

Effectiveness of the global protected area network in representing species diversity

Ana S. L. Rodrigues, Sandy J. Andelman, Mohamed I. Bakarr, Luigi Boitani, Thomas M. Brooks, Richard M. Cowling, Lincoln D. C. Fishpool, Gustavo A. B. da Fonseca, Kevin J. Gaston, Michael Hoffmann, Janice S. Long, Pablo A. Marquet, John D. Pilgrim, Robert L. Pressey, Jan Schipper, Wes Sechrest,, Simon N. Stuart, Les G. Underhill, Robert W. Waller, Matthew E. J. Watts & Xie Yan

Abstract

The Fifth World Parks Congress in Durban, South Africa, announced in September 2003 that the global network of protected areas now covers 11.5% of the planet's land surface. This surpasses the 10% target proposed a decade earlier, at the Caracas Congress, for 9 out of 14 major terrestrial biomes. Such uniform targets based on percentage of area have become deeply embedded into national and international conservation planning. Although politically expedient, the scientific basis and conservation value of these targets have been questioned. In practice, however, little is known of how to set appropriate targets, or of the extent to which the current global protected area network fulfils its goal of protecting biodiversity. Here, we combine five global data sets on the distribution of species and protected areas to provide the first global gap analysis assessing the effectiveness of protected areas in representing species diversity. We show that the global network is far from complete, and demonstrate the inadequacy of uniform—that is, ‘one size fits all’—conservation targets.