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ECOFUNCTIONS

Biodiversity loss
Lithuania-5.1



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Biodiversity refers to all the different kinds of living organisms within a given area. A variety of animals, plants, fungi, and even microorganisms like bacteria make up our natural world. Biodiversity can include everything from towering redwood trees to tiny, single-cell algae that are impossible to see without a microscope ¹.

All of these species and organisms work together in ecosystems, like an intricate web, to maintain balance and support life. Biodiversity supports everything in nature that we need to survive: food, clean water, medicine, and shelter. A common way to measure biodiversity is to count the total number of species living within a particular area. Tropical regions, areas that are warm year-round, have the most biodiversity.

Temperate regions, which have warm summers and cold winters, have less biodiversity. Regions with cold or dry conditions, such as mountaintops and deserts, have even less. As before said, biodiversity can also refer to the variety of ecosystems—communities of living things and their environments. Ecosystems include deserts, grasslands, and rainforests. An ecosystem is a geographic area where plants, animals, and other organisms, as well as weather and landscapes, work together to form a bubble of life.



Every factor in an ecosystem depends on every other factor, either directly or indirectly. Ecosystems can be very large or very small. Tide pools, the ponds left by the ocean as the tide goes out, are complete, tiny ecosystems.

Ecosystems contain biotic, or living, parts as well as abiotic factors, or non-living, parts. Biotic factors include plants, animals, and other organisms. Abiotic factors include rocks, temperature, and humidity. The broad category of the ecosystem is mainly of two types—terrestrial and aquatic. In this article, we will discuss the different types of ecosystems classified under terrestrial and aquatic ecosystems with their main characteristics ².

Terrestrial Ecosystem

The terrestrial ecosystem refers to the ecosystems of different landforms only. The atmosphere in the terrestrial ecosystem is quite different from that in the aquatic ecosystem. The major types of ecosystems are forest, desert, rainforest, grassland, tundra, savanna, and mountain ecosystems.



Aquatic Ecosystem

The ecosystem found in different water bodies is known as an aquatic ecosystem. The major types of aquatic ecosystems are marine ecosystems and freshwater ecosystems. Let's understand the aquatic ecosystem with characteristics in brief: ecosystems with a lot of biodiversities are generally stronger and more resistant to disasters than those with fewer species.

Since there are many different ecosystems, so there are also lots of various ecosystem problems. The main problems are pollution, it can take various forms: littering, water pollution, and air pollution. All these types of pollution harm ecosystems. Littering is harmful to animals and soil in various ways, and contaminated soil also affects plants. Animals can consume garbage, not only occurring in nature, but also in the form of microplastics.

Debris in the soil does not decompose and the soil is no longer so fertile and healthy. Garbage is also harmful to marine life: fish and marine vegetation. Air pollution is more characterized by inorganic gases (such as CO₂), which are poisonous to humans and animals, deplete the ozone layer and contribute to the onset of the greenhouse effect on our planet. Pollution is not the only problem of ecosystems. Excessive deforestation is also detrimental to ecosystems and biodiversity.

By destroying forests, we are not only destroying naturally formed vegetation and diversity, but also the living places of various animals. This leads to the destruction of biodiversity.

We also know that plants “clean” the air by consuming carbon dioxide and releasing oxygen.

Thus, we can infer that deforestation disrupts the ecosystem cycle: oxygen is consumed more than it is emitted, and vice versa, carbon dioxide is emitted more than plants are able to consume it.

One of the greatest threats to animal diversity is poaching. This is illegal hunting. Poachers do not follow the laws and rules of hunting. Poachers often hunt rare animals or endangered species. Poaching poses a great danger not only to endangered species since poaching is also threatening to animals of abundant population.

Poachers can pose a danger to them during the period of reproduction, to get the fur that animals have only when they are off-springs. The biodiversity of landscapes and soil is destroyed by the excessive use of mineral fertilizers, which leads to an imbalance of nutrients. As a result, the growth of soil microorganisms can slow down. Pollution of the soil causes acute and chronic toxicity to soil biota. Ecosystems are also affected by abiotic changes in abiotic factors such as climate change.



On the contrary, there are a variety of possible solutions to the differing effects of biodiversity loss. Firstly, in terms of deforestation, listening to and prioritizing the local people that are most affected by it, enfranchising them could be substantial.

Secondly, electing a forest-favoring and generally more ecologically aware government could improve the current situation significantly, as the authority undeniably has the influence and power that meaningful change requires. Along the same lines, giving back to indigenous people control of their land should be an utmost priority.

Thirdly, the meat, and especially beef, production industry is a known large climate change contributor and, due to the deforestation that it causes, is incredibly harmful to the environment. Many farmers often chop down entire forests to make space for cattle and crops, but introducing discipline and stricter guidelines into supply chains could help reduce the growing greenhouse effect.

Similarly, reducing the consumption of beef, pig, and poultry as a personal choice could make great improvement if we all devoted ourselves to the cause. Likewise, another large reason for biodiversity loss is over-hunting. One way to lessen its effects would be to spread awareness regarding the issue, thus more people can become properly educated on the matter and do the right thing.

As a result, another way would be to avoid purchasing products with animal parts, particularly of endangered species, as you're unknowing of the raw materials used to make them.

A third way would be to support and fund conservation agencies in their fight against these illegal hunting practices that endanger or make species go extinct, and disrupt migration, hibernation, and even the food chain. The fourth and last way, perhaps the most effective yet hardest to achieve, is to strive for political change and the enforcement of stricter laws, to become an activist, and give your say on things—all for a better future and the generations to come.

In addition, pollution is a very well-known contributor to climate change and, in turn, it significantly damages wildlife. First, the smallest thing we can do for the environment is to pick up litter off the street or in nature and throw it away in a nearby garbage can. Besides that, we can reduce the number of trips we all take in our cars, reduce or eliminate our fireplace or wood stove usage, avoid burning leaves, trash, and other materials and, last, avoid using gas-powered lawn and garden equipment, all to lessen the overall carbon emissions.



So, to sum everything up, ecosystems are when organisms interact with their physical environment and form a biological community. And biodiversity is a variety of life including not just plants and animals, but also microorganisms that we can't see with the naked eye. You could say that there is life in any part of our planet and because of that, there are just as many ecosystem problems, as there are ecosystems.

We need to understand that ecosystems are interdependent on each other. Humanity also is a part of this ecosystem so we are dependent on different parts of the ecosystem. So we need to conserve and maintain the viability of ecosystems.

There are a lot of dangerous factors to ecosystems and pollution is not the only one. Ecosystems are negatively affected by deforestation because it destroys plant biodiversity and animal habitat. Also because of deforestation, fewer plants could „clean“ the air and that's how a natural cycle of carbon dioxide and oxygen because there is more carbon dioxide and less oxygen.

And as we know one of the biggest threats to animal biodiversity is poaching. It is usually targeted at rare animals and endangered species. In addition, the imbalance caused by mineral fertilizers destroys the landscape's and soil's biodiversity.

Considering everything, there are ways we can solve those problems. First, we can start by reducing trash by picking up the trash and recycling them. We can try to reduce carbon emissions by planning out car trips and maybe choosing public transport. And before burning piles of leaves, think twice, maybe you can compost them.



Deforestation can be reduced if we try and connect politics with nature conservation by electing a forest-favoring and generally more ecologically aware government. And by avoiding purchasing products with animal parts, particularly of endangered species we can stop poachers. Ultimately, we need to think about everything we do, because our actions affect ecosystems that depend on us, for our own sake.



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