

A global approach to monitoring biodiversity loss

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In contrast to climate change, there is no coordinated global system in place for measuring and reporting on biodiversity change or loss. An international team of biologists is now addressing this gap.

In *Science* today, 30 researchers led by Henrique Miguel Pereira, from the Centre for [Environmental Biology](#) of the University of Lisbon, proposed a global biodiversity monitoring system based on a set of essential variables.

By determining the most essential measurements to accurately and usefully report on biodiversity loss, known as essential biodiversity variables (EBVs), the researchers hope to improve the information feeding into biodiversity policy and stimulate investment in the measurement of global biodiversity change.

Examples include the [genetic diversity](#) of wild, crop and domestic species, the population abundances of representative groups of species (such as birds, and threatened and problem [plants and animals](#)), the cover and three-dimensional structure of habitats, and nutrient use in sensitive ecosystems.

Co-author Associate Professor Melodie McGeoch of Monash University's School of Biological Sciences said that over the past 20 years, biodiversity loss has continued at an alarming rate, but there are critical gaps in scientific knowledge.

"For example, only 11 per cent of countries have adequate information on invasive species, and a recent report by the United Nations showed that, in spite of forest certification practices now being widely implemented, illegal timber harvesting remains prevalent around the world," Associate Professor McGeoch said.

Previous research has indicated that biodiversity loss has a significant detrimental effect on the functioning, efficiency and stability of ecosystems and the services that they provide to humanity.

"The impact of biodiversity change on human well-being and survival is likely to accelerate as [human populations](#) grow and the climate warms, as demand for water and other resources increases and as [native habitat](#) is converted for development purposes," Associate Professor McGeoch said.

"Informed policy decisions are essential to a sustainable future, and a globally harmonized system for monitoring essential components of biodiversity is needed to achieve this."

Lead author, Dr Pereira said it was essential to discuss the sharing of international responsibilities in the development of a truly [global biodiversity](#) monitoring system.

"The biggest gaps in biodiversity monitoring occur in developing countries, in regions receiving some of the largest environmental pressures, and many of these pressures are caused upstream by developed countries," Dr Pereira said.

Provided by Monash University

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