



Australian fur seals swim in protected waters near Montague Island in Australia.

ALASTAIR POLLOCK PHOTOGRAPHY/GETTY

ECOLOGY

Green List promotes conservation hotspots

Project pinpoints protected reserves that boost biodiversity.

BY NATASHA GILBERT

Conservation groups often highlight species or ecosystems at risk. An effort launched on 14 November turns that approach on its head, seeking for the first time to systematically recognize the world's best-managed protected areas, which offer the most favourable conditions for flora and fauna.

The International Union for Conservation of Nature (IUCN) unveiled its Green List of 23 sites at the World Parks Congress in Sydney, Australia. The group, based in Gland, Switzerland, has long maintained a Red List of threatened species, which scientists and governments use as one way to estimate progress towards various biodiversity goals.

By some measures, global conservation efforts are succeeding. In 2010, the international Convention on Biological Diversity

(CBD) set a goal of protecting 17% of Earth's land surface and 10% of its oceans by 2020. Currently, 15.4% of land areas and 3.4% of oceans are set aside as protected areas, according to figures released on 13 November by the United Nations Environment Programme.

But not all conservation areas are created equal. For example, Australia's extensive network of marine reserves — which includes the Great Barrier Reef — has had very little impact on marine conservation, researchers reported in *Aquatic Conservation* in February (R. Devillers *et al. Aquat. Conserv.* <http://doi.org/w6w>; 2014). This is because many reserve locations were chosen to avoid damaging commercial interests, rather than to best protect areas of ecological importance, the study found. "Protected areas are of no use if they are not managed or governed properly," says James Hardcastle, who is leading the Green List project for the IUCN.

In addition, research published on 14 November in *Nature* suggests that creating protected areas is not enough to safeguard the future of plant and animal life (F. M. Pouzols *et al. Nature* <http://doi.org/w6x>; 2014). These secured zones currently cover just 19% of the habitat of the planet's terrestrial vertebrate species, the study finds. That share could triple if the world achieves the 2020 CBD conservation target. But land-use changes, such as expanding agricultural zones, threaten to erode biodiversity. If current trends continue, the ranges of almost 1,000 threatened species could be halved by 2040.

Federico Montesino Pouzols, a bioinformatician at the Rutherford Appleton Laboratory in Harwell, UK, and an author of the study, says that international collaboration — such as the Green List — is essential to create effective protected areas.

The IUCN approved the Green List concept in 2012, at its World Conservation Congress in Jeju, South Korea. The group asked governments to nominate sites for inclusion. These were then judged using 20 criteria, such as whether a site focuses on protecting species only within its boundaries or whether it takes a broader approach — for example, by considering the health of a species over its full range.

In the end, the IUCN accepted 23 of 27 candidate sites. The successful sites include the Mount Huangshan scenic area in China, which was praised for its management of the throngs of tourists that visit every year, and the Galeras wildlife sanctuary in Colombia, cited for a design that captures the region's varied terrain, such as a volcanic complex, mountain forests and lowland valleys.

Green List sites are also judged on how they treat people who have historically lived in or used the land — addressing human-rights advocates' concerns that protected areas often exclude indigenous people.

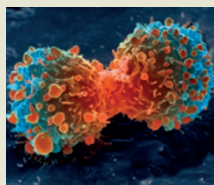
This exclusion is still happening in some areas. For example, in 2010 the United Kingdom set up a marine reserve around the Chagos Islands in the Indian Ocean. The islands' original inhabitants, who were evicted in the early 1970s to make way for a US military base, are effectively barred from accessing the area by the policies of the British Indian Ocean Territory administration.

"This is one site that won't be getting on to the Green List for a while," says Hardcastle. ■



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