



The global cost of biodiversity loss: 14 trillion Euros?

Although some success has been achieved in meeting the global target of reducing the rate of loss of biodiversity by 2010¹, a new report suggests that biodiversity will continue to decline, adversely affecting the health of associated ecosystems. By not meeting the 2010 targets, the report estimates the cumulative loss of biodiversity and associated ecosystem services between 2000 and 2050, could be equivalent to 7 per cent of the 2050 world Gross Domestic Product (GDP).

Diverse ecosystems provide a range of human benefits including nutrient recycling and soil formation and providing food and fresh water. They also help regulate climate and flood systems. Cultural life is also enhanced through the attractiveness and recreational use of natural settings and wildlife provided by healthy ecosystems.

Loss of biodiversity is predominantly a consequence of human activities, represented by the disappearance of populations of original species in natural ecosystems, with an increase in population of some opportunistic species. As species disappear from ecosystems, they become more homogenous with a subsequent loss of biodiversity. Drivers causing biodiversity loss have changed over the years, from the overexploitation and conversion of natural habitats for agriculture in the past to the more recent trends of converting natural habitats for urban use and the introduction of invasive alien species. By 2050, major changes will be driven by climate change and expanding urbanisation.

The report, commissioned by the European Commission, provides a preliminary estimate of the cost to the global economy of future losses in ecosystem goods and services associated with a decline in biodiversity as a result of policy inaction. Starting with a baseline in 2000, the study projected changes in land use, biodiversity and ecosystem services up to 2050. It assumes that the world's population will have increased to 9.1 billion people by 2050 with an associated minimum of 50 per cent increase in demand for food, water, fuel and shelter. It also assumes that there will be an average growth in global GDP of 2.8 per cent per annum between 2005 and 2050, with stronger growth in India and China, and that total energy consumption will rise from 280 EJ (exajoules) in 2000 to around 600 EJ in 2050. Based on these predictions, the findings of the research suggest a number of key implications for biodiversity:

- biodiversity providing ecosystem services worth 50 billion Euros per year is currently being lost every year
- the estimated loss for land-based ecosystems will be worth 545 billion Euros by 2010, equivalent to 1 per cent of world GDP (an overall economic measure of income and output)
- the estimated annual loss in ecosystem services resulting from the cumulative loss of biodiversity will be worth nearly 14 trillion (thousand billion) Euros by 2050, equivalent to about 7 per cent of the global 2050 GDP

These monetary estimates do not include the impact of a significant reduction in marine biodiversity, with a projected collapse in fish stocks and a substantial loss of coastal, mangrove and coral ecosystems.

The report was a contribution to the first phase of a larger, global study, 'The Economics of Ecosystems & Biodiversity (TEEB)'. The second, more substantial, phase of this global study will run into 2009 and its final results will be presented at CBD COP-10 in 2010. It will evaluate the costs of the loss of biodiversity and the associated decline in ecosystem services worldwide and compare them with the costs of effective conservation and sustainable use. It is intended that it will sharpen awareness of the value of biodiversity and ecosystem services and facilitate the development of cost-effective policy responses, notably by preparing a 'valuation toolkit'.

1. Target agreed at the World Summit on Sustainable Development in 2002. See: <http://www.un.org/events/wssd/>

Source: EC report (2008). 'The Cost of Policy Inaction (COPI): The case of not meeting the 2010 biodiversity target'. Download from: <http://ec.europa.eu/environment/nature/biodiversity/economics/pdf/copii.zip>

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