



Fishing nets and ropes are a frequent hazard for olive ridley sea turtles, seen on a beach in India's Kerala state in January. A new 1,500-page report by the United Nations is the most exhaustive look yet at the decline in biodiversity across the globe.

Soren Andersson/Agence France-Presse — Getty Images



By **Brad Plumer** May 6, 2019

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WASHINGTON — Humans are transforming Earth's

natural landscapes so dramatically that as many as one million plant and animal species are now at risk of extinction, posing a dire threat to ecosystems that people all over the world depend on for their survival, a sweeping new United Nations assessment has concluded.

The 1,500-page report, compiled by hundreds of international experts and based on thousands of scientific studies, is the most exhaustive look yet at the decline in biodiversity across the globe and the dangers that creates for human civilization. A [summary of its findings](#), which was approved by representatives from the United States and 131 other countries, was released Monday in Paris. The full report is set to be published this year.

Its conclusions are stark. In most major land habitats, from the savannas of Africa to the rain forests of South America, the average abundance of native plant and animal life has fallen by 20 percent or more, mainly over the past century. With the human population passing 7 billion, activities like farming, logging, poaching, fishing and mining are altering the natural world at a rate "unprecedented in human history." At the same time, a new threat has emerged: Global warming has become a major driver of wildlife decline, the assessment found, by shifting or shrinking the local climates that many mammals, birds, insects, fish and plants evolved to survive in.

As a result, biodiversity loss is projected to accelerate

through 2050, particularly in the tropics, unless countries drastically step up their conservation efforts.

Cattle grazing on a tract of illegally cleared Amazon forest in Pará State, Brazil. In most major land habitats, the average abundance of native plant and animal life has fallen by 20 percent or more, mainly over the past century.

Credit

Lalo de Almeida for The New York Times



Image



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The report is not the first to paint a grim portrait of Earth's ecosystems. But it goes further by detailing how closely human well-being is intertwined with the fate of other species.

“For a long time, people just thought of biodiversity as saving nature for its own sake,” said Robert Watson, chair of the [Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services](#), which conducted the assessment at the request of national governments. “But this report makes clear the links between biodiversity and nature and things like food security and clean water in both rich and poor countries.”

A [previous report by the group had estimated](#) that, in the Americas, nature provides some \$24 trillion of non-monetized benefits to humans each year. The Amazon rain forest absorbs immense quantities of carbon dioxide and helps slow the pace of global warming. Wetlands purify drinking water. Coral reefs sustain tourism and fisheries in the Caribbean. Exotic tropical plants form the basis of a variety of medicines.

But as these natural landscapes wither and become less biologically rich, the services they can provide to humans have been dwindling.

Humans are producing more food than ever, but land degradation is already harming agricultural productivity on 23 percent of the planet's land area, the new report said. The decline of wild bees and other insects that help pollinate fruits and vegetables is putting up to \$577 billion in annual crop production at risk. The loss of mangrove forests and coral reefs along coasts could expose up to 300 million people to increased risk of flooding

The authors note that the devastation of nature has become so severe that piecemeal efforts to protect individual species or to set up wildlife refuges will no longer be sufficient. Instead, they call for "transformative changes" that include curbing wasteful consumption, slimming down agriculture's environmental footprint and cracking down on illegal logging and fishing.

"It's no longer enough to focus just on environmental policy," said Sandra M. Díaz, a lead author of the study and an ecologist at the National University of Córdoba in Argentina. "We need to build biodiversity considerations into trade and infrastructure decisions, the way that health or human rights are built into every aspect of social and economic decision-making." Scientists have cataloged only a fraction of living creatures, some 1.3 million; the report estimates there may be as many as 8 million plant and animal species on the planet, most of them insects. Since 1500, at least 680 species have blinked out of existence, including the Pinta giant tortoise of the Galápagos Islands and the Guam flying fox.

Though outside experts cautioned it could be difficult to make precise forecasts, the report warns of a looming extinction crisis, with extinction rates currently tens to hundreds of times higher than they have been in the past 10 million years.

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