



More than protected areas needed to stop biodiversity loss

One strategy to halt the loss of biodiversity has been to create protected areas in the sea and on land. However, a new study suggests that unless additional measures are taken, particularly those that tackle human population growth and the increased use of natural resources, even the development of new protected areas will be unable to reverse the trend of global biodiversity loss.

A growing human population is increasingly threatening the healthy functioning of ecosystems that provide essential services, such as food, freshwater and clean air. In particular, greater consumption of resources is reducing the abundance of harvested species upon which people depend for food and, in some cases, a living. In an effort to halt and reverse the loss of biodiversity, protected areas (PAs) have been set up to ensure habitats are protected, species are allowed to recover and natural population sizes can increase by minimising human pressures, especially the harvesting of resources.

By reviewing previous studies and using available data, this study evaluated the performance of marine and terrestrial PAs around the world as an effective conservation measure to protect biodiversity.

It was found that, despite an increase in the area of land and ocean covered by PAs over the past decades, and some local PA successes of large well-connected and well-managed reserves, there has been a significant global loss of land and marine biodiversity. Although the loss of biodiversity would have been greater without PAs, the study suggests that more efforts, in addition to the creation of new PAs, are needed.

There are more than 100,000 PAs around the world, covering 12.9% of land area and 0.65% of the seas. However, the creation of new PAs is unlikely to occur fast enough to counter the increased rate of human activities that pose the greatest threat to biodiversity.

Human activities threaten biodiversity by harvesting natural resources, converting habitats for human use (e.g. urbanisation), introducing invasive species, and altering habitats through the effects of climate change and pollution. A growing global population and the accompanying demands for human development, including poverty reduction, will increase pressures on biodiversity, even in PAs, and will affect the ability to create new PAs in appropriate areas.

The study identified other challenges to the success of PAs. For example, social problems can arise from the creation of PAs, among them: poaching in reserves; intrusion into residential areas, especially along coastlines; the displacement of people from PAs; and political corruption. PAs have a better chance of success when local groups and communities are involved in the design and management of the PAs.

In addition, there is a shortfall in global funds to develop, manage and maintain PAs. Competing demands for government finances and the needs of developing countries for conservation funding in a time of deficits in developed nations suggest a lack of finance will constrain the expansion of PAs around the world.

Creating more PAs is not sufficient to counter the impact of human pressures on biodiversity, says the study. Measures are needed to deal with human population growth and to reduce consumption of natural resources, if biodiversity loss is to be halted.

Source: Mora, C., Sale, P.F. (2011) Ongoing global biodiversity loss and the need to move beyond protected areas: a review of the technical and practical shortcomings of protected areas on land and sea. *Marine Ecology Progress Series*. 434:251-266.

Contact: moracamilo@hotmail.com

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