



TroyMUN'26

UNEP

Ensuring Habitat Protection and
Biodiversity Conservation



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I. Letter from the Secretary-General

Esteemed Prospective Participants,

On behalf of TROYMUN Family, I would like to welcome you all to the ninth edition of TROY Model United Nations Conference. My name is Baran Akarsu and it is an utmost honor and privilege to serve as the Secretary-General of TROYMUN 2026. The ninth edition of TROYMUN will be held with the collaboration of Parion Hotel and Çanakkale College once again and it will take place in Çanakkale. While the junior edition of TROYMUN will take place between 23th-25th of November, the senior edition will be held between 27th and 29th of November. Since our last edition We are extremely delighted and excited to meet once again and discuss some of the world's current problems. This year, we will host five committees in each of our editions. The committees will be a bit more interesting, more related to our current life and new rather than our past editions. The topic of Ensuring Habitat Protection and Biodiversity Conservation will be discussed in United Nations Environmental Programme for our Junior Edition. Reminding that it will be the first time of hosting UNCoST, The discussion is going to be covered under Raising Awareness on Usage of AI and Combatting the Misuse of Artificial Intelligence for our Junior Edition. UNICEF with the topic of The Effects of Social Media Usage and Digital Bullying on Children's Mental Health: International Maritime Organization with the issue of Protecting Oceans from Plastic Pollution and Maritime Waste for our Junior Edition. Not to forget our last and another new gen committee for Junior Edition, include an exciting wait for you to shine as a star. FCC: The Galactic Senate In the Futuristic Crisis Committee, delegates will prepare for the upcoming galactic elections with their factions. There will be four factions competing in the elections. Besides the elections, delegates will also cooperate with each other to solve the problems of the galaxy.

Meanwhile for our Senior Edition, United Nations Office on Drugs and Crime will discuss Combating the Rise of Cyber-Enabled Transnational Organized Crime and Darknet Marketplaces. UNWomen with the topic of Council of Europe Convention on Preventing and Combating Violence against Women and Domestic Violence (Istanbul Convention). Senior Edition Of UNICEF's Agenda Item will be Ensuring the Protection of Children's Rights in Armed Conflicts: The Case of Gaza. As you knew from our last edition, We gathered together in a committee to dream about the America. We know it is in your dreams before your sleeps,

American Dreams! An exciting rehandling of Historical U.S Senate comes with a new discussion; The Civil Rights. Our last and fifth for our Senior Edition will be a Crisis Committee. JCC will be with us in order to discuss The Napoleonic Era. We are looking forward to see you as a star, a delegate, a diplomat in our ninth edition which is special and the last before the double digits. Delighted to hear your solutions on these crucial topics and wish you fruitful debates. A group of experienced MUN delegates as well as successful and exemplary individuals well versed in the topics at hand will chair and monitor our committees. I have full faith in each and every member of our Academic Team and I believe they will guide you towards enhancing your academic knowledge along with practicing your debating and negotiating skills through presenting the best environment for a spirit of diplomacy. Meanwhile, now that they can arrange physical challenges, coffee breaks and social events again, I believe our amazing and all-mighty Organization Team members are in a frenzy! They are working with great dedication to ensure that you leave TROYMUN 2026 with unforgettable memories and lots of new friends. Overall, we are all looking forward to meet you again!

On behalf of TROYMUN family and Parion Hotel, I would like to thank you for your time and consideration and once again, with great pleasure, welcome you to TROYMUN 2026. Do not forget to apply, to read your study guides, prepare some speeches and motions, and buckle your seatbelts for three days of fun, discussion, games and politics! In case of any questions, do not hesitate to contact us. We would be more than happy to help you. See you in November

Your Sincerely,

Baran Akarsu

Secretary-General of TroyMUN

II. Letter from the Under-Secretary-General

Distinguished delegates,

My name is Charlotte Ela Akin Le Villain and I will be serving as the Under-Secretary-General for UNEP in this year's edition of TROYMUN.

With my Mentor Under-Secretary-General Yaprak and my chairboard members İda and İrem, we have worked rigorously to create a thorough and comprehensive study guide for you. Though we tried to create the most extensive study guide we could, I would recommend that you do your own research as well before coming to the conference. Study guides are written so that all delegates understand the general outline of the topic, but they generally do not include country specific policies, and you may even stumble upon some issues we missed while you research.

That said, my biggest ask from you would be that you learn, improve yourselves and most importantly enjoy your time at the conference. I look forward to seeing all the creative solutions, perspectives and the energy you will bring to the committee!

If you have any questions prior to the conference, feel free to reach me via the email address below!

Yours Sincerely,

Charlotte Ela Akin Le Villain
charlotteelaakin@gmail.com

Under-Secretary-General of UNEP

III. Letter from the Mentor Under-Secretary-General

Most distinguished participants,

First of all, I would like to welcome each and every one of you to our annual conference, TroyMUN.

My name is Yaprak Nisa Akay, and I will be serving as your Mentor Under-Secretary-General for the UNEP committee.

Having been involved in MUN for several years, my role throughout this conference will be to make sure that the committee procedure runs smoothly and effectively. I will do everything I can to make sure that you have the perfect MUN experience.

With the assistance of my Chairboard and our lovely Under-Secretary-General, we have worked hard to prepare the most helpful and inclusive study guide we could create. This year, our agenda is “Ensuring Habitat Protection and Biodiversity Conservation,” a topic that is highly important for the protection of our planet and the future of both ecosystems and human communities. However, it is important to remember that a study guide alone is not enough to achieve a comprehensive understanding of the subject matter. Therefore, please make sure to conduct further research before coming to the conference.

I hope that throughout the conference, you will have the opportunity to improve yourselves, make new friends, and, most importantly, have lots of fun.

If you have any questions beforehand, please do not hesitate to contact me via the email address below:

yaprakakay24@gmail.com

Best regards,

Yaprak Nisa Akay

Mentor Under-Secretary-General of UNEP

IV. Introduction to the Committee: United Nations Environment Programme (UNEP)



The United Nations Environment Programme (UNEP) is the main United Nations organisation that strives to eliminate global environmental problems. Established in 1972, UNEP has worked and continues to work with Member States and other international organisations to protect the environment and support sustainable development.

UNEP addresses major environmental issues, including climate change, biodiversity loss, pollution, ecosystem damage, and the sustainable use of natural resources. Environmental problems do not stop at national borders, which is why cooperation between countries is an important part of UNEP's work.

One of UNEP's main roles is to give governments scientific information and guidance when creating environmental policies. It helps countries develop environmental policies, cooperate with each other, and put international environmental agreements into practice. UNEP also tries to raise awareness about environmental problems and encourages governments, businesses, and communities to take action.

For this agenda item, UNEP has an important role in protecting natural habitats and conserving biodiversity. Through sustainable practices and cooperation between countries, UNEP aims to protect ecosystems while allowing countries and communities to develop. [\[1\]](#)

V. Introduction to the Agenda Item: Ensuring Habitat Protection and Biodiversity Conservation

A. Understanding Biodiversity and Habitats

A **habitat** is the natural environment and home where a particular species, organism, or community naturally lives and grows. It supplies the fundamental resources required for survival, such as food, water, shelter, and breeding spaces. Habitats are shaped by both biotic factors (living components like plants and animals) and abiotic factors (non-living elements like climate, soil composition, and water availability). [\[2\]](#)

Biodiversity, also known as ‘biological diversity’, is the variety of life found on Earth. It includes all living things, like bacteria, plants, fungi, insects, animals, and humans. But it is not simply the number of species in an area. It also includes the number of individuals per species and the balance of different species’ populations. This is influenced by different environmental pressures and mechanisms of evolution, like genetic mutation. And the end product is the rich diversity of life we see today.

Biological diversity is not spread evenly either. Some areas, such as the tropics, have high biodiversity. For example, the Amazon rainforest is one of the richest biodiversity hotspots on our planet. It is also home to more than 30% of the world’s species. Other areas, like the cold Arctic, have low biodiversity compared to the tropics. But they support unique, iconic species, like the polar bear, that have adapted to life on this frozen continent. [\[3\]](#)

Since Biodiversity covers a lot of ground, here are the three main ways it can be measured and defined:

1. Species diversity: This diversity is often understood in terms of the wide variety of plants, animals and microorganisms. So far, about 1.75 million species have been identified, mostly small creatures such as insects. Scientists reckon that there are actually about 13 million species, though estimates range from three to 100 million.

2. Genetic diversity: Biodiversity also includes genetic differences within each species - for example, between varieties of crops and breeds of livestock. Chromosomes, genes, and DNA-the building blocks of life-determine the uniqueness of each individual and each species.

3. Ecosystem diversity: Yet another aspect of biodiversity is the variety of ecosystems such as those that occur in deserts, forests, wetlands, mountains, lakes, rivers, and agricultural landscapes. In each ecosystem, living creatures, including humans, form a community, interacting with one another and with the air, water, and soil around them.

It is the combination of life forms and their interactions with each other and with the rest of the environment that has made Earth a uniquely habitable place for humans. [\[4\]](#)

B. Importance of Biodiversity and Healthy Ecosystems

Biodiversity is the life-support system of our planet. We rely on it for food, energy, medicine, fresh water, soil purification, pest control, breaking down waste and many, many more. Without it, the environment couldn't provide us with the things we need to survive.

Places that contain high biodiversity are also able to cope better with changes. They are more resistant to natural or human-related disturbances, such as climate change. They can recover quickly after major disasters, like wildfires.

The diversity of life also has significant economic value. Economists use the idea of 'ecosystem services' to describe the useful things a healthy environment provides humans for free. Many industries, like tourism, agriculture, and pharmaceuticals, rely heavily on ecosystem services.

Biodiversity also has immense cultural, spiritual and aesthetic value. Certain animals and plants hold great significance in many cultures.

In conclusion, biodiversity is important for lots of things such as ecosystem stability, pollination and agriculture, medicine, climate regulation and cultural value.

Biodiversity and ecosystem health can be impacted by both natural forces and human activities happening over different time and spatial scales. Changes can occur over millions of years, or be rapid and dramatic. [\[5\]](#)

C. The Current State of Global Biodiversity

Global biodiversity is experiencing a significant decline. Species populations, habitats and ecosystems are being lost or degraded across many parts of the world. According to IPBES (Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services), an international scientific body that provides governments with information about biodiversity, around 1 million species are threatened with extinction, many within the coming decades if current trends continue.

As of 2025, more than 47,000 assessed species were classified as threatened with extinction. However, because many species have not yet been assessed, this number does not represent all threatened species worldwide.

There has also been some progress. Conservation efforts have helped reduce extinction risks for certain species, while the rate of global deforestation has slowed. Countries have also adopted the Kunming-Montreal Global Biodiversity Framework, which aims to halt and reverse biodiversity loss by 2030, including the goal of effectively conserving at least 30% of the world's land and oceans by 2030.

Despite these efforts, the international community is currently not on track to achieve the 2030 biodiversity targets. Greater and faster implementation of conservation and restoration measures is therefore needed.

D. Major Threats to Habitats and Biodiversity

1. Habitat Loss and Fragmentation

Habitat loss happens when natural areas are destroyed or changed because of human activities such as agriculture, construction, urban development, and industry. When habitats disappear, animals and plants can lose their food, shelter, and space they need to survive.

Habitat fragmentation happens when a large habitat is divided into smaller and separated areas. Roads, cities, farms, and other developments can create barriers between these areas. This can make it harder for animals to move, find food, and reproduce.

Habitat loss and fragmentation can also make species more vulnerable to diseases and environmental changes, causing a decline in local wildlife communities. This can cause the natural order and balance to shift and consequently many more problems to arise, such as:

- Disruption of migration patterns
- A lack of genetic diversity in the said areas
- Risking extinction for species with limited travel abilities

Creating protected areas and wildlife corridors, restoring damaged habitats, planning land use more carefully, and establishing national, regional or international frameworks on the topic are some solutions which can help reduce the said negative outcomes of these issues. [6]

2. Deforestation and Land Conversion



Deforestation means removing or cutting down forests to use the land for purposes such as agriculture, livestock farming, mining, construction, or urban development. Since forests are home to many different species, deforestation can cause serious biodiversity loss.

Deforestation differs from habitat loss and fragmentation in the sense that habitat loss or fragmentation can mean any kind of habitat, not just forest- or tree-dominated areas like deforestation.

Deforestation can also contribute to soil degradation and climate change since forests store large amounts of carbon. Sustainable agriculture, reforestation, responsible land use, and stronger protection of forests can help reduce the negative effects of deforestation.

Land conversion means changing a type of land from one to another based on the need for regional development. It can also affect a variety of natural environments, including wetlands, grasslands, and coastal areas. Although there might be many reasons why an authority chooses to convert land, the most common type of land conversion is from agricultural to non-agricultural land due to industrialisation. Changing these habitats can reduce the number of species that are able to live there and again disrupt the natural order. [7]
[8]

3. Climate Change

Climate change is another major threat to the well-being of habitats and biodiversity. Changes in temperature, rainfall, rising sea levels, and changing ocean conditions can seriously affect countless types of habitats and species.

Some species can adapt to these changes or move to new areas, but others may not be able to adapt quickly enough. Climate change can be especially harmful to species that already have a small or limited area that they live in.

Protecting natural ecosystems can help species become more resilient to climate change. At the same time, reducing greenhouse gas emissions is important for limiting future changes to the environment. [9]

4. Pollution

Pollution can seriously damage both habitats and the organisms living in them. Common types of pollution include plastic waste pollution, chemical pollution, air pollution, oil pollution, and agricultural waste.

For example, plastic pollution can harm marine ecosystems, while chemicals entering rivers and lakes can affect aquatic organisms. Pollution can also damage soil and make it

more difficult for plants and other organisms to survive, making it harder for other animals to find food.

Reducing pollution requires better waste management, cleaner production methods, responsible agricultural practices, and stronger environmental regulations. Countries can also work together to address pollution that crosses national borders.



5. Overexploitation of Natural Resources

Overexploitation happens when natural resources are used faster than nature can replace them. Examples include overfishing, excessive logging, unsustainable hunting, and collecting too many wild plants.

When too many organisms are removed from an ecosystem, their populations can decrease, and the balance of the ecosystem can be affected. This can also create problems for communities that depend on these resources.

Sustainable management can help reduce overexploitation. Governments can introduce regulations, protected areas, monitoring systems, and sustainable fishing, farming, and forestry practices. [\[10\]](#)

6. Illegal Wildlife Trade

Illegal wildlife trade involves the unlawful capture, collection, transportation, or sale of wild animals, plants, and products made from them. It can put pressure on already vulnerable species and contribute to population declines.

This issue often involves more than one country because wildlife can be captured in one country, transported through another, and sold somewhere else. This makes international cooperation particularly important.

Countries can work together by improving border controls, sharing information, strengthening law enforcement, and supporting conservation programs. Helping local communities find sustainable sources of income can also reduce their dependence on illegal wildlife activities. [\[11\]](#)

7. Invasive Species

Invasive species are non-native species that enter a new environment and cause harm to native species or ecosystems. They can compete with native species for food, water, and habitat, and some can also introduce diseases.

Invasive species can spread through international trade, tourism, transportation, and shipping. Once they become established, they can be difficult and expensive to control.

For this reason, prevention and early detection are very important. Countries can monitor ecosystems, control the movement of potentially invasive species, and take action quickly when a new invasive species is discovered. [\[12\]](#)

E. Consequences of Biodiversity Loss

1. Environmental Impacts

Biodiversity is essential for the functioning, stability and resilience of ecosystems. When species and genetic diversity decline, the relationships between organisms can be disrupted, affecting processes such as food webs, nutrient cycling, pollination, decomposition and water regulation. As a result, ecosystems may become less stable and less able to recover from disturbances.

One major consequence is the disruption of food chains and ecological relationships. The loss of predators, prey, pollinators or other important species can affect many other organisms within an ecosystem. Because species are interconnected, the disappearance of one species can sometimes create changes that spread throughout the wider ecosystem.

Biodiversity loss can also reduce ecosystem resilience, meaning the ability of an ecosystem to withstand and recover from disturbances such as droughts, floods, fires, diseases and climate-related changes. Ecosystems with greater biological diversity generally have more different organisms contributing to ecological functions, which can help them respond to environmental changes.

Another important consequence is the decline of ecosystem functions and services. Healthy ecosystems naturally contribute to processes such as pollination, soil fertility, water purification, carbon storage, climate regulation and protection from natural hazards. When biodiversity declines and ecosystems become degraded, their ability to maintain these functions can also decrease.

Overall, biodiversity loss does not simply mean that individual species disappear. It can alter the structure and functioning of entire ecosystems, reduce their resilience and weaken the natural processes that keep ecosystems healthy. This can create a cycle in which degraded ecosystems become increasingly vulnerable to further environmental damage and biodiversity loss. [\[13\]](#)

2. Economic Impacts

Biodiversity is closely connected to the global economy because many economic activities depend directly or indirectly on healthy ecosystems. Agriculture, fisheries, forestry, tourism and many other industries rely on natural resources and ecosystem

services. When biodiversity declines, these economic activities can become less productive, more expensive and more vulnerable to disruption. The World Bank estimates that the collapse of selected ecosystem services could cause a US\$2.7 trillion decline in global GDP annually by 2030.



Agriculture and food production are particularly dependent on biodiversity. Pollinators such as bees, butterflies, birds and bats contribute to the production of many crops. FAO (Food and Agriculture Organisation) reports that pollinators affect around 35% of global crop production by volume. A decline in pollinators can therefore reduce crop yields, increase production costs and affect the income of farmers. Biodiversity also supports healthy soils, natural pest control and genetic diversity in crops and livestock, which help agricultural systems remain productive and resilient.

Fisheries and forestry are also economically dependent on healthy ecosystems. The loss or degradation of marine and forest ecosystems can reduce the availability of fish, timber and other natural resources. This can affect industries, employment and the income of communities that depend on these resources. The impacts can be particularly serious for small-scale farmers, fishers and Indigenous and local communities, whose livelihoods may depend heavily on natural resources.

Biodiversity loss can also affect tourism. Many tourism activities depend on attractive and healthy natural environments, including coral reefs, forests, wildlife and coastal ecosystems. When these ecosystems are degraded, destinations can become less attractive to visitors, potentially reducing tourism income and employment. [\[14\]](#) [\[15\]](#) [\[16\]](#)

3. Impacts on Human Communities

Biodiversity is closely connected to human well-being. Communities depend on healthy ecosystems for food, clean water, medicines, materials and protection from environmental hazards. When biodiversity declines, these benefits can become less reliable, creating risks for people's health, livelihoods and quality of life.

One major impact is on food security and nutrition. Biodiversity provides a variety of crops, livestock, fish and wild foods, while genetic diversity helps food systems adapt to pests, diseases and changing environmental conditions. The loss of biodiversity can therefore make communities more vulnerable to food shortages and nutritional problems, particularly where people depend heavily on local ecosystems. Biodiversity loss can also affect access to

clean water. Forests, wetlands and other ecosystems help filter water, regulate water cycles and maintain freshwater resources. When these ecosystems are degraded, communities may face poorer water quality and greater water insecurity.



The impacts are particularly significant for Indigenous Peoples and local communities whose livelihoods, cultures and traditions are closely connected to forests, oceans, rivers and other ecosystems. Loss of biodiversity can reduce access to traditional foods and medicines, disrupt traditional practices and threaten cultural identity. [17]

[18]

If biodiversity loss continues over the long term, ecosystems may become less stable and less able to provide essential resources and services. This could increase pressure on food and water security, human health, livelihoods, and economies. Some changes may also be difficult or impossible to reverse once species or ecosystems are permanently lost. Therefore, protecting biodiversity is important not only for current communities but also for the well-being and security of future generations.

VI. Case Studies

A. The Amazon Rainforest

The Amazon rainforest is one of the Earth's most important ecosystems and contains a huge variety of plants, wildlife and indigenous tribes. As the world's



largest tropical rainforest, the Amazon is not only important for biodiversity, but it is also known for its role in regulating the global climate and supporting human life. Consequently, the Amazon rainforest, its biodiversity and conservation are critical for a healthy planet. The Amazon is more than just a jungle; it is a living, breathing ecosystem. The rainforest's ability to support such a diverse range of life is linked to its warm climate. The Amazon and other rainforests thrive in the equatorial zone. In this zone, stable heat and humidity support different life forms. With its 60 to 120 inches of rainfall each year, it creates a lush environment where biodiversity can flourish.

Additionally, the rainforests store approximately 150 billion to 200 billion tons of carbon in their tree trunks, stems, leaves, roots and the soil, which helps regulate the local and global climate. Deforestation leads to significant carbon emissions with negative consequences worldwide. This is a concern because the Amazon is still one of our biggest allies in our fight



against climate change. Beyond climate regulation, the rainforest is integral to maintaining the global water cycle; it helps regulate rainfall patterns that affect regions other than the forest itself. Without the Amazon, many areas across the world would be under the influence of drier climates, leading to droughts and crop failures.

The Amazon is a huge biome that covers eight fast-developing countries - Brazil (60%), Bolivia, Peru, Ecuador, Colombia, Venezuela, Guyana, Suriname - and French Guiana, an overseas territory of France. It is known as the largest tropical forest in the world (twice the

size of India)

The landscape includes:

- Over 10% of the species known on the planet.
- 1.4 billion acres of dense forest covering large areas.
- The Amazon basin covers 2.7 million square miles and stretches across about 40% of South America.
- 20% of the world's liquid freshwater.

- A single river may contain more fish species than all of Europe's rivers combined.
[\[19\]](#) [\[20\]](#) [\[21\]](#)

B. Coral Reefs and Marine Habitats

Biodiversity is about a variety of living species that can be found in a particular space. Coral reefs are believed by many to have the highest biodiversity of any ecosystem on the planet; even more than a tropical rainforest. They occur in more than 100 countries and territories. Although they cover less than 0,1% of the Earth's surface, coral reefs are home to more than 25% of all marine life. For example;

- 4000 species of reef fish
- 840 species of corals
- over 1 million species of other animals



Thousands of species of corals have been discovered; some live in warm, shallow, tropical seas and others in the cold, dark depths of the ocean.

These different species grow for thousands of years thanks to coral polyps that can adapt into multiple forms: large reef-building colonies, graceful flowing fans, and even small, solitary organisms.

Coral reefs uphold the safety, coastal protection, well-being, food security and economic security of millions of people in less developed countries, changing economies and small island states around the world. The value of goods and services provided by coral reefs, e.g. tourism, fisheries, coastal protection or medicinal compounds, is estimated at 2.7 trillion U.S. dollars per year.

Ecological Status and Trends

Unfortunately, coral reefs are among the most vulnerable ecosystems on the planet to damage from human pressures. The 2019 IPPC (International Planet Protection Convention) Special Report on the “Ocean and Cryosphere in a Changing Climate” identified coral reefs as the marine ecosystem most at risk from climate change impacts, including warming ocean temperatures, more severe storms and ocean acidification driven by carbon dioxide emissions. Coral reefs are also strongly affected by local conditions such as a lack of nutrients, marine pollution and overfishing. The findings show that between 2009 and 2018 there was a progressive loss of about 14% of the coral from the world's coral reefs, primarily caused by recurring, large-scale bleaching events. In all, about 11,700 square kilometres of hard coral, which is



more than all coral currently living on Australia's coral reefs, were lost. If bleaching events are long or happen too frequently with not enough time to recover in between, significant coral mortality can occur, sealing the fate of coral reefs. The worst impacts have occurred in South Asia, Australia, the Pacific, East Asia, the Western Indian Ocean, the Gulf and the Gulf of Oman. However, coral reefs have also shown great resilience and can recover from coral bleaching and mass mortality events if they're protected from other human-caused stresses.

Benefits Beyond Economics

Healthy coral reefs are the first line of defence for millions of coastal inhabitants globally. They reduce wave energy, act as barriers to storms, prevent disastrous erosion and prevent flooding, particularly in small island states and at long, narrow points of land. Coral reefs are considered the rainforests of the ocean and the medicine cabinets of the 21st century. In the future, coral reefs could represent an increasingly important source of medicine for various diseases (including cancer), nutritional supplements, and other commercial products. In fact, the prospects of finding a new drug in the sea, especially amongst coral reef species, may be 300 to 400 times more likely than isolating one from a land ecosystem.

How We Can Make a Difference

In 2021-2022, governments planned to make important decisions about the future of coral reefs. The International Coral Reef Initiative developed a recommendation to protect coral reefs and recognise them as critically threatened ecosystems. Protecting coral reefs can provide major economic and social benefits and support the safety, nutrition, health and wellbeing of more than one billion people. The recommendation also aims to prioritise coral reefs in the global biodiversity framework and use clear indicators to measure their health and functions, including:

- Live coral cover- provides a snapshot of overall reef health
- coral reef extent- determines if the area of coral reef systems is increasing or decreasing
- fleshy algae cover- and cover of benthic groups indicate coral reef health; increased algal cover can show declining health
- fish abundance and biomass- reflects a coral reef's productivity and functional integrity
- per cent coral reefs effectively protected- measures commitment to protecting coral reefs
- index of coastal eutrophication- signals water quality impacts in coastal areas. [\[22\]](#) [\[23\]](#) [\[24\]](#)

C. African Wildlife and Protected Areas

In order for humanity to survive, we need nature. The widely accepted research shows that to reduce the impacts of climate change such as drought, flooding and famine, while maintaining healthy ecosystem services to provide food security, as well as clean water and air, at least 30% of the planet must be protected. The most effective solution we have to ensure healthy ecosystems that sustain all life on Earth is to protect and conserve the biodiversity that still exists. The diverse landscapes of Africa support an extraordinary range of



habitats and a wealth of species diversity. Africa's grasslands, mountains, forests, wetlands, and other ecosystems are the foundation for agriculture, tourism and the wider economy. Yet, increasing human pressures are posing mounting threats to wildlife across Africa, as many ecosystems are fragmented, degraded or lost. Currently, 19% of Africa's land and 17% of the seas around Africa are covered by protected and conserved areas.

Wildlife

Today, with hundreds of community-run conservancies being established across tens of millions of acres of Africa, herders and their cattle are sharing the unfenced land with elephants, giraffes, wildebeest, and buffalo. Armed only with mobile phones, the herders keep their livestock safe while protecting wildlife by alerting their fellows to predatory lions and driving off poachers in places where rangers in four-wheel drive vehicles rarely venture and accompany high-rolling tourists who fund their conservation attempt.

Nearly two-thirds of Kenya's large mammals are found in communal and private lands, rather than in state protected areas. Maliasali found that 16% of Kenya's total land mass is managed by the 230 conservancies that cover more than 22 million acres, an area the size of Indiana. In Namibia, the figure is 20% and in Zimbabwe it is 12%. Tanzania has an area equivalent to seven Yellowstones, managed for wildlife by herders, farmers and hunter-gatherers. Wildlife is migrating in even greater numbers to these areas.

In the Maasai Mara, a famous national reserve in Kenya, East Africa, known for its beautiful grasslands and large variety of wildlife, one of the continent's top magnets for wildlife tourists, straddling the border between Kenya and Tanzania, conservancies cover 25% of the ecosystem, but recent research found that they contain 83% of its large mammals.

- Lions, elephants, cheetahs, leopards and buffalo
- The Great Migration sees millions of wildebeest, zebras and other animals move between Tanzania and Kenya.



- The Maasai people who live in surrounding regions have a rich cultural heritage.

Most of Africa's biodiversity depends on lands owned and managed by local communities like this. These communities are on the front line, and their conservation practices are key to sustaining and restoring healthy ecosystems.

APAC's Importance for Africa and its Global Impact

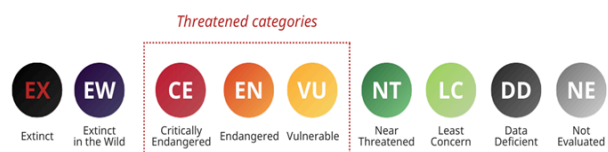


APAC: The IUCN Africa Protected Areas Congress recently took place in Kigali, Rwanda. The congress was the first-ever continent-wide gathering of African leaders, citizens and interest groups to discuss the role of protected areas in conserving nature, safeguarding Africa's iconic wildlife, delivering vital life-supporting

ecosystem services, and promoting sustainable development while conserving Africa's cultural heritage and traditions. Beyond the formal outcome, APAC also provided a valuable space for partnerships, advocacy and collaboration. The main topics of discussion included the importance of effective governance and management of protected and conserved areas; the need to recognise, elevate and uphold the rights, roles and responsibilities of indigenous peoples, local communities and young people; and the need to value and integrate traditional knowledge and promote the value and role of protected and conserved areas to achieve both environmental and social outcomes. [25] [26] [27]

D. Endangered Species

Endangered species are organisms, such as plants, fungi, microbes or animals, that are threatened by extinction. Species become endangered for two main reasons: Loss of habitat and loss of genetic variation.



Loss of Habitat

Habitat loss can happen naturally or because of human activities. In the past, natural events such as climate change and asteroid impacts caused species like dinosaurs to become extinct. Today, however, human activities are one of the main causes of habitat loss.

Deforestation, agriculture, urbanisation and industrial development destroy natural habitats. For example, large parts of the Amazon rainforest have been cleared for cattle ranching. When trees are removed, many other species that depend on them also lose their habitats.

Habitat loss can also be caused by invasive species and climate change. As habitats become smaller, animals have less space to live and reproduce. This can also increase human-wildlife conflicts as animals come closer to human settlements. Climate change can make the problem worse by causing droughts, wildfires, melting ice and changes in rainfall. Overall, habitat loss is a major threat to biodiversity and endangered species.

Loss of Genetic Variation

Genetic variation is the diversity of genetic characteristics within a species. It is important because it helps species adapt to environmental changes and diseases.

A lack of genetic variation can happen because of inbreeding, when closely related animals reproduce. This can make a population more vulnerable to diseases and environmental changes. For example, cheetahs have very low genetic variation because of long periods of inbreeding.

Human activities can also reduce genetic variation. Overfishing decreases animal populations and the number of healthy breeding pairs. In agriculture, monoculture or growing only one type of crop, can also reduce genetic diversity. For example, many potatoes grown in the United States are the same variety, making them more vulnerable to diseases and climate change.

Overall, variation is essential for biodiversity because it helps species survive and adapt to new environmental challenges.

A species can be classified as endangered based on several main criteria:

- **Population decline:** Its population decreases by 50–70% or more over 10 years or three generations.
- **Geographic range:** It has a very limited habitat, with an area of occurrence below 5,000 km² or an occupied area below 500 km².
- **Population size:** There are fewer than 2,500 mature individuals, or the population is rapidly decreasing.
- **Very small population:** There are fewer than 250 mature individuals
- **Risk of extinction:** There is at least a 20% chance of extinction within 20 years or five generations.

Population decline, limited habitat, small population size, and high extinction risk are the main factors used to identify endangered species.

Endangered Species and People

Governments and international organisations can protect endangered species through laws, habitat protection and restrictions on hunting and international trade. Organisations such as CITES help control the international trade of endangered animals and plants.

A good example is the brown pelican. It's become endangered because the pesticide DDT damaged its eggs. Governments banned DDT, protected nesting areas, and helped raise and release young pelicans. As a result, the population recovered, and the species was removed from the endangered species list in 2009.

Individuals can also help by donating to conservation organisations, planting native plants, supporting national parks, and encouraging governments to take action. Overall, government policies, international cooperation, conservation organisations and individual actions can all help protect endangered species. [\[28\]](#) [\[29\]](#) [\[30\]](#)

E. Habitat Protection in Asia

Conservation in Asia, the world's largest continent, spans vast natural landscapes including the expanses of the Mongolian steppes to the tropical jungles and islands of Southeast Asia. The continent includes some of the greatest river systems in the world, and its marine habitats stretch from the highly productive waters of the Northern Pacific to the great biodiversity of the Coral Triangle. Asia is also a continent of large changes. Its human population has grown over the past 100 years, and Asia is now home to more people than all the other continents combined. It includes the great economies and populations of China and India, with Indonesia not far behind, and so the impacts on Asia's natural heritage are quickly evolving.

Biodiversity Loss

Human activities like urban expansion, industrial development and deforestation are transforming Asia's landscapes, destroying habitats, and endangering species. Overfishing and climate change deepen the threats, with rising temperatures, altered rainfall, and extreme weather causing coral bleaching and melting Himalayan glaciers that jeopardise freshwater ecosystems.

What We Can Do

- Establish a well-defined biodiversity strategy; a well-defined biodiversity strategy demonstrates how financial institutions and businesses integrate biodiversity considerations in today's strategic planning and economic decision-making process.
- Implement biodiversity mitigation hierarchy; This framework is designed first to avoid damage to ecosystems, minimise impacts when avoidance is not possible and compensate for any damage by restoring ecosystems.
- Raise ambition to reform environmentally harmful subsidies; This offers opportunities for governments to build stronger economies. This includes revising existing policies to eliminate environmentally harmful subsidies that degrade biodiversity in agriculture, fisheries, forestry and energy.
- Expand nature-related risk management efforts; Effective management of nature-related risks is essential, particularly in sectors with high Environmental impacts such as food, land and energy. Implementing the recommendations can help companies align with biodiversity conservation goals.

- Invest in nature-based solutions; Nature-based solutions such as restoring mangroves to protect against coastal erosion, improving water quality and rehabilitating peatlands are crucial for carbon storage; they also offer co-benefits of biodiversity improvement and climate mitigation.

F. Fighting Against Wildlife Trade in Mongolia

The illegal wildlife trade is driving Mongolian wildlife to its limits. As recently as the 1990s, Mongolia was home to a wildlife spectacle like nowhere else, with marmots as common as grasshoppers and a million white-tailed gazelles strolling the large landscape. Today, the story is very different:



850,000 marmots were killed in 2015 alone, and there has been a once unthinkable 75% decline in their numbers over the last 30 years. Unlike Southeast Asia, where the international trade focuses primarily on small things, much of the illegal hunting and trade in Mongolia is directed at larger mammals. Red deer, musk deer, Mongolian gazelle, saiga antelope, brown bear and a host of fur-bearers are the main components of the illegal trade market. As these species decrease in number, hunters and traders are already switching to other species such as moose, roe deer and even red squirrels. Eight examples illustrate the currently unsustainable hunting and trade pressure in Mongolia.

Legal situation: Since 1994, Mongolia has actively engaged in the development of an environmental legal regime that comprises most of the components necessary to control illegal hunting. A few critical gaps remain, strained by a lack of capacity to implement and enforce established dependency.

Mongolia is facing a sudden and severe wildlife crisis, and illegal and unsustainable hunting is the primary driving force for these dark lines. Redressing the problems involving unsustainable and illegal hunting in Mongolia requires reforming hunting and population management to ensure:

- openness and transparency

- A mix of top-down and bottom-up authority that enjoys local supports
- Active and adaptive conservation and management, including anti-poaching enforcement using funds generated by hunters

If Mongolia does not take immediate steps to end this crisis and reverse the dramatic decline in wildlife, the country may soon face a series of countrywide extinctions that will forever alter the biodiversity, ecological structure, and economy of the country. [\[31\]](#) [\[32\]](#)

G. Bioengineering

Bioengineering is an interdisciplinary field that applies engineering principles, such as design, problem-solving, and analysis, to biological systems and biomedical technologies. It combines knowledge from biology, engineering, chemistry, and other scientific fields to develop innovative solutions to biological and medical challenges. With the loss of Earth's biodiversity is increasing, with species extinction proceeding a thousand times faster than baseline. The emerging field of bioengineering has great potential to reshape biodiversity conservation in many ways, seen and unseen, positive and negative.

Decades of conservation work have produced some major successes, yet threats are increasing, and it may be difficult to be able to address some emerging threats to biodiversity with the current techniques at hand. The growing field of synthetic biology might be able to help conservation address some of these unmanageable problems. At the same time, applying synthetic biology tools to environmental questions is troubled with uncertainty, and there is deep concern about potential threats to cultural rights, ethics, livelihoods, and nature itself.

As the world's governments negotiate the future of biodiversity, the conservation implications of synthetic biology applications are considered on a case-by-case basis depending on the evidence for the positive and/or negative impacts they are likely to have on any given conservation objective. The fact that one application may be beneficial or detrimental in a certain social, political, economic, and ecological context does not mean that the same technology would have the same impacts in another context; grouping synthetic biology applications might therefore mask the complexity of the issues. [\[33\]](#) [\[34\]](#) [\[35\]](#)

VII. International Responses and Existing Frameworks

WHO Response



WHO develops public health plans that consider biodiversity and provides global evidence on the connection between biodiversity and human health. It also helps

countries evaluate health risks caused by biodiversity loss and monitors related health policies to ensure that human rights, equity, and the goal of Health for All are protected. The WHO Global Centre for Traditional Medicine supports traditional knowledge systems through a rights-based approach that encourages sustainable and effective health practices. WHO promotes stronger health systems that are resilient to both climate change and biodiversity loss. It encourages countries to include biodiversity in public health policies through approaches such as One Health. These efforts address infectious and noncommunicable diseases, food safety and security, and antimicrobial resistance (AMR) through cooperation across governments and communities, with a focus on equity. WHO also supports cooperation between different sectors by providing training, guidance, and resources for developing biodiversity-informed health policies. The Expert Working Group on Biodiversity, Climate Change, One Health, and Nature-based Solutions develops evidence-based strategies to address biodiversity loss and its effects on human health. In addition, WHO works with the Nature for Health (N4H) initiative to address biodiversity loss and climate change, reduce the risk of future pandemics, and support policies consistent with the Kunming-Montreal Global Biodiversity Framework. [\[36\]](#)

The Kunming-Montreal Global Biodiversity Framework

Adopted in December 2022 during the fifteenth meeting of the Conference of the Parties (COP15) this framework sets 4 goals for 2050 and 23 targets for 2030. The Global Biodiversity Framework (GBF) aims to stop and reverse nature loss.

Simply put, the main 4 goals of the framework for 2050 are: Restoring and protecting all ecosystems, safeguarding biodiversity, ensuring fair sharing of genetic resources including traditional knowledge and ensuring that adequate means of implementation are available to reach these goals.

Some of the 23 targets for 2030 GBF sets to achieve the 4 goals for 2050 include:

- Protecting at least %30 of land, inland waters, coastal areas and oceans by 2030 (a.k.a. the 30 by 30 goal)
- Restoring %30 of degraded ecosystems
- Ensuring that extraction and trade of wild species are sustainable and legal
- Reducing pollution to a level that does not harm biodiversity.
- Ensuring that sustainable management practices are adopted for forests, fisheries, and agriculture.
- Recognize and protect the rights of indigenous peoples and local communities in biodiversity conservation.
- Mobilising at least \$200 billion per year by 2030 for biodiversity from all sources (public, private, international). [\[37\]](#) [\[38\]](#)

The UN Decade on Ecosystem Restoration (2021-2030)

The UN Decade of Ecosystem Restoration, officially launched on June 5th 2021 on World Environment Day, provides tools, guidelines and platforms to share knowledge, aligning with the goals of environmental protection and development. The decade aims to support global incentives like the Paris Agreement, the Kunming-Montreal GBF and the UN

Sustainable Development Goals, raising awareness on ecosystem restoration within communities, plans to revive 350 million hectares of land and water by 2030 and much more.

It plans to achieve its goals by channeling funding from governments, businesses and donors to large scale restoration projects. It also works to build partnerships with NGOs, indigenous communities and political figures to widen their scope, while supporting innovation in restoration. [\[39\]](#)

VIII. Points a Resolution Should Cover

- How can economic development be balanced with habitat protection?
- How should conservation efforts be funded?
- What role should indigenous and local communities play in conservation?
- How can habitat protection laws be enforced more effectively?
- Should bioengineering be used in conservation efforts, if so, how can it be done without crossing ethical boundaries or harming ecosystems?
- How can UNEP fight against illegal wildlife trade?
- How can UNEP fight against pollution and its implications on conservation?
- What measures can be taken to protect major biomes or areas such as the Amazon Rainforest or the Great Barrier Reef?
- What role does technology play in habitat protection?
- How can UNEP get ahead of threats such as land conversion, fragmentation or deforestation?

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