Global Protected Area Expansion: Creating More than Paper Parks

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Aichi target 11 of the Convention of Biological Diversity promotes the expansion of the global protected area network to cover 17 percent of all terrestrial land and 10 percent of coastal and marine areas by 2020 (*www.cbd.int/sp/targets*). At the recent World Parks Congress, organized by the International Union for Conservation of Nature (IUCN) in Sydney, Australia, 12 innovative approaches were promoted as part of the "Promise of Sydney" to help transform decision-making, policy, capacity, and financing for protected areas in the next decade (*http://io.aibs.org/syd*). The first of such approaches includes a list of 20 important recommendations to help reach conservation goals. Many of these recommendations are provided for single countries to take action individually. In addition, the final recommendation advocates that a more ambitious target of protection (50 percent global protection) should be promoted to more adequately conserve biodiversity. Both points are problematic: recent research shows that facilitating international collaboration among countries is crucial to identifying and implementing a well-connected system of protected areas that can better represent threatened biodiversity, and setting unrealistic and politically challenging global protection targets is unneeded. This Viewpoint presents three main themes of the recommendations that would benefit from greater emphasis and the promotion of the importance of international collaborations.

Improve data resources

Although sophisticated methods for identifying priority sites for protected area expansion are now available, the underlying data for such analyses are mostly inadequate. Identifying the best areas for protected area expansion or management actions requires comprehensive, up-to-date spatial information about species, ecosystems, and ecosystem services. Such information is often incomplete, unreliable, missing altogether, or simply unavailable at a scale that is useful for informing real-world decisionmaking. The cost and capacity needed for collecting reliable data and keeping them up to date are extremely high, particularly for less known taxonomic groups, such as invertebrates, and the marine environment. As a result, there is an immediate need to further increase funding for biodiversity data collection and capacity building, particularly in biodiversity-rich, data-poor tropical countries (see, e.g., *www.gbif.org/page/80492*). In addition, it is important that the scientific community continues to seek new ways to use novel data sources such as high-resolution remotely sensed data, citizen-science projects, and geosocial media content (Dickinson et al. 2012). Because comprehensive data are needed across administrative borders, it is of paramount importance to ensure data flow between organizations operating at different administrative levels. In addition, the long-term continuity of international data-sharing platforms, such as the Protected Planet, the IUCN Red List, the Global Biodiversity Information Facility (GBIF), and the Map of Life, should be ensured. Finally, even high-quality data sets are worthless if they are not accessible. Therefore, international funders should make sure that all relevant data sources are made openly available so that they can be used to inform decisionmaking at all levels of society.

Embrace quality

Percentage targets for protected area expansion are important to commit policymakers to biodiversity conservation. Over the last years, the global protected area estate was expanded to cover 12.5 percent of all terrestrial land and 3 percent of marine environments (Watson et al. 2014). However, 85 percent of all threatened species are still not adequately protected. Key biodiversity areas, which are the most important sites for biodiversity conservation worldwide, are also poorly represented in existing protected areas (Butchart et al. 2015). This representation crisis is even worse for marine biodiversity. A recent study, however, concluded that expanding the terrestrial protected area network to 17 percent of all terrestrial land could potentially triple (from 19 percent to 61 percent) the coverage of all terrestrial vertebrate species listed by the IUCN if planning were carefully conducted (Montesino Pouzols et al. 2014). This would require that countries collaborate in the identification of new protected areas—as opposed to acting independently at a national scale. International collaboration would also support the creation of a well-connected system of protected areas that could facilitate species movements across landscapes and help enhance ecosystem functioning and adaptation to climate change. Importantly, identifying new protected areas internationally would make it possible to maximize species representation without having to meet additional—often unrealistic—area targets, such as protecting 30 to 50 percent of terrestrial land. The Convention on Biological Diversity and the Intergovernmental Platform on Biodiversity and Ecosystem

Services (*www.ipbes.net*) could be used as a means of facilitating collaboration and easing implementation across the borders.

Enforce sound management

Protected areas are the cornerstone of biodiversity conservation. However, maintaining biodiversity values in the future—by mitigating the negative impacts of threats—requires effective protected area management. The information needed to assess management effectiveness is missing from most protected areas. A recent assessment on a very limited number of protected areas, for example, concluded that only 24 percent had sound management (Juffe-Bignoli et al. 2014). The main limitations to the effective management of protected areas arise from the lack of financial resources (especially in developing countries) or deficiencies in management (e.g., lack of skilled staff). As a result, international donors should increase funding for protected area management in developing countries, where financial resources are scarcer. Funding could also be generated through the development of innovative financial mechanisms (e.g., biobanking or conservation easements) on private and community-owned land. Enhanced national and international collaborations in capacity-development activities should also be promoted as a means of sharing the best management practice experience in order to support protected area managers. This would help managers better involve local stakeholders in management decisions and develop appropriate responses to changes in threats. Rising threats (e.g., overkilling, invasive species), in fact, could

quickly erode the conservation value of protected areas in the future. For example, poaching rates of the southern white rhinoceros (*Ceratotherium simum simum*) in South Africa have increased from 13 illegal kills in 2007 to 1215 in 2014 (Di Minin et al. 2015). Developing innovative monitoring systems for biodiversity outcomes in protected areas would enable adaptive management that could immediately respond to such threats.

Conclusions

The implementation of Aichi target 11 could lead to an unprecedented expansion of the global protected area network. However, increasing the proportion of land and sea protected will not improve the status quo unless we mainstream international collaborations to (a) improve data quality on biodiversity distributions and the protected area estate, especially for biodiversity-rich, developing countries; (b) develop shared conservation planning assessments and implementation strategies among neighboring countries; and (c) build human capacity and increase financial resources to effectively manage protected areas in order to foster biodiversity persistence. We need to act quickly, because global change and other threats are quickly eroding biodiversity. Unless this is done, the risk is that many protected areas will be only "paper parks"— existing in name only.

Acknowledgments

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