the conference. The remaining amount of research depends on how willing are you to put in your efforts and understand those articles and/or documents. So, in the purest of the language we can say, it is important to read anything and everything whose links are provided in the background guide.

What to speak in the committee and in what manner? The basic emphasis of the committee shall not be on how many facts you read and present in the committee but how you explain them in simple and decent language to us and the fellow committee members. The entire conference aims at analyzing your understanding of the agenda and not how much you have studied. So, kindly focus upon analysis and explanation, because we are interested in knowing how much you know and remember that you will know only if you read and work.

We wish you all the very best and feel free to ask doubts, if any.

Regards,

Executive Board

9th Edition of Presidium MUN

Presidium School, Gurgaon

INTRODUCTION TO COMMITTEE

Official Website: <https://www.unep.org>

The United Nations Environment Programme (UNEP) is the leading global authority on the Environment. UNEP's mission is to inspire, inform, and enable nations and people to improve their quality of life without compromising that of future generations. 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 is driving transformational change by drilling down on the root causes of the triple planetary crisis of climate change, nature and biodiversity loss and pollution. UNEP's work is focused on helping countries transition to low-carbon and resource-efficient economies, strengthening environmental governance and law, safeguarding ecosystems, and providing evidence-based data to inform policy decisions. Through cutting-edge science, coordination and advocacy, UNEP supports its 193 Member States to achieve the Sustainable Development Goals and live in harmony with nature.

INTRODUCTION TO THE AGENDA

Agenda: *Addressing Plastic Pollution in the Aquatic Food Chain.*

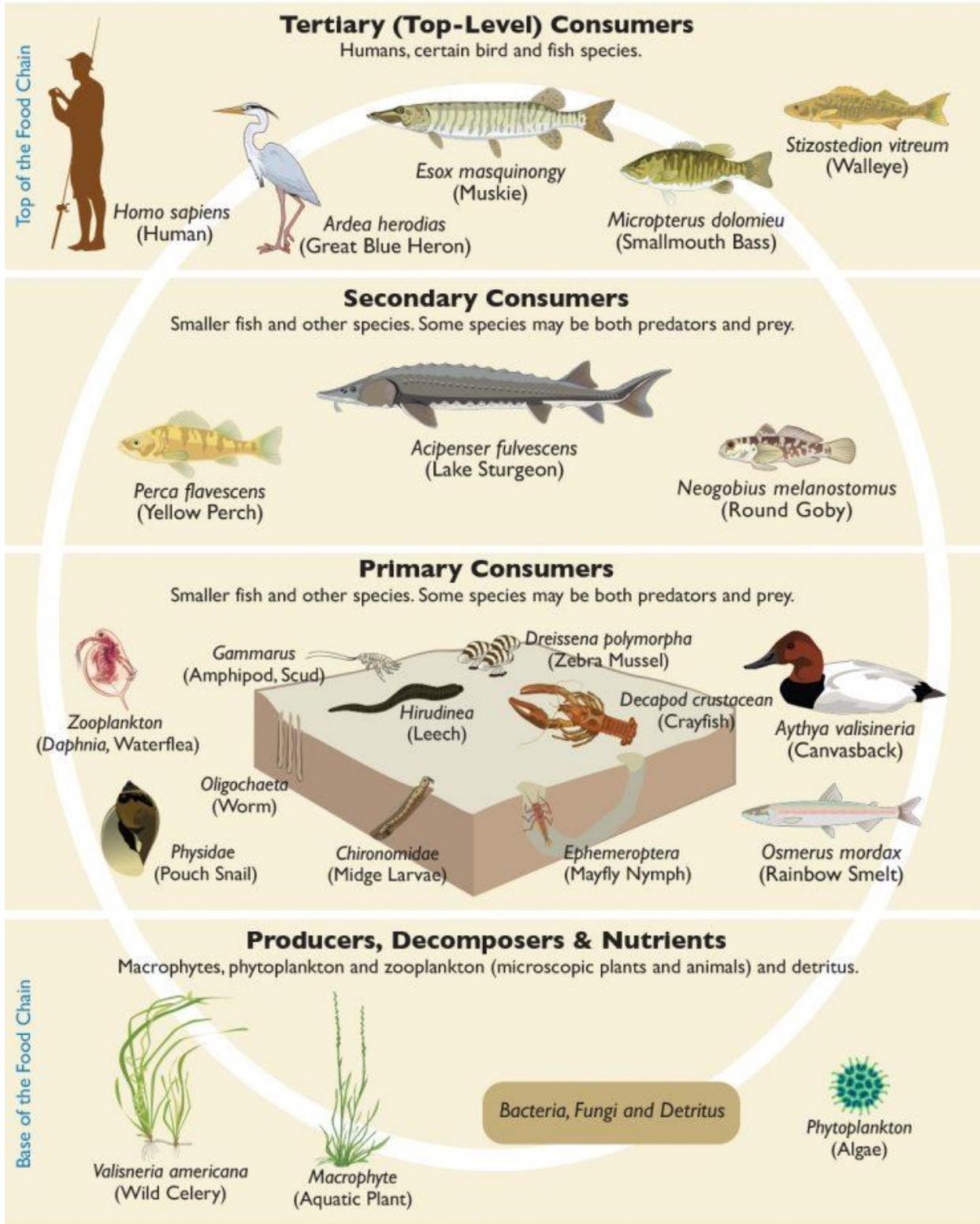
Source: [Food Chains and Webs | Teaching Great Lakes Science](#)

Components of The Aquatic Food Chain

- 1. Producers:** Aquatic food webs are supported by some combination of autochthonous (internal) and allochthonous (external) sources of primary production. Examples of the former are algae, cyanobacteria, mosses, and aquatic vascular plants, while the latter include organic matter derived from living or decomposed terrestrial plants of all types.
- 2. Primary Consumers (Herbivores):** Refers to organisms such as zooplankton i.e small floating animals such as jellyfish, fish larvae and copepods who consume phytoplankton and algae among other primary producers.
- 3. Secondary Consumers (Carnivores):** Larger fish such as sharks, Whales, Dolphins etc who feed on primary consumers

Aquatic Food Web

The Detroit River and Lake Saint Clair are part of the Great Lakes basin that provides an important food source for the region and the country. Below are sample species in the Great Lakes Aquatic Food Web.



Not to scale. Adapted from the Life of the Lakes MICHU 09-400 Michigan Sea Grant, www.miseagrant.umich.edu

Terminologies:

Source: <https://enviropol.com/green/2018/06/18/threats-to-ecosystems/>

Habitat Destruction

Economic activities such as logging, mining, farming and construction often involve clearing out places with natural vegetative cover. Very often, tampering with one factor of the ecosystem can have a ripple effect on it and affect many more or all other factors of that ecosystem. For example, clearing a piece of forest for timber can expose the upper layers of the soil to the sun's heat, causing erosion and drying. It can cause a lot of animals and insects that depended on the shade and moisture from the tree to die or migrate to other places.

Pollution

Water, land and air pollution all together play a crucial role in the health of ecosystems. Pollution may be natural or human-caused, but regardless they potentially release destructive agents or chemicals (pollutants) into the environments of living things. "In a lake, for example, it can create havoc on the ecological balance by stimulating plant growth and causing the death of fish due to suffocation resulting from lack of oxygen. The oxygen cycle will stop, and the polluted water will also affect the animals dependent on the lake water".

Eutrophication

This is the enrichment of water bodies with plant biomass as a result of the continuous flow of nutrients particularly nitrogen and phosphorus. Eutrophication of water fuels excessive plant and algae growth and also hurts water life, often resulting in the loss of flora and fauna diversity.

Invasive species

Any foreign species (biological) that finds its way into an ecosystem, either by natural or human introduction can have an effect on the ecosystem. If this alien has the ability to prey on vulnerable and native members of that ecosystem, they will be wiped out, sooner or later. One devastating impact of introducing alien Nile Perch and Nile Tilapia into Lake Victoria in the 1970s was the extinction of almost half of the 350+ endemic species of fish in the cichlid family.

Overharvesting

Fish species, game and special plants all do fall victim from time to time as a result of over-harvesting or humans over-dependence on them. Overharvesting leads to the reduction in populations, community structures and distributions, with an overall reduction in recruitment. Lots of fish species are known to have reached their maximum exploitation level, and others will soon be. "For example, *Oreochromis karongae* is one of the most valuable food fishes in Malawi, but populations collapsed in the 1990s due to overfishing, and it is now assessed as Endangered."

UV Radiation

The sun's rays play an important role in living things. UV rays come in three main wavelengths: UVA, UVB and UVC, and they have different properties. UVA has long wavelengths and reaches the earth's surface all the time. It helps generate vitamin D for living things. UVB and UVC are more destructive and can cause DNA and cell damage to plants and animals. Ozone depletion is one way that exposes living things to UVB and UVC and the harm caused can wipe lots of species, and affect ecosystem members including humans.

Threats to the Aquatic Food Chain

Source: [International Convention for the Prevention of Pollution from Ships \(MARPOL\)](#)

Human activity has a direct consequence on marine life and biodiversity. Economic activities undertaken by humans in particular due to the burden of industrialization. Urbanization and the burden on agriculture due growing populations have put a tremendous strain on aquatic ecosystems. Disposal of fertilizers and pesticides directly threatens the growth of primary producers in the food chain as their introduction to the aquatic ecosystem increases the quantity of pollutants such as heavy metals from coals and suspended solids. A similar negative consequence on primary producers can be attributed to unchecked disposal of plastic waste particularly microplastics. Overproduction of oil and natural gas has a profound impact on surrounding marine life. According to the NOAA's National Ocean service, Adult fish may experience reduced growth, enlarged livers, changes in heart and respiration rates, fin erosion and reproduction impairment.

Source: <https://www.noaa.gov/>

The Biodiversity Convention

In general, parties to the UNFCCC are guided by the principle that land-use activities should contribute to biodiversity conservation and the sustainable use of natural resources. They are also requested to abide by commitments under the Convention of Biological Diversity (CBD), it urges Parties to the UNFCCC to ensure that activities targeted to carbon sequestration are in accordance with the conservation and use of biological diversity. Furthermore, it promotes the creation of synergies in implementing both, the CBD and the UNFCCC.

International Maritime Organization

As part of the United Nations family, IMO is actively working towards the 2030 Agenda for Sustainable Development and the associated SDGs . Indeed, most of the elements of the 2030 Agenda will only be realized with a sustainable transport sector supporting world trade and facilitating the global economy. IMO's Technical Cooperation Committee has formally approved linkages between the Organization's technical assistance work and the SDGs. While the oceans goal,SDG 14, is central to IMO, aspects of the Organization's work can be linked to all individual SDGs.

How does IMO's marine protection treaty make a difference?



The International Convention for the Prevention of Pollution from Ships (MARPOL) contains six annexes:



OIL
ANNEX I
Prevention of Pollution by Oil
(entered into force 2 October 1983)



SEWAGE
ANNEX IV
Prevention of Pollution by
Sewage from Ships (entered into
force 27 September 2003)



**NOXIOUS LIQUID
SUBSTANCES**
ANNEX II
Control of Pollution by Noxious
Liquid Substances in Bulk (entered
into force 2 October 1983)



GARBAGE
ANNEX V
Prevention of Pollution
by Garbage from Ships (entered
into force 31 December 1988)



HARMFUL SUBSTANCES
ANNEX III
Prevention of Pollution by Harmful
Substances Carried by Sea in
Packaged Form (entered into
force 1 July 1992)



AIR
ANNEX VI
Prevention of Air Pollution from Ships
(entered into force 19 May 2005)

Questions/Points for further research:

Delegates are encouraged to engage with the impact of the economic activities undertaken by their respective nations on aquatic food chains, particularly activities such as crude oil production, overfishing and other port and harbor activities, as well as how the loss of marine biodiversity has negatively impacted their nations.

More importantly, the role of existing international legal frameworks and conventions such as The Biodiversity Convention and The Basel Convention have to be recontextualized for the purpose of preserving aquatic food chains. Thus, delegates are advised to research further whether their respective nations have fulfilled these international commitments.

Source: <https://www.basel.int/>

Case Study: [Addressing Plastic Pollution in the Aquatic Food Chain in the Mediterranean Sea](#)

Introduction

Plastic pollution has emerged as one of the most pressing environmental challenges in marine ecosystems, significantly impacting biodiversity and the health of aquatic food chains. This case study focuses on a recent initiative in the Mediterranean Sea, where multiple stakeholders collaborated to tackle the issue of plastic pollution, aiming to protect marine life and promote sustainable practices.

Background

The Mediterranean Sea is one of the most polluted bodies of water in the world, with an estimated 570,000 tons of plastic waste entering the sea annually. This pollution not only threatens marine biodiversity but also affects local fisheries and tourism, which are vital for many coastal communities.

Key Stakeholders

Local Governments: Municipalities around the Mediterranean coast responsible for waste management and environmental policies.

Environmental NGOs: Organizations such as the Mediterranean Information Office for Environment, Culture and Sustainable Development (MIO-ECSDE) and Plastic Oceans Europe.

Fishermen and Coastal Communities: Directly affected by pollution, relying on healthy marine ecosystems.

Research Institutions: Universities and research organizations studying the effects of plastic on marine life.

Tourism Sector: Businesses dependent on clean beaches and healthy marine environments.

Strategies Implemented

1. Research and Data Collection

A collaborative research initiative involving universities and NGOs conducted extensive studies on plastic pollution levels in the Mediterranean. This included:

Microplastic Surveys: Sampling water and sediments to assess the prevalence of microplastics and their impact on marine life.

Impact Studies: Researching how plastic ingestion affects fish health and the broader marine food chain.

2. Community Engagement and Education

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Educational campaigns were launched across coastal communities to raise awareness about plastic pollution. Key activities included:

Workshops and Seminars: Engaging fishermen and local residents in discussions about the impacts of plastic pollution on marine ecosystems and human health.

School Programs: Integrating marine conservation topics into local school curricula, fostering a sense of responsibility among younger generations.

3. Beach Clean-Up Initiatives

Regular clean-up events were organized, mobilizing local communities to remove plastic waste from beaches and coastal areas. Highlights included:

Volunteer Participation: Thousands of volunteers participated in coordinated clean-up efforts, significantly reducing litter on popular beaches.

Monitoring and Reporting: Data collected during clean-ups was used to identify hotspots of plastic pollution and inform future actions.

4. Policy Advocacy

The initiative pushed for stronger local and national policies regarding plastic waste management, including:

Bans on Single-Use Plastics: Advocacy for legislation to reduce the use of single-use plastics, particularly in tourism and fishing sectors.

Enhanced Waste Management Systems: Collaborating with local governments to improve waste collection, recycling facilities, and public education on responsible disposal.

5. Sustainable Fishing Practices

To address the intersection of plastic pollution and fisheries, the initiative introduced:

Training Programs for Fishermen: Educating fishermen on sustainable practices that minimize bycatch and plastic entanglement.

Plastic-Free Fishing Gear: Promoting the use of biodegradable fishing nets and gear to reduce plastic waste.

SOURCES FOR RESEARCH

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- [1.New Link in the Food Chain? Marine Plastic Pollution and Seafood Safety | Environmental Health Perspectives | Vol. 123, No. 2](#)
- [2.Basel Convention](#)
- [3.Ocean plastic pollution an overview: data and statistics](#)
- [4.EnviroAtlas Benefit Category: Biodiversity Conservation | US EPA](#)
- [5.\(PDF\) Plastic pollution in the aquatic ecosystem: an emerging threat need to be tackled](#)
- [6.Plastic pollution - resource | IUCN](#)
- [7.https://enviropol.com/green/2018/threats-to-ecosystems/](https://enviropol.com/green/2018/threats-to-ecosystems/)
- [8.http://www.imo.org/en/MediaCentre/HotTopics/Documents/TC.1-Circ.69.pdf](http://www.imo.org/en/MediaCentre/HotTopics/Documents/TC.1-Circ.69.pdf)

NOTE: Kindly note that this Background Guide is not exhaustive in nature and is merely a vessel to guide your research procedures by hinting at a few of many key focus areas and the degree of the technicality and analysis that is expected out of every one of you. Research should not be limited to the background guide and the links provided here, delegates are encouraged to go beyond and research about all relevant topics.

With this, we wish you all the best and anticipate two days of exemplary academic deliberations!