

# Biodiversity: A Global Outlook

A Summary of CBD's Global Biodiversity Outlook 2



A summary by:



In partnership with:



Convention on  
Biological Diversity

**BIODIVERSITY** is threatened by many human activities, and its loss has significant consequences for our planet. The Convention on Biological Diversity (CBD) has set, in 2002, the ambitious target of reducing the rate of biodiversity loss by 2010. A number of indicators were created to assess progress towards meeting that target. Can the 2010 Biodiversity Target be reached? What actions would be needed?



## Why is biodiversity loss a concern?

Biodiversity reflects the number, variety, and variability of living organisms, as well as how these change from one location to another and over time. It includes diversity within species, between species, and among ecosystems, in sum the diversity of all life on Earth.

Ecosystems provide the basic necessities of life such as food, clean air and water. They offer protection from natural disasters and diseases, shape human cultures and spiritual beliefs, and maintain the planet's essential life processes. Biodiversity loss affects ecosystems, making them more vulnerable to perturbations and less able to supply humans with valuable services.

The impact of humans on the natural environment is significant and growing: changes in biodiversity have been more rapid in the past 50 years than at any time before in human history.

## What are the Convention on Biological Diversity and its 2010 Biodiversity Target?

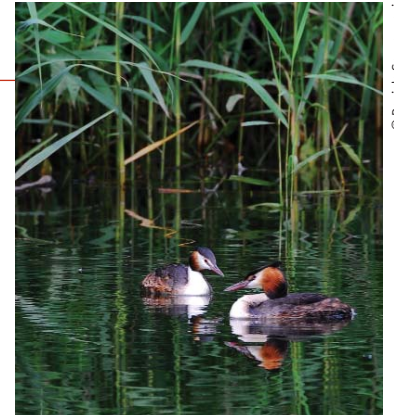
Deep concern over the rapid loss of biodiversity and the recognition of its important role in supporting human life led to the adoption, in 1992, of the Convention on Biological Diversity (CBD). The objectives of this legally-binding global treaty are the conservation and sustainable use of biodiversity, as well as a fair sharing of the benefits of the utilization of genetic resources.

In 2002, the Conference of the Parties to the Convention agreed “to achieve, by 2010, a significant reduction of the current rate of biodiversity loss”. To assess progress towards that target, it adopted a framework to guide action and identified indicators to assess the status and trends of biodiversity.

## What is the role of biodiversity indicators?

The indicators were established to monitor the status and trends of biological diversity, and to provide information on ways to improve the effectiveness of biodiversity policies and management programmes. These indicators cover seven focal areas which include reducing the rate of biodiversity loss, addressing its major threats, promoting its sustainable use, and maintaining ecosystem health.

While we still lack comprehensive global scale measures to assess progress towards the 2010 target, it is possible to describe trends in the status of biodiversity using these indicators. Taken together, they allow us to establish current trends regarding some important aspects of biodiversity, particularly when they are analysed and interpreted as a set.



## At what pace is biodiversity lost?

The first focal area of the 2010 framework concerns the reduction of the rate of loss of biodiversity at ecosystem, species, and genetic levels.

Over the last 50 years, humans have changed ecosystems more rapidly and extensively than in any comparable period of time in human history. For example, the conversion of forests for agriculture and pasture continues at an alarmingly high rate. Similar negative trends have been observed for other ecosystems such as grasslands, savannas, deserts, and freshwater, coastal and marine ecosystems.

The abundance and distribution of selected species are an indicator of ecosystem quality. Several assessments have revealed that the

population size and/or geographic range of the majority of species assessed is declining. Exceptions include domestic species, invasive species, and species that have been protected through specific measures.

Over the past few hundred years, it is estimated that humans are responsible for up to a thousand times more extinctions than the natural rate. According to the IUCN Red List of Threatened Species, up to one out of two species within well-studied groups such as amphibians, birds or mammals is threatened with extinction, and the situation is deteriorating.

The genetic diversity of cultivated and domesticated species is of great importance

from a human perspective, since it results in better adaptability of species to changing conditions. It is estimated that one third of all domesticated animal breeds are presently threatened with extinction. For non-cultivated species, genetic diversity is threatened mainly by overexploitation, as well as habitat destruction and fragmentation.

Protected areas are crucial to countering the continuing loss of ecosystems and species. They currently cover about one eighth of the Earth's land surface, but only a small fraction of marine and coastal areas. However, there are substantial differences in coverage among ecological regions, and many types of ecosystems are almost not protected at all.

## Are ecosystems healthy enough to provide resources and essential services?

The second focal area concerns the maintenance of the integrity of ecosystems and their ability to support human livelihoods.

Intense fishing has led to the decline of many species, notably cod and tuna. In the North Atlantic, the populations of large fish have declined by two-thirds in the last 50 years. The preferred fish for human consumption are becoming increasingly rare, forcing a shift to smaller fish and invertebrates and eventually reducing the overall supply for human consumption.

In many terrestrial and inland water ecosystems, human activities lead to the fragmentation of habitats. The resulting smaller patches of habitat support smaller populations, which as a result become more vulnerable to local extinction. Forests and river systems both show high levels of fragmentation.

The quality of inland waters has been affected by pollution, increased sedimentation, climate change, the extraction of fresh water for agricultural and industrial use, human consumption, and physical alterations such as the diversion and canalization of watercourses. Since the 1980s, river water quality has improved in Europe and the Americas but it has deteriorated over the same period in Africa, Asia, and the Pacific region.

## What are the main threats to biodiversity?

The third focal area concerns the five major threats to biodiversity: invasive alien species, climate change, nutrient loading and pollution, habitat change, and overexploitation.

The availability and use of fertilizers on a commercial scale contributes to the growing productivity of agriculture. However, nitrogen and phosphorus from those fertilizers can have severe impacts on the environment. The human production of nitrogen has increased sharply since 1960.

Invasive alien species can have devastating impacts on native species, causing extinctions and affecting natural and cultivated ecosystems. Some invasive alien pests or diseases can entail enormous economic costs. In the recent past, the rate and risk associated with alien species introductions have increased significantly, notably because of increased travel, trade and tourism.



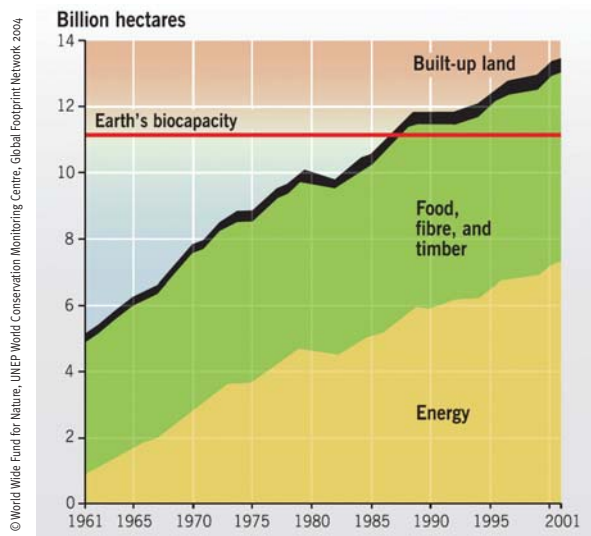
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## To what extent are ecosystems used sustainably?

The sustainability of human use of biodiversity is the fourth focal area in the 2010 framework. Possible indicators could be the proportion of ecosystems under sustainable management or being certified as meeting certain criteria for sustainability.

The ecological footprint is a concept that calculates the area of land and water needed to sustain a defined human population, based on the population's use of energy, food, water, building material and other consumables. In 1961 humanity was globally using about half of the Earth's capacity to renew its natural resources. Now this capacity is exceeded, and overuse is still growing.

**Global Ecological Footprint: we are exceeding the Earth's capacity to renew its resources**



This text is a faithful summary, by GreenFacts, of the CBD's Global Biodiversity Outlook 2. A web version of this summary, along with a longer, more detailed one, can be found on [www.greenfacts.org/en/global-biodiversity-outlook/](http://www.greenfacts.org/en/global-biodiversity-outlook/).

## Are other objectives of the Convention on Biological Diversity being met?

The fifth focal area addresses traditional knowledge of indigenous people and local communities, which provides the basis for the management and protection of local biodiversity. There is great concern over the continuing survival of this knowledge as it is often transmitted using indigenous languages which are generally spoken only by a small number of people.

The fair and equitable sharing of the benefits arising out of the utilization of genetic resources, which makes up the sixth focal

area, would provide incentives to protect biodiversity. Some countries have implemented laws to control access to genetic resources. However, there is no reliable central source of information on national access and benefit-sharing measures.

The seventh focal area covers the financial and technical resources required for the implementation of the Convention, particularly for developing countries. The total aid to developing countries for biodiversity has declined since 1998.



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## How is the Convention on Biological Diversity being implemented?

Translating the content of the Convention into policy and practice is extremely challenging.

Policy instruments developed by the Convention include:

- thematic programmes of work of the Convention, covering seven major biomes;
- programmes of work on technology transfer, protected areas and classification of organisms (taxonomy); and
- principles and guidelines on issues relevant to all thematic areas, including biodiversity monitoring, impact assessment, incentive measures, and invasive alien species.

The Conference of the Parties adopted in 2002 a Strategic Plan which encompasses four goals. Progress has been:

- reasonable towards promoting international cooperation in support of the Convention;
- limited towards ensuring that Parties have improved capacity to implement the Convention;
- far from sufficient regarding planning and implementing, at national level, actions to achieve the objectives of the Convention; and
- mixed towards achieving a better understanding of the importance of biodiversity and of the Convention.

## Are we on track for meeting the 2010 Biodiversity Target?

Both an analysis of current trends and different plausible scenarios, indicate that biodiversity loss is likely to continue in the foreseeable future, and certainly beyond 2010. Unprecedented additional efforts at all levels will be needed to achieve the 2010 Biodiversity Target.

It is too soon to assess progress towards the goals and targets set by the Convention, but prospects seem better for some targets than others. It is possible to achieve many of the targets if the Convention on Biological Diversity is properly implemented. However, it appears very unlikely that all the targets will be achieved globally by 2010.

Most of the factors causing biodiversity loss—habitat change, climate change, invasive alien species, overexploitation, and pollution—are projected to remain constant or increase in the near future. Additional actions are required to address these factors.

It is imperative to integrate biodiversity concerns into economic and development planning, programmes and policies and to engage the main actors in key economic sectors. More specifically, biodiversity concerns should be integrated into the food and agriculture sector, the energy sector, trade policies, and poverty alleviation strategies.



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## Conclusion: What actions are needed?

Much progress has been made in terms of developing policies and tools for implementing the Convention on Biological Diversity, but implementation at national level has so far been limited. Urgent and unprecedented actions are needed to achieve the 2010 Biodiversity Target.

In order to meet the 2010 target, the Parties to the Convention should develop and ensure the implementation of comprehensive national biodiversity strategies and action plans, promote greater awareness of the importance of biodiversity, and integrate biodiversity concerns into national policies, programmes and strategies on trade, agriculture, forestry and fisheries, and development planning .

Meetings of the Conference of the Parties to the Convention offer the opportunity to agree upon necessary actions for addressing threats to biodiversity. Meeting the objectives of the Convention requires concerted action from all nations of the world. Therefore, all countries should adhere to the Convention since it is critical to sustain life on Earth.

As individuals, we all have an essential part to play in promoting biodiversity conservation and sustainable use. We can demand action from all levels of government. Moreover, in our everyday choices, we all can have direct positive impacts on biodiversity and the state of our planet's ecosystems, for instance by supporting sustainable consumption and waste reduction.

Corporations should also assume responsibility for the environmental impacts of their activities and choose suppliers that adopt sustainable practices.

## GLOSSARY GLOSSARY GLOSSARY GLOSSARY GLOSSARY GLOSSARY GLOSSARY GLOSSARY

**Alien species** – An alien species is a species introduced outside its normal distribution. Invasive alien species are alien species whose establishment and spread modify ecosystems, habitats, or species.

**Biodiversity** – Biodiversity is a contraction of biological diversity. Biodiversity reflects the number, variety, and variability of living organisms. It includes diversity within species (genetic diversity), between species (species diversity), and between ecosystems (ecosystem diversity).

**Climate change** – Defined by the United Nations Convention on Climate Change as “change of climate which is attributed directly or indirectly to human activity that alters the composition of the global

atmosphere and which is in addition to natural climate variability observed over comparable time periods”.

**Ecosystem** – An ecological unit made up of a complex system of interactions between living communities (plants, animals, fungi, and microorganisms) and the environment they live in. Ecosystems have no fixed boundaries; a single lake, a watershed, or an entire region could be considered an ecosystem.

**Habitat change** – Change in the local environmental conditions in which a particular organism lives. Habitat change can occur naturally through droughts, disease, fire, hurricanes, mudslides, volcanoes, earthquakes, slight increases

or decreases in seasonal temperature or precipitation, etc. However, it is generally induced by human activities such as land use change and physical modification of rivers or water withdrawal from rivers.

**Species** – A group of organisms that differ from all other groups of organisms and that are capable of breeding and producing fertile offspring. This is the smallest unit of classification for plants and animals.

**Sustainability** – A characteristic or state whereby the needs of the present and local population can be met without compromising the ability of future generations or populations in other locations to meet their needs.

## Facts on this publication

This publication presents a faithful summary by GreenFacts of the “Global Biodiversity Outlook 2”, by the Convention on Biological Diversity (CBD), a leading scientific report on the topic.

The “Global Biodiversity Outlook 2” assesses the current status and trends of biodiversity and the key drivers of biodiversity loss. It provides a powerful case for the importance of biodiversity to human well-being. The report contains a succinct overview of the status of the implementation of the Convention on Biological Diversity, progress towards the 2010 Biodiversity Target and its contribution to the achievement of the UN Millennium Development Goals. As 2010 approaches, the document identifies key actions required at all levels to achieve the 2010 target.

*This summary, along with a more detailed one, can be found on [www.greenfacts.org/en/global-biodiversity-outlook/](http://www.greenfacts.org/en/global-biodiversity-outlook/)*

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[www.greenfacts.org](http://www.greenfacts.org) | [2007@greenfacts.org](mailto:2007@greenfacts.org) | Tel: +32 (0)2 211 34 88

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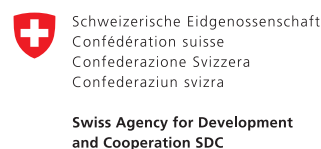


Convention on  
Biological Diversity

Signed by 150 government leaders at the 1992 Rio Earth Summit, the **Convention on Biological Diversity** is dedicated to promoting sustainable development. Its three main goals are : the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of the benefits from the use of genetic resources.

[www.cbd.int](http://www.cbd.int) | [secretariat@cbd.int](mailto:secretariat@cbd.int) | Tel: +1 514 288 2220

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### Printed with the support of:



### Distributed with the support of:



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