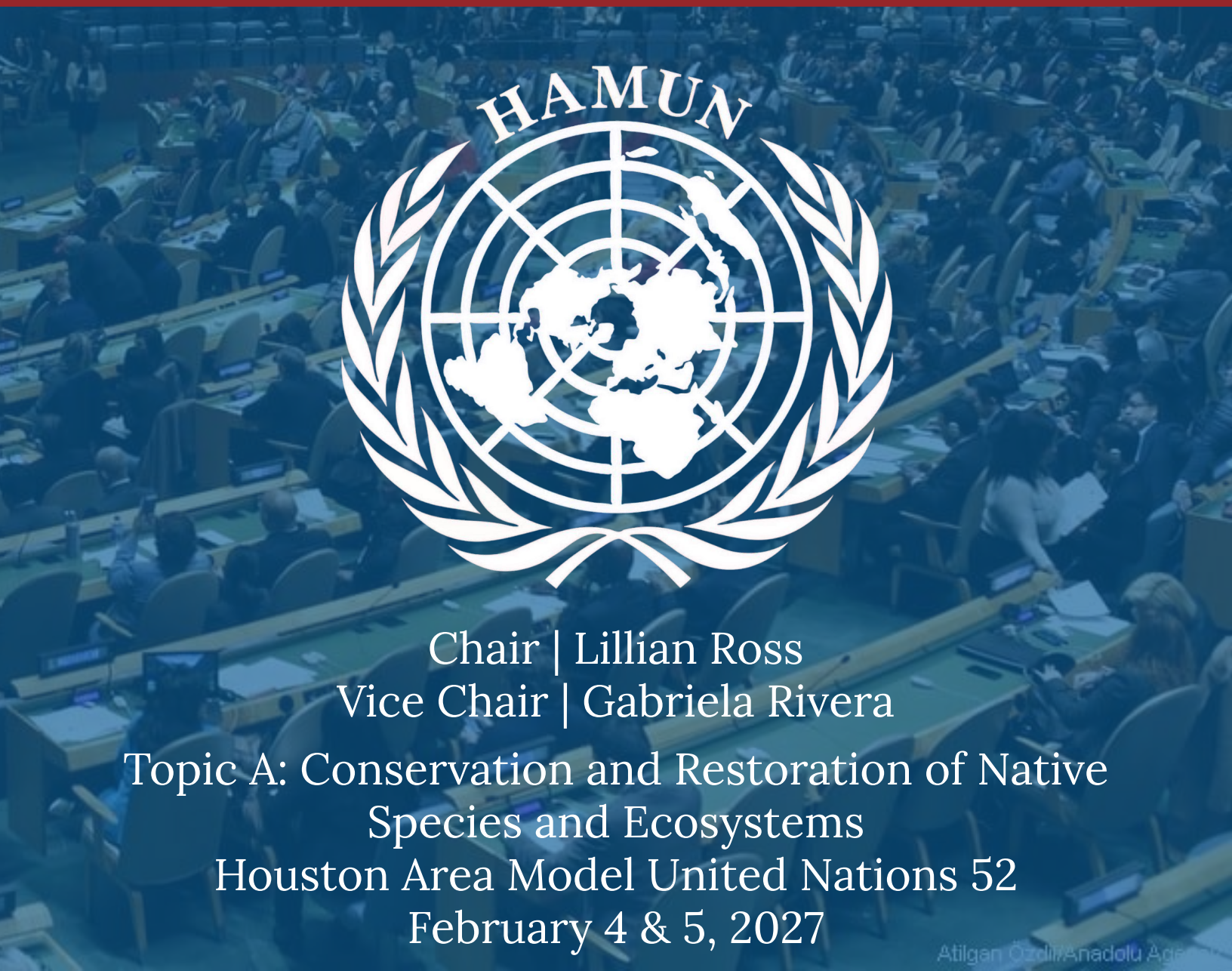
Houston Area Model United Nations
Standard Committee

UNEP



Chair | Lillian Ross
Vice Chair | Gabriela Rivera

Topic A: Conservation and Restoration of Native Species and Ecosystems

Houston Area Model United Nations 52
February 4 & 5, 2027

Atilgan Ozdil/Anadolu Ag

Chair Letter



Delegates,

Welcome to HAMUN! My name is Lillian Ross, and I will be your chair for this year's United Nations Environmental Program.

I am currently in my sophomore year at UT Dallas studying biochemistry with a minor in dance. Since 2021, when I started Model UN, I have been a delegate in a total of 11 conferences. I also served as a vice chair last year for HAMUN. Throughout high school and college, MUN has helped me grow as an academic and as a person. It has shaped how I view the world, how I perceive global events, and helped hone my critical thinking skills. At its core, Model UN is a program that allows you to expand your worldview and enhances your ability to make informed arguments- both verbally and on paper.

I chose to staff UNEP for many reasons. Firstly, I am passionate about the environment and conservation efforts. I would like to see the unique perspectives the next generation will bring to modern issues relating to conservation, sustainability, and restoration. Secondly, a larger committee often allows delegates to form multiple groups with different approaches to the issue. Finally, UNEP topics are inclusive. Every Member State is affected by the local, regional, and global environment, and every Member State has a place to contribute meaningful solutions based on their own environmental, social, and economic contexts.

The most important part of this conference is to enjoy it and make a memorable experience for yourself. Everyone- myself, your teachers, and other HAMUN staff- is here to help you learn and grow. If you have any questions, don't hesitate to reach out to me. I am excited to meet and work with all of you!

Lillian Ross
UN Environmental Program
rosslillian93@gmail.com

Committee Background

History

The United Nations Environment Programme (UNEP) was established in 1972 following the United Nations Conference on the Human Environment in Stockholm. Headquartered in Kenya, UNEP has played a critical role in addressing a wide variety of issues, including pollution, climate change, biodiversity loss, and ecosystem degradation over its 54-year history. The impacts of these actions have been immense. For example, the Basel Convention (1989), adopted under UNEP's guidance, limits transboundary movement of hazardous wastes ("The Basel Convention"). Also led by UNEP, the Rio Earth Summit (1992) produced five major global agreements centering on sustainable development ("United Nations Conference on Environment and Development"). These achievements have demonstrated how crucial international collaboration has become as environmental challenges grow in scale and complexity. As the leading global authority on environmental issues within the United Nations system, UNEP recognizes the need for collaboration and works to coordinate responses to environmental challenges and promote sustainable development.

Mandate

Through scientific research, policy development, and multilateral cooperation, UNEP aims to protect the global environment while promoting a sustainable and resilient future for communities around the world. However, as 95% of UNEP's funding comes from voluntary donations ("Funding") and resolutions are non-binding, the mandate of the committee is limited to making recommendations and encouraging international cooperation.

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Topic Background

Summary

As the world becomes more interconnected, conservation and restoration efforts have evolved from focusing on individual species and habitats to addressing the large-scale, transboundary impacts of human activity on biodiversity and ecosystems. With this development comes an increased emphasis on habitat rehabilitation, reintroduction of native species, and invasive species management. Debate may arise on a variety of subjects related to this topic. Three crucial areas that should be considered are maintaining a balance between economic development with environmental protection, prioritizing individual species versus entire ecosystems, and the level of human intervention required for restoration. Concerning the third subject, human intervention can come in many forms, with some methods being more explicit than others. Other areas of interest include the role of technology in achieving conservation goals and whether to return ecosystems to their historical states or help them adapt to future climate conditions. In all discussions, cooperation should be emphasized, as it is essential to ensuring that individual efforts are effective.

Overview

With a 73% average decline in wildlife populations since 1970 (“Living Planet Index”) and one million species currently threatened by extinction (“Nature’s Dangerous Decline”), biodiversity loss has rapidly accelerated over the past fifty years. A major factor in this acceleration is climate change. As ecosystems are altered by human activity and global temperatures rise, native plant and animal species experience extreme habitat loss (“Our strongest natural defense”)

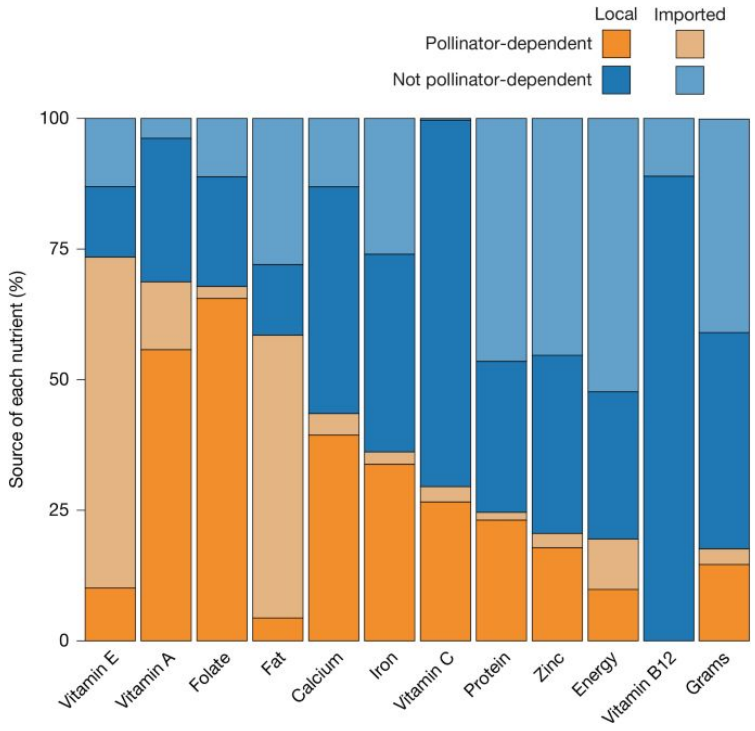
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Alongside habitat loss, which leads to increased competition for limited resources, many ecosystems are experiencing increased disease levels and high mortality rates. These statistics lead researchers to name our current time period as Earth's sixth mass extinction (World Wildlife Fund)- thus solidifying the severity of the situation. Threats to the environment, like biodiversity loss, are threats to human well-being. Healthy ecosystems provide indispensable resources such as food and protection from natural disasters while boosting global economic function.

Pollinators and the Global Food Supply

16% of vertebrate pollinators are at risk of extinction ("Pollinators under threat"), while 75% of crops grown for human consumption depend on pollinators ("Why Bees Matter"). Should extreme biodiversity loss and extinction of native species continue, the global food insecurity crisis would be worsened.



Crops that depend on pollinators provide nutrients essential for human health. (Timberlake et. al.)

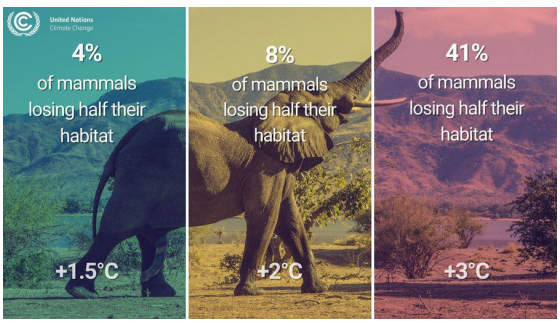
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Climate Change

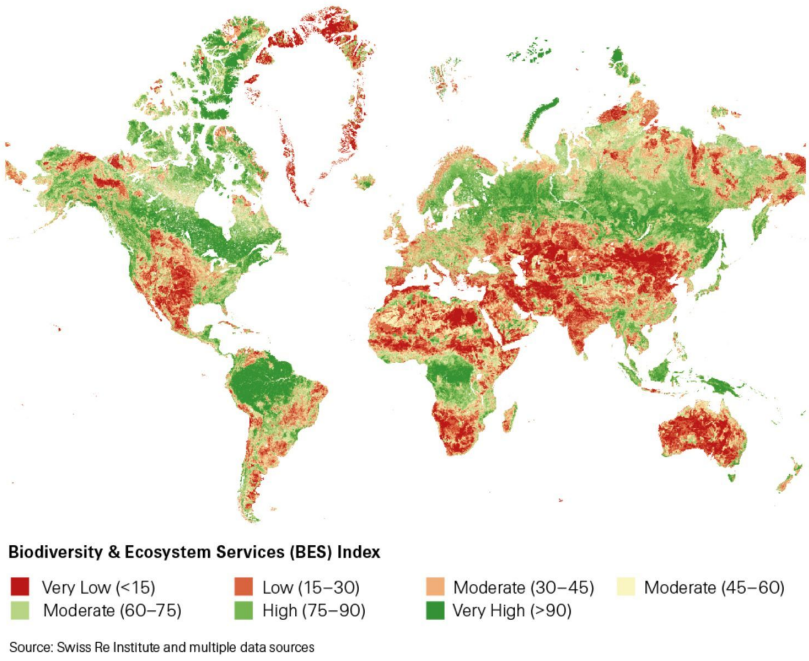
Natural carbon sinks, such as oceans, forests, and wetlands, absorb more than half of all carbon emissions ("Our strongest natural defense"). However, climate change is quickly reducing these environments, with humans altering over 70% of ice-free land ("Our strongest natural defense"). When carbon sinks become less common, there is more carbon released into the atmosphere- leading to global warming. Global warming can be catastrophic for native species, and poses a great threat to biodiversity.



Mammals face habitat loss as global temperatures rise. ("Our strongest natural defense")

Economic Impacts

Over half of the world's Gross Domestic Product (GDP) is dependent on nature ("Biodiversity"). Should these essential ecosystems collapse, annual losses to the global GDP would total at least 2.7 trillion USD (Zero Carbon Analytics). With one fifth of countries at risk of ecosystem collapse (Swiss Re Group), biodiversity loss must be addressed to prevent major economic crises.



One-fifth of countries face ecosystem collapse. (Swiss Re Group)

Topic History

History

As science and technology have advanced over the past century, there has been increased interest in protecting the environment and halting climate change. In alignment with this interest, the United Nations hosted the Stockholm Conference (1972)- the first world conference to make protection of the environment a global priority ("United Nations Conference on the Human Environment"). A plethora of international agreements have followed this. The Convention on Biological Diversity (CBD) encourages Member States to adopt national plans that promote environmental conservation ("Convention on Biological Diversity"), while the Kunming-Montreal Global Biodiversity Framework sets goals that aim to halt and reverse biodiversity loss ("Kunming-Montreal Global Biodiversity Framework"). One of the most prominent of these agreements is the 17 Sustainable Development Goals (SDGs) produced by the United Nations Conference on Sustainable Development (2012) ("The 17 Goals"). Among these goals are SDG 13 (Climate Action), 14 (Life Below Water), and 15 (Life on Land). Together, this collection of agreements has pushed awareness of climate change and biodiversity loss to the global stage.

Case Study

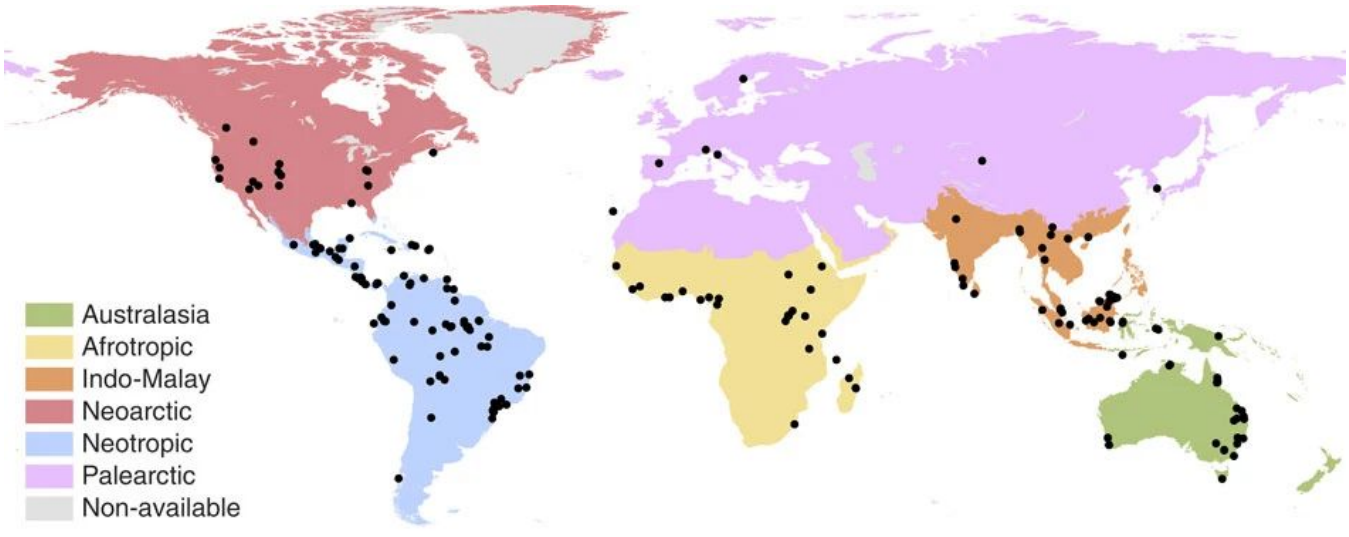
Habitat restoration is one of the most common methods to restore biodiversity. A group of researchers from multiple continents studied the impact of forest restoration in various locations. They found that forest restoration enhances biodiversity by 15–84% and vegetation structure by 36–77% (Crouzeilles et. al.)

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The study also finds that forests that were disturbed less by human activity were able to see a better recovery. These findings suggest that one method may see success in multiple different areas, providing a basis for international collaboration for the purpose of protecting and restoring biodiversity.

While frameworks and innovative solutions exist for combatting biodiversity loss, they are not widespread. The most effective solutions would allow for greater international collaboration, be sustainable, and be adaptable to future technology development.



Map of study locations. (Crouzeilles et. al.)

QUESTIONS TO CONSIDER

- How much human intervention is appropriate in restoring damaged ecosystems?
- How should conservation goals be balanced with economic development?
- Can technology be incorporated into ecosystem protection? How?
- How can the success of restoration methods be measured?
- What level of international cooperation is necessary to maximize the success of biodiversity conservation and restoration?

APPENDIX & SOURCES

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