2010 Biodiversity Indicators Partnership

Living Planet Index

Facts

CBD Focal Area: Status and trends of the components of biodiversity

CBD Headline Indicator: Trends in abundance and distribution of selected species

Key Indicator Partners: WWF & ZSL

Data Available: Global time series, 1970 onwards

Development Status: Ready for global use

Reason

Wild species are under pressure across all biomes and regions of the world. These declines ultimately result from humanity's demands on the biosphere which result in habitat loss, over-exploitation, pollution, spread of invasive species and climate change. Decline in species populations not only threatens biodiversity, but also ecosystem services which the human race depends on for a multitude of purposes including provision of food, medicine and basic materials.

Status

The Living Planet Index (LPI) is calculated using time-series data on more than 7000 populations of over 2,300 species of mammal, bird, reptile, amphibian and fish from all around the globe. The changes in the population of each species are aggregated and shown as an index relative to 1970, which is given a value of 1. The LPI can be thought of as a biological analogue of a stock market index that tracks the value of a set of stocks and shares traded on an exchange.

The Global LPI is the aggregate of two equally-weighted indices of vertebrate populations - the temperate and the tropical LPIs – calculated as the geometric mean of the two. The tropical LPI consists of the terrestrial and freshwater species populations found in the Afrotropical, Indo-Pacific and Neotropical realms and marine species populations from the zone between the Tropics of Cancer and Capricorn. The temperate LPI includes all terrestrial and freshwater species populations from the Palearctic and Neartic realms, and marine species north and south of the tropics. In the tropical and temperate LPIs the overall trends in terrestrial, freshwater and marine species are given equal weight. The results of the LPI are published biennially in the Living Planet Report.

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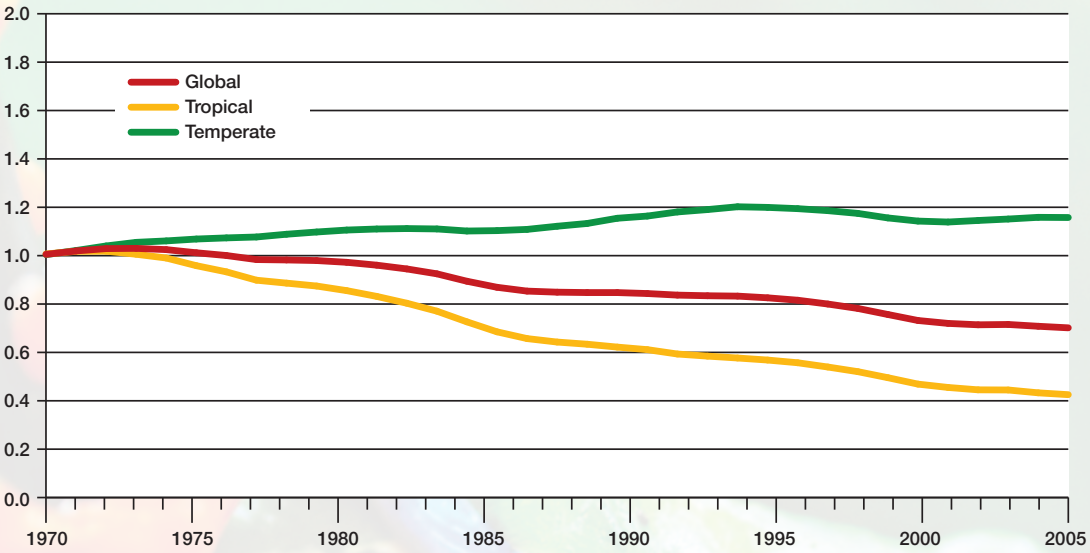
The Indicator



Global Living Planet Index (1970-2005)
Source: WWF & ZSL

How to interpret the indicator:

A decrease in the LPI means that species populations have fallen on average. This necessarily implies that diversity will have reduced, even if none of those species populations has declined to zero (extinction).

A constant LPI represents no overall change in species populations, or a situation in which population gains and declines cancel each other out, and would imply no overall biodiversity loss.

Current Storyline

'The current global LPI shows a 30% decline from 1970 to 2005 meaning that on average, vertebrate populations have declined in abundance over this 35 year period. The temperate and tropical indices show contrasting results. The tropical index shows that vertebrate populations have declined markedly (about 60%) since 1970 whereas temperate populations have increased by an average of 18%. Although the tropical index reveals a worse trend than the temperate index, it does not necessarily imply that tropical biodiversity is in a worse state as temperate populations may have undergone similar declines before 1970 when pressures were already high in many temperate regions.'

National Use

The LPI is not only a global index but can also be calculated for regions and nations provided that there are sufficient data available.

LPIs have been produced for Uganda, Canada, Mediterranean Wetlands and Arctic species. At present data submitted by nations and regions must be sent directly to the responsible organizations for the LPI, WWF International and ZSL. However, work is currently underway to make the database available online, in the hope that this will encourage nations and regions to submit their data to produce both their own indicators and strengthen the global indicator.

For more information about producing regional and national Living Planet Indices contact Jonathan Loh at WWF/ZSL (jonathan@livingplanet.org.uk).

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