



Nature's Dangerous Decline 'Unprecedented'; Species Extinction Rates 'Accelerating'

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One million animal and plant species are now threatened with extinction. Nature everywhere is declining at a speed never previously seen and our need for ever more food and energy are the main drivers.

Current global response insufficient;

'Transformative changes' needed to restore and protect nature;

Opposition from vested interests can be overcome for public good;

Most comprehensive assessment of its kind;

1,000,000 species threatened with extinction

Nature is declining globally at rates unprecedented in human history — and the rate of species extinctions is accelerating, with grave impacts on people around the world now likely, warns a landmark new report from the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), the summary of which was approved at the 7th session of the IPBES Plenary, meeting last week (29 April – 4 May) in Paris.

"The overwhelming evidence of the IPBES Global Assessment, from a wide range of different fields of knowledge, presents an ominous picture," said IPBES Chair, Sir Robert Watson. "The health of ecosystems on which we and all other species depend is deteriorating more rapidly than ever. We are eroding the very foundations of our economies, livelihoods, food security, health and quality of life worldwide."

"The Report also tells us that it is not too late to make a difference, but only if we start now at every level from local to global," he said. "Through 'transformative change', nature can still be conserved, restored and used sustainably – this is also key to meeting most other global goals. By transformative change, we mean a fundamental, system-wide reorganization across technological, economic and social factors, including paradigms, goals and values."

"The member States of IPBES Plenary have now acknowledged that, by its very nature, transformative change can expect opposition from those with interests vested in the status quo, but also that such opposition can be overcome for the broader public good," Watson said.

The IPBES Global Assessment Report on Biodiversity and Ecosystem Services is the most comprehensive ever completed. It is the first intergovernmental Report of its kind and builds on the landmark Millennium Ecosystem Assessment of 2005, introducing innovative ways of evaluating evidence.

Compiled by 145 expert authors from 50 countries over the past three years, with inputs from another 310 contributing authors, the Report assesses changes over the past five decades, providing a comprehensive picture of the relationship between economic development pathways and their impacts on nature. It also offers a range of possible scenarios for the coming decades.

Based on the systematic review of about 15,000 scientific and government sources, the Report also draws (for the first time ever at this scale) on indigenous and local knowledge, particularly addressing issues relevant to Indigenous Peoples and Local Communities.

The Report finds that around 1 million animal and plant species are now threatened with extinction, many within decades, more than ever before in human history.

The average abundance of native species in most major land-based habitats has fallen by at least 20%, mostly since 1900. More than 40% of amphibian species, almost 33

- Three-quarters of the land-based environment and about 66% of the marine environment have been significantly altered by human actions. On average these trends have been less severe or avoided in areas held or managed by Indigenous Peoples and Local Communities.
- More than a third of the world's land surface and nearly 75% of freshwater resources are now devoted to crop or livestock production.
- The value of agricultural crop production has increased by about 300% since 1970, raw timber harvest has risen by 45% and approximately 60 billion tons of renewable and nonrenewable resources are now extracted globally every year – having nearly doubled since 1980.
- Land degradation has reduced the productivity of 23% of the global land surface, up to US\$577 billion in annual global crops are at risk from pollinator loss and 100-300 million people are at increased risk of floods and hurricanes because of loss of coastal habitats and protection.
- In 2015, 33% of marine fish stocks were being harvested at unsustainable levels; 60% were maximally sustainably fished, with just 7% harvested at levels lower than what can be sustainably fished.
- Urban areas have more than doubled since 1992.
- Plastic pollution has increased tenfold since 1980, 300-400 million tons of heavy metals, solvents, toxic sludge and

other wastes from industrial facilities are dumped annually into the world's waters, and fertilizers entering coastal ecosystems have produced more than 400 ocean 'dead zones', totalling more than 245,000 km² (591-595) - a combined area greater than that of the United Kingdom.

- Negative trends in nature will continue to 2050 and beyond in all of the policy scenarios explored in the Report, except those that include transformative change - due to the projected impacts of increasing land-use change, exploitation of organisms and climate change, although with significant differences between regions.
- The Report also presents a wide range of illustrative actions for sustainability and pathways for achieving them across and between sectors such as agriculture, forestry, marine systems, freshwater systems, urban areas, energy, finance and many others. It highlights the importance of, among others, adopting integrated management and cross-sectoral approaches that take into account the trade-offs of food and energy production, infrastructure, freshwater and coastal management, and biodiversity conservation.

Also identified as a key element of more sustainable future policies is the evolution of global financial and economic systems to build a global sustainable economy, steering away from the current limited paradigm of economic growth.

"IPBES presents the authoritative science, knowledge and the policy options to decisionmakers for their consideration," said IPBES Executive Secretary, Dr. Anne Larigauderie. "We thank the hundreds of experts, from around the world, who have volunteered their time and knowledge to help address the loss of species, ecosystems and genetic diversity - a truly global and generational threat to human well-being."

By the Numbers - Key Statistics and Facts from the Report

- 75%: terrestrial environment "severely altered" to date by human actions (marine environments 66%)
- 47%: reduction in global indicators of ecosystem extent and condition against their estimated natural baselines, with many continuing to decline by at least 4% per decade
- 28%: global land area held and/or managed by Indigenous Peoples, including >40% of formally protected areas and 37% of all remaining terrestrial areas with very low human intervention
- +/-60 billion: tons of renewable and non-renewable resources extracted globally each year, up nearly 100% since 1980
- 15%: increase in global per capita consumption of materials since 1980

- >85%: of wetlands present in 1700 had been lost by 2000 – loss of wetlands is currently three times faster, in percentage terms, than forest loss.

Species, Populations and Varieties of Plants and Animals

- Tens to hundreds of times: the extent to which the current rate of global species extinction is higher compared to average over the last 10 million years, and the rate is accelerating
- Up to 1 million: species threatened with extinction, many within decades
- >40%: amphibian species threatened with extinction
- Almost 33%: reef forming corals, sharks and shark relatives, and >33% marine mammals threatened with extinction
- 25%: average proportion of species threatened with extinction across terrestrial, freshwater and marine vertebrate, invertebrate and plant groups that have been studied in sufficient detail
- 70%: increase since 1970 in numbers of invasive alien species across 21 countries with detailed records

Food and Agriculture

- 300%: increase in food crop production since 1970
- 23%: land areas that have seen a reduction in productivity due to land degradation
- >33%: world's land surface (and +/-75% of freshwater resources) devoted to crop or livestock production

Oceans and Fishing

- 33%: marine fish stocks in 2015 being harvested at unsustainable levels; 60% are maximally sustainably fished; 7% are underfished
- >55%: ocean area covered by industrial fishing
- 3-10%: projected decrease in ocean net primary production due to climate change alone by the end of the century
- 3-25%: projected decrease in fish biomass by the end of the century in low and high climate warming scenarios, respectively
- Up to 33%: estimated share in 2011 of world's reported fish catch that is illegal, unreported or unregulated
- >10%: decrease per decade in the extent of seagrass meadows from 1970-2000
- +/-50%: live coral cover of reefs lost since 1870s

- 100-300 million: people in coastal areas at increased risk due to loss of coastal habitat protection
- 400: low oxygen (hypoxic) coastal ecosystem 'dead zones' caused by fertilizers, affecting >245,000 km²
- 29%: average reduction in the extinction risk for mammals and birds in 109 countries thanks to conservation investments from 1996 to 2008; the extinction risk of birds, mammals and amphibians would have been at least 20% greater without conservation action in recent decade

Forests

- 45%: increase in raw timber production since 1970 (4 billion cubic meters in 2017)
- +/-13 million: forestry industry jobs
- 50%: agricultural expansion that occurred at the expense of forests
- 50%: decrease in net rate of forest loss since the 1990s (excluding those managed for timber or agricultural extraction)
- 68%: global forest area today compared with the estimated pre-industrial level
- 7%: reduction of intact forests (>500 sq. km with no human pressure) from 2000-2013 in developed and developing countries
- 290 million ha (+/-6%): native forest cover lost from 1990-2015 due to clearing and wood harvesting

Mining and Energy

- >100%: growth of urban areas since 1992
- +/-50,000: number of large dams (>15m height) ; +/-17 million reservoirs (>0.01 ha)
- 105%: increase in global human population (from 3.7 to 7.6 billion) since 1970 unevenly across countries and regions
- 50 times higher: per capita GDP in developed vs. least developed countries
- >2,500: conflicts over fossil fuels, water, food and land currently occurring worldwide
- >1,000: environmental activists and journalists killed between 2002 and 2013

Health

- +/-4 billion: people who rely primarily on natural medicines
- +/-821 million: people face food insecurity in Asia and Africa
- 40%: of the global population lacks access to clean and

safe drinking water

- >80%: global wastewater discharged untreated into the environment
- 300-400 million tons: heavy metals, solvents, toxic sludge, and other wastes from industrial facilities dumped annually into the world's waters
- 10 times: increase in plastic pollution since 1980

Climate Change

- 1 degree Celsius: average global temperature difference in 2017 compared to pre-industrial levels, rising +/-0.2 (+/-0.1) degrees Celsius per decade
- >3 mm: annual average global sea level rise over the past two decades
- 16-21 cm: rise in global average sea level since 1900
- 100% increase since 1980 in greenhouse gas emissions, raising average global temperature by at least 0.7 degree
- 40%: rise in carbon footprint of tourism (to 4.5Gt of carbon dioxide) from 2009 to 2013
- 8%: of total greenhouse gas emissions are from transport and food consumption related to tourism
- Even for global warming of 1.5 to 2 degrees, the majority of terrestrial species ranges are projected to shrink profoundly.

Global Goals

- Most: Aichi Biodiversity Targets for 2020 likely to be missed
- 22 of 44: assessed targets under the Sustainable Development Goals related to poverty, hunger, health, water, cities, climate, ocean and land are being undermined by substantial negative trends in nature and its contributions to people
- 72%: of local indicators in nature developed and used by Indigenous Peoples and Local Communities that show negative trends
- 4: number of Aichi Targets where good progress has been made on certain components, with moderate progress on some components of another 7 targets, poor progress on all components of 6 targets, and insufficient information to assess progress on some or all components of the remaining 3 targets