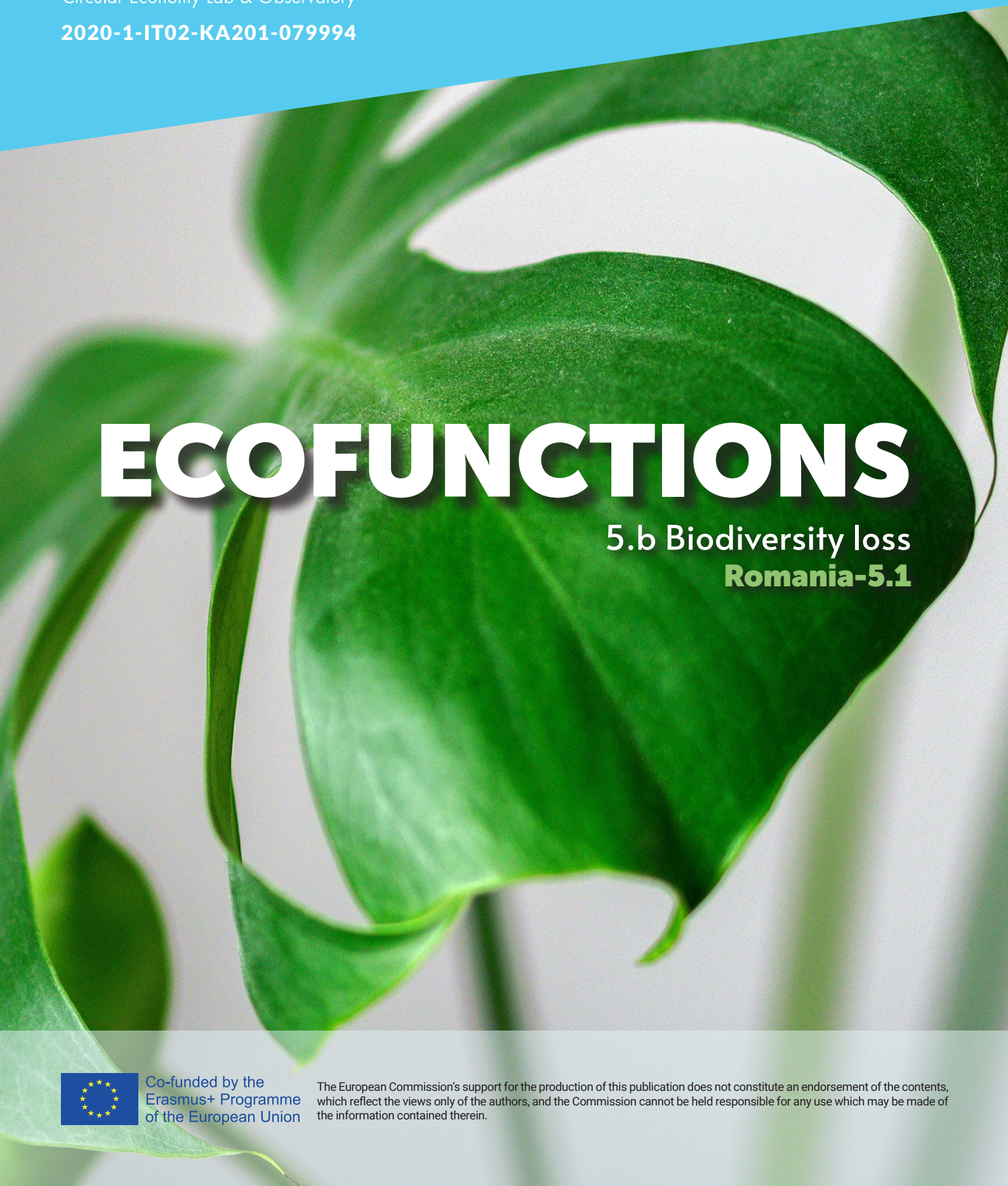
Circular Economy Lab & Observatory

2020-1-IT02-KA201-079994



ECOFUNCTIONS

5.b Biodiversity loss

Romania-5.1

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Introduction
"The planet is in the midst of a biodiversity and climate crisis... and we have a last chance to act... A naturepositive future needs transformative – game changing – shifts in how we produce, how we consume, how we govern, and what we finance." (Marco Lambertini, the Director-General of WWF International: The conservation charity's Living Planet Report 2022) This post will look at the biodiversity loss we're experiencing and what we can do to avoid it.

Biodiversity refers to the variety of living things on earth. By looking at how this is being lost, as well as what can be done to repair it, we hope you'll come away with a better understanding of how important biodiversity is and how much you can do right now.

The term was coined in 1985 by the American ecologist E. O. Wilson to describe the variety of life forms on earth that are being lost at an unprecedented rate. We are currently losing species at a rate of between 100 and 1,000 times faster than the natural extinction rate. This loss is threatening both ecosystems themselves and human well-being – as well as being a loss for future generations with no living memory of these species or ecosystems.

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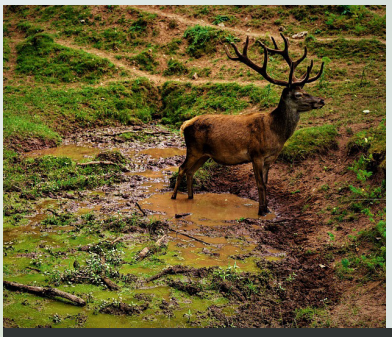
Problem's description

The loss of biodiversity can be divided into two categories: the first is a direct loss due to hunting, poaching and habitat destruction. The second is an indirect loss associated with what's known as the "extinction debt". This threat occurs when an ecosystem loses a species that it depends on for its stability, but this species can remain intact in other parts of the globe. When these species are then introduced elsewhere, they can then cause complete collapse of their new ecosystems.

Deforestation has long been recognised as a key cause of biodiversity loss. However, this is just one of many factors contributing to changes in the existing levels of biodiversity. More importantly, it's not just the variety of species that is being lost, but also their interactions with each other and with their surroundings.



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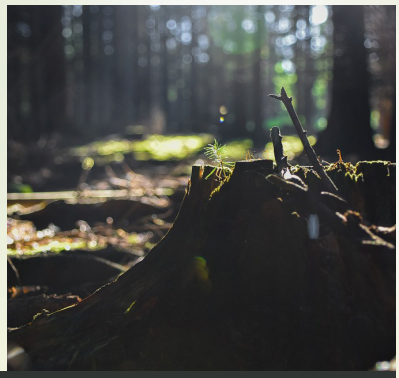
This interconnectedness creates and maintains ecosystems – something we depend on for our own health and wellbeing. In addition to harming the environment, biodiversity loss can also have detrimental effects on human health and the economy. During the presentation of the report, David Cooper, the IPBES Deputy Executive Secretary, warned that the loss of ecosystems could lead to the emergence of pandemics.

The massive conversion of terrestrial ecosystems, including forests, grasslands, wetlands, and other habitats, has resulted in a 60 percent decline in the number of vertebrates globally since 1970. The biggest losses have been experienced in freshwater habitats, with populations in South and Central America decreasing by almost 90%. From 1970 to 2014, the number of people increased from 3.7 billion to 7.2 billion. In 2018, the biomass of humans and their animals exceeded that of wild birds and mammals.



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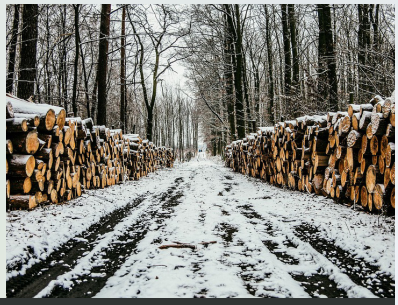
According to researchers, the current rate of extinction is around 10,000 times greater than the extinction rate in the fossil record.

In addition to building and clearing forests, other activities such as rerouting streams and building roads are also often carried out to improve the ecological trajectory of a region or landscape. As the number of people living in the world continues to increase, the natural ecosystems that they use may be transformed by their efforts to find and produce food and adapt to their new environment.



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Possible solutions

The effects of biodiversity loss are most apparent in the populations of species that are experiencing a decrease in their number. This can lead to the loss of individuals and genes, which can threaten the survival of the species. The wholesale population loss can also cause a species to become extinct. Maintaining a healthy ecosystem is dependent on the biodiversity of its various components.

A reduction in the number of biodiversity can affect the productivity of an ecosystem, as it can decrease the amount of biomass that it can convert into energy. It can also affect the quality of the ecosystem's services, which include maintaining the soil and providing shade and food.

Besides affecting the productivity of an ecosystem, biodiversity loss can also threaten the proper functioning of the system. Although all ecosystems can adapt to the effects of decreased biodiversity, it can reduce the complexity of their ecosystems. For instance, the roles that once were performed by multiple species are now performed by only a few interacting individuals. The loss of various components can also affect the ability of an ecosystem to recover from a disturbance. Once a critical point has been reached, the ecosystem can then become unstable and collapse.

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This happens when the structure or function of the ecosystem ceases to be what it was. For instance, a tropical forest can suddenly become a barren woodland or a residential subdivision. In order to deal with the effects of the biodiversity crisis, it's important to address the underlying causes.

Conservation biologists note that these problems could be solved by combining an array of public policies and other economic solutions, in tandem with monitoring education. A first step to defeating biodiversity loss is to invest more in the environment and natural resources; this will help mitigate the factors that are causing it. The second step is to focus on species protection and preserving habitats.

Governments and the scientific community need to work together to create incentives that encourage conservation and protect the natural habitats; species within these areas, while disincentivizing behavior that contributes to habitat loss and degradation.

The scientific community can provide information about the natural world and how humans are impacting it. This knowledge can help create incentives for conservation. For example, if the scientific community can show that a particular species is valuable to an ecosystem, then governments and businesses may be more inclined to invest in its conservation.

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Sustainable development should be taken into account when creating new farmland or human living spaces. Such laws will prevent poaching, the trade in wildlife, and any future worries about their loss.

The loss of arable land and wildlife habitat due to the encroachment of human development is a major contributor to the loss of biodiversity.

The United Nations Convention on Biological Diversity estimates that up to 50% of all species could be extinct by the end of this century. Solutions to each of these causes of biodiversity loss will relieve the pressure on species and ecosystems in their own way. By addressing specific causes of biodiversity loss, we can help preserve and protect the diversity of life on Earth.

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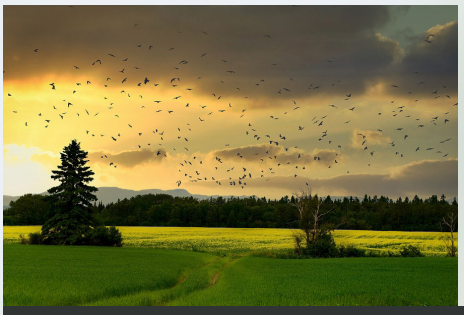
However, conservation biologists agree that the most effective way to protect and preserve the biodiversity we have left is to maintain protection over threatened species, planning habitat conservation to avoid any additional threats. This approach will help ensure that species can adapt to changing conditions and will maintain the resilience of ecosystems.

Ecological "hot spots" are regions of high endemism, meaning that the species found there are not found anywhere else in Earth. Ecological hot spots often occur in tropical ecosystems where the number of different species is much higher than in environments closer to the north and south poles. This is because tropical environments contain more species that can adapt to a variety of environmental conditions.

These regions can provide a refuge for threatened or endangered species, and they can provide new opportunities for conservation and sustainable management of these species. The goal of the Aichi Biodiversity Targets is to protect biodiversity by establishing 20 new conservation targets. The list was originally created to increase biodiversity protection and make issues of biodiversity more mainstream in both economic markets and society at large.

Although the reserve is home to a number of endemic species, the roads themselves are a major threat to biodiversity. Construction of roads through the reserve has resulted in an increase in landslides, which is now emerging as a prime threat to the reserve's biodiversity. The most significant threat to the reserve's biodiversity is the construction of roads through the reserve, which has resulted in an increase in landslides.

The roads themselves are a major threat to biodiversity, as they are a major source of pollution and noise. In addition, the roads have also resulted in the loss of habitat for many species.



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Conclusions

One of the main effects of climate change and human activity on our planet is the extinction of animal and plant species. Many species are currently in danger of extinction due to the alteration of local ecosystems (deforestation and destruction of natural surroundings, over-exploitation of resources, pollution).

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Therefore, finding expensive and complicated solutions isn't always necessary to preserve biodiversity. In every project we oversee, it's crucial to foster a mindset that is focused on having a beneficial impact on the environment and biodiversity.

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No longer do we have a choice. In conclusion, the importance of conserving biodiversity cannot be overemphasized. Not only is it the key to sustaining our present way of life, but it is also necessary for our future. The depletion of natural resources and the increase of pollution are both a result of our neglect of biodiversity. If we do not take the steps necessary to protect it, we risk losing much more than just a few species of plants and animals.

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BIBLIOGRAPHY

1. https://www.weforum.org/agenda/2022/10/nature-loss-biodiversity-wwf/
2. https://populationmatters.org/news/2022/08/2022-big-year-global-biodiversity
3. https://www.nature.com/articles/d41586-022-00110-w
4. https://www.nytimes.com/2022/10/12/climate/living-planet-index-wildlife-declines.html
5. https://earth.org/biodiversity-loss-statistics/

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