

D-4: Threatened and protected species

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1) General description

1.1) *Brief definition*

This indicator presents total numbers of species in particular taxonomic groups, the numbers of protected species, and the numbers of threatened species - in total and by the level of threat of extinction (critically endangered, endangered and vulnerable).

1.2) *Units of measurement*

Numbers of species for total, protected, and threatened species; percentage for shares of protected and threatened species in relation to the total number of species.

1.3) *Context*

Relation to other indicators from the Guidelines - This indicator relates to indicator "D-5: Trends in the number and distribution of selected species".

2) Relevance for environmental policy

2.1) *Purpose*

The indicator provides a measure of the state of biodiversity in terms of the number of threatened species and the effectiveness of national responses, i.e. actions taken to conserve national and global biodiversity.

2.2) *Issue*

A number of multilateral environmental agreements recognize that biodiversity has an intrinsic value and that biodiversity maintenance is essential for human life and sustainable development. Many species are currently decreasing in population size and are at risk of extinction. For many years, the International Union for the Conservation of Nature (IUCN) and other international organizations have been monitoring the extent and pace of biodiversity degradation by assigning species to categories of threat through detailed assessments of information against a set of quantitative criteria. Based on this, IUCN has

developed a “Red List of Threatened Species”. The 2012 edition lists a total of 20,219 species. Countries are developing red lists of species that are threatened at the national level, including rare species, and are establishing appropriate protection regimes for these species. Some of the globally threatened species that can be found in countries of South-Eastern and Eastern Europe, Caucasus and Central Asia may not be classified as threatened at the national level. Nevertheless, countries have an important responsibility to care for these species even though they are not yet threatened on their territories. To what extent national policies on nature and biodiversity reflect this responsibility is shown by the information that the indicator provides on the total number of globally threatened species present and protected in the country.

2.3) International agreements and targets

a) Global and regional level:

This indicator is relevant to the United Nations Convention on Biodiversity (CBD), the Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention), the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), and the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention), which lists species that must be protected. Under the CBD, a Strategic Plan for Biodiversity 2011-2020 was adopted which requires that by 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained (Target 12). The ministers of environment of the European States participating in the process of the Pan-European Biological and Landscape Diversity Strategy in 2003 reinforced their objective to halt the loss of biological diversity at all levels by the year 2010. The target implies not only that species extinction must be stopped but also that the status of threatened species must be improved.

b) Subregional level:

In the European Union (EU), Directives on the conservation of wild birds and on the conservation of natural habitats and wild fauna and flora list relevant species under legal protection. In a broader sense, the EU Council has endorsed in 2011 the EU Biodiversity Strategy until 2020, which is the EU's key instrument for reaching the new EU target for the protection of biodiversity in 2020: the EU intends to halt the loss of biodiversity and the degradation of ecosystem services in the EU by 2020, and restore them in so far as feasible, while stepping up the EU contribution to averting global biodiversity loss.

3) Methodology and guidelines

3.1) Data collection and calculations

Lists of each group of threatened and protected species established in the country, and by IUCN for globally threatened species, serve as a basis for data collection. There may be differences between the number of threatened species and the number of species under protection, as the latter may include rare species and species protected under relevant multilateral environmental agreements or because of their presence on the IUCN Red List of Threatened Species. It is useful to have a breakdown for the latter species when presenting the resulting data. The number of species should be counted by species group animals: mammals, birds fishes, reptiles, amphibians, invertebrates, as well as vascular plants, mosses, lichens, fungi and algae. For each of the species groups it should be stated how many species out of the total number are protected and threatened. Taxonomic problems and the inadequacy of the IUCN Red List may hinder proper maintenance of general accounting for invertebrates. Estimates for each species group should be done at least every five years.

3.2) Internationally agreed methodologies and standards

The IUCN Red List is the world's most comprehensive inventory of the global conservation status of plant and animal species. Classification into the categories for species threatened with extinction (vulnerable, endangered, and critically endangered) is done using a set of five quantitative criteria.

4) Data sources and reporting

In countries of South-Eastern and Eastern Europe, Caucasus and Central Asia, data at the national level are available from ministries of environment, agencies dealing with protected areas and statistical agencies. In the majority of countries, information on threatened species is collected in "red books", which include data on the abundance and state of rare and/or protected species of wild fauna and flora and conservation measures regarding them. Red books should be published at least once every 10 years. In addition, subnational red books are being published in several countries of South-Eastern and Eastern Europe, Caucasus and Central Asia. The Species Database of the United Nations Environment Programme's (UNEP) World Conservation Monitoring Centre (WCMC) provides detailed information on species of conservation importance. UNEP-WCMC maintains the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) Trade Database. The European Nature Information System managed by the European Topic Centre on Biological Diversity (ETC/BD)

covers data on species compiled in the framework of Natura 2000 and other relevant instruments.

5) References at the international level

- United Nations Convention on Biological Diversity: <http://www.cbd.int/>;
- United Nations CBD Strategic Plan for Biodiversity 2011-2020: <http://www.cbd.int/decision/cop/?id=12268> ;
- The IUCN Red List of Threatened Species: <http://www.redlist.org/>;
- A User's Guide to the IUCN Red List website (March 2009): http://www.iucnredlist.org/documents/redlist_website_users_guide.pdf;
- Guidelines for Application of the IUCN Red List Criteria at Regional Levels (Version 4), IUCN 2012: http://www.iucnredlist.org/documents/reg_guidelines_en.pdf ;
- 2004 IUCN Red List of Threatened Species: A Global Species Assessment. Edited by Jonathan E.M. Baillie, Craig Hilton-Taylor and Simon N. Stuart. ISBN: 2-8317-0826-5;
- Categories and criteria of the World Red Book of the International Union for Conservation of Nature (IUCN);
- Global Biodiversity: Status of Earth's Living Resources. Compiled by World Conservation Monitoring Centre in collaboration with The Natural History Museum, London, and in association with IUCN, UNEP, WWF, and WRI. Chapman & Hall, London, 1992 - 585 p;
- World Atlas of Biodiversity. UNEPWCMC; Publisher University of California Press, 2002. - 340 p. ISBN: 0-520-23668-8;
- European Red List of Globally Threatened Animals and Plants, 1991 (E/ECE/1249 - ECE/ENVWA/20) (Sales No. 91.II.E.34);
- Code of Practice for the Conservation of Threatened Animals and Plants and Other Species of International Significance, 1992 (ECE/ENVWA/25-Sales No.92.II.E.16);
- Our life insurance, our natural capital: an EU biodiversity strategy to 2020; SEC(2011) 541 final: <http://ec.europa.eu/environment/nature/biodiversity/comm2006/2020.htm>;
- Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora;

- Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds;
- World Conservation Monitoring Centre: <http://www.unep-wcmc.org/>;
- EEA: <http://www.eea.europa.eu/themes/biodiversity>;
- EUNIS (European Nature Information System): <http://eunis.eea.europa.eu/>;
- EIONET: <http://www.eionet.europa.eu/>;
- Convention on Migratory Species: <http://www.cms.int/>;
- CITES: <http://www.cites.org/>;
- European Commission: Nature and Biodiversity:
http://ec.europa.eu/environment/nature/index_en.htm.