Loss of biodiversity



Wallpapers © Pavel K + © Fostici + © oticki | Shutterstock, Inc. [US] 2020/23

» For too long, economic growth has come at the expense of biodiversity, eroding the very foundations of human wellbeing, financial stability and long-term prosperity.

This trajectory presents not only an environmental crisis, but a profound systemic risk to economies and societies worldwide.

Yet, current conditions continue to reinforce business-as-usual approaches, falling short of the transformative change urgently needed to halt and reverse biodiversity loss.

Jones, M. et al. Impact and Dependence of Business on Biodiversity and Nature's Contributions to People. Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES). 2026

The rapidly declining biodiversity on land and in the sea is a serious risk to the food security of mankind.

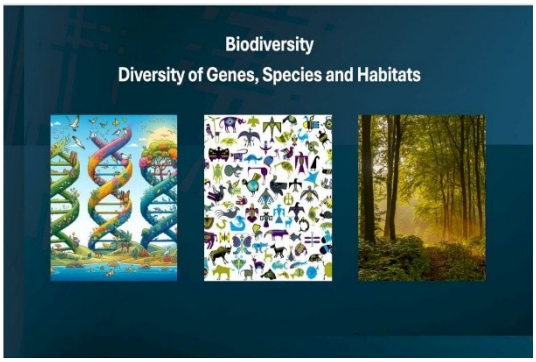
» In 2022, 2.4 billion people, comprising relatively more women and people living in rural areas, did not have access to nutritious, safe and sufficient food all year round.

The State of Food Security and Nutrition in the World 2023 *- in brief. FAO, IFAD, UNICEF, WFP and WHO. PDF*

» Biodiversity means «biological variety» or «variety of life». Biodiversity can be described on three levels: the *diversity of genes*, the *diversity of species* and the *diversity of habitats*. These three levels of biodiversity are closely and dynamically interlinked.

Biodiversity is not only in itself worth preserving, but also provides indispensable services for society and the economy, so-called ecosystem services. The diversity of these services is immense: Among other things, biodiversity provides food, influences the climate, maintains water and air quality, is a component of soil formation and, last but not least, offers people space for recreation.

Translated from: Beate Kittl. 2024. Fragen und Antworten zur Biodiversität in der Schweiz. WSL Eidgenössische Forschungsanstalt für Wald, Schnee und Landschaft



© Ulrich Brunner / Wallpapers AI generated image 2024 + © Momo0607 + © Frank Wortmann | Shutterstock, Inc. [US] 2021/2023

» 25% of global biodiversity is resident in the 'living soil'. These are the protozoa, bacteria, fungi, actinomycetes, and insects, pollinators, and other arthropods or invertebrates, vertebrates, and other biological life known (and unknown) to humankind. These organisms, interacting with each other, and with plants, animals and birds, and humans, form a complex web of biological activity which contributes to a wide range of essential ecosystem services for all life.

Rockström J, Kassam A, Friedrich T, et al. Conservation agriculture: helping to return to within planetary boundaries. 2025. Global Sustainability, 9, e11, 1–27. https://doi.org/10.1017/sus.2025.10045

» While fossil records show that extinctions of species happen naturally, current extinction rates are estimated to be 100 to 1000 times higher today than what is considered natural.

Elizabeth Claire Alberts. Global biodiversity is in crisis, but how bad is it? It's complicated. Mongabay Series. 11. April 2022

» In 2023, global public and private financial flows with direct negative impacts on nature amounted to an estimated 7.3 trillion US dollars. In contrast, only about 220 billion US dollars in public and private financial resources went to activities that contribute to the conservation and sustainable use of biodiversity.

According to and translated: Hanno Charisius. IPBES-Bericht zu Wirtschaft und Biodiversität – Wissen. Süddeutsche Zeitung. 9. Februar 2026

In 2022, 188 countries agreed at the 15th UN Biodiversity Conference with a ground-breaking final declaration to protect at least 30 per cent of the world's land, sea and inland waters by 2030.However, by 2030, an area the size of the Indian Ocean would need to be placed under protection in order to reach the target of 30 per cent of the world's oceans.



© salcover| Shutterstock, Inc. [US] 2023

» Land use change linked to massive expansion of globalized, highly commercialized industrial agriculture is the main overarching driver of declining agrobiodiversity.

Globally, the FAO [Food and Agriculture Organization of the United Nations] estimates that 75 % of crop diversity was lost in the 20th century. Historically about 7,000 plant species were cultivated for food, today only about 80 plant species make major contributions to food supplies at the global level.

In fact, half of all plant-based calories come from only three species - rice, maize, and wheat. And 93 % of global meat supplies come from just four animal species - pigs, poultry, cattle, and buffalo.

Looking ahead, restoring agrobiodiversity – the richness of what we cultivate, breed, consume, and conserve in the wild – is crucial to ensure resilient food systems against the backdrop of climate change.

*Swiss academies factsheets Vol.15 No.1. 2020. **Variety is the source of life**: Agrobiodiversity benefits, challenges, and needs. PDF*

» The production of meat and dairy products already takes up 70 - 80 per cent of global agricultural land*), although it only covers 18 per cent of humanity's calorie requirements and 37 per cent of its protein needs.

Poore et al., Reducing food's environmental impacts through producers and consumers. Science 360, 987-992 (2018)

**) Cultivation of animal feed and grazing land for animals*

» Biodiversity is experiencing a dramatic, human-induced mass extinction worldwide. This also greatly reduces the capacity of ecosystems to contribute to climate regulation and food security.

Only if there is a fundamental change in the way we manage land can we reach the targets of climate-change mitigation, avert the dramatic loss of biodiversity and make the global food system sustainable.

WBGU German Advisory Council on Global Change. 2020. Rethinking Land in the Anthropocene: from Separation to Integration. PDF

» Almost all of the world's mammal biomass is humans and livestock. Both account for 95% of all mammals. Humans 36 %, our livestock and pets, which are primarily cattle, 59%. That leaves just 5% as wild mammals, which includes thousands of different species, from elephants and deer to lions and whales.

*According to: Our World in Data. **Almost all of the world's mammal biomass is humans and livestock**. December 01, 2025*

» Global wildlife populations of mammals, birds, fish, reptiles and amphibians have declined by *an average* of 73 % *) since 1970. This corresponds to an average annual decline in observed population sizes of 2.6 per cent.

*Source: WWF. **2026 Living Planet Report**. Executive Summary. PDF*

*) Across the 35,803 wildlife populations studied only about one half was in decline, while the other half either increased or remained stable. (Hannah Ritchie. A 73 % average decline in wildlife populations: an overview of the 2026 Living Planet Index Report. Our World in Data. October 8, 2026)



© Kichigin | Shutterstock, Inc. [US] 2023

» Driven by climate change, marine biodiversity is undergoing a phase of rapid change that has proven to be *even faster* than changes observed in terrestrial ecosystems.

*Hodapp D. etal. 2023. **Climate change disrupts core habitats of marine species**. Global Change Biology, 00, 1–14.*

»The oceans are home to an estimated one million animal and plant species. The phytoplankton in the oceans produce as much oxygen as all land plants combined.

Translated from: Greenpeace Schweiz. 2023. Wer atmet braucht das Meer.

» In seeking to curb climate change and biodiversity loss, the following steps are important:

Transformative change to a sustainable economic system. The economic development of countries and companies must also be measured by their management of natural resources.

No subsidies harmful to the climate and biodiversity. Countries around the world spend much more on environmentally harmful subsidies than on measures to protect the climate and biodiversity.

Radical reduction of greenhouse gas emissions. Only rapid decarbonisation can curb climate change. Agricultural GHG emissions from land-use change are also to be minimised.

Overcoming land-use conflicts. The use of land for buildings, transport, food production, climate protection and biodiversity conservation needs to be coordinated.

Environmental regulations for the financial sector. The financial sector has a major influence on economic activities which are harmful to biodiversity and the climate.

Reduced consumption of meat and dairy products. Natural ecosystems must no longer be converted to plantations, arable land or livestock farms. The agricultural, forestry and fishing sectors must sustainably manage those areas already in use. This also requires changes in dietary habits.

More funding for conservation. To achieve conservation goals, Countries around the world need to invest many times the amount that is currently expended.

*Ismail SA et al. (2021) **Tackling climate change and biodiversity loss jointly**. Swiss Academies Factsheet 16 (3). PDF*

» The biodiversity of the future will be different from the one we know. But our task is not to mourn what has been lost, but to play an active part in shaping what lies ahead.

Translated from: Thomas Vellacott, CEO WWF Schweiz. Thinking Nature and Business. July 9, 2026