

Protected area expansion target: Is a huge promise lost due to land conversion?

November 18 2014

By expanding the protected area network to 17 percent of land one could triple the present protection levels of terrestrial vertebrates. Globally coordinated protected area network expansion could deliver a result 50 percent more efficient compared to countries looking only at biodiversity within their own area. Land conversion is however fast degrading options for conservation.

Protected areas are one of the main tools for halting the ongoing global biodiversity crisis. According to the Aichi Target 11 adopted by the Convention on Biological Diversity (CBD), the global protected area network should be expanded from the present approximately 11% to at least 17% of terrestrial areas by 2020.

"Our results show that there is a very high potential to significantly increase species protection levels by expanding the protected area network. With 17% of land one could triple the present protection levels, measured by the average fraction of the remaining range of a species protected. This would mean going up to more than 60% coverage compared to about 19% now. This of course requires the expansion to be planned carefully and implemented in practice," says assistant professor Tuuli Toivonen from the Conservation Biology Informatics Group at the University of Helsinki.

"Unfortunately, our analysis also shows that the opportunity may be lost due to land-use change. If land use projections become real, over 1,000 threatened species could in the near future lose more than 50 per cent of

their present effective ranges worldwide," continues Dr. Federico Montesino

Pouzols from the same research group.

The results show that there is strong evidence on the need of international collaboration in conservation.

"In fact, globally coordinated protected area network expansion will deliver a result that is approximately 50% more efficient compared to countries acting on their own looking only at biodiversity within their own area," says Federico Montesino Pouzols.

The results are based on extensive conservation prioritization that combines global distribution data for 24,757 [terrestrial vertebrates](#) and 827 terrestrial ecoregions with advanced land-use models for the present and 2040.

"The analysis approach can serve as a model for repeatable and quantitative assessment of conservation efficiency, gaps and [expansion](#) of the global PA network. As data quality improves, it will be increasingly possible to plan [conservation](#) action efficiently simultaneously at the global and local levels" concludes Professor Atte Moilanen, leader of the Conservation Biology Informatics Group.

More information: [dx.doi.org/10.1038/nature14032](https://doi.org/10.1038/nature14032)

Provided by University of Helsinki

Citation: Protected area expansion target: Is a huge promise lost due to land conversion? (2014, November 18) retrieved 27 April 2024 from <https://phys.org/news/2014-11-area-expansion-huge->

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