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Review Paper

The essential role of other effective area-based conservation measures in achieving big bold conservation targets

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ABSTRACT

Continued biodiversity loss has prompted calls for half of the planet to be set aside for nature – including E. O Wilson's "Half-Earth" approach and the Wild Foundation's "Nature Needs Half" initiative. These efforts have provided a necessary wake-up call and drawn welcome global attention for the urgent need for increased action on conserving biodiversity and nature in general. Yet they have also sparked debate within the conservation community, particularly due to the huge practical and political obstacles to establishing or expanding protected areas on this scale. The new designation of "other effective area-based conservation measures" (OECMs) provides the opportunity for formal recognition of and support for areas delivering conservation outcomes outside the protected area estate. We argue that OECMs are essential to the achievement of big and bold conservation targets such as Half-Earth. But integration of OECMs into the conservation estate requires fundamental changes in protected area planning and how the conservation community deals with human rights and social safeguards issues; it therefore challenges our understanding of what constitutes "conservation". It will only succeed if the key drivers of biodiversity and ecosystem service loss are addressed in the whole planet. A broad, multifaceted and innovative approach, coupled with ambitious targets, provides our best hope yet of addressing complex conservation challenges.

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1. Introduction: a brief history of the protected area movement

Conservation scientists have steadily increased estimates of how much natural ecosystem is needed to make a substantial reduction in losses of biodiversity and essential ecosystem services (Noss et al., 2012). Achieving a more ambitious conservation vision requires making some fundamental changes in practical and conceptual approaches to conservation.

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Protected area planning and designation has evolved substantially over the last forty years, increasingly quickly since the turn of the century. At the start of the modern protected area movement, there was often a fairly *ad hoc* approach, or one aimed at particular species and geological features (Watson et al., 2014), which depended on the interest of concerned individuals rather than nationally set priorities. Initiatives like the successful conservation of Indian rhinoceros (*Rhinoceros unicornis*) in Kaziranga National Park, established in 1905 after prompting from the wife of the Viceroy of India (Balmford, 2012), were typical of an extended period of top-down, colonial conservation models in many regions (Carruthers, 1997). Large protected areas in Europe followed a different trajectory, at first aimed mainly at landscape protection and recreation, with nature conservation taking a greater role some time later (Sheail, 1998).

There was a gradual realisation that even large protected areas like Tanzania's Serengeti National Park were insufficient to protect entire ecosystems (Fitter and Scott, 1978) and that protected areas isolated from other natural ecosystems were likely to lose species over time (Newmark, 1996). In 1982, at the 3rd World Parks Congress in Indonesia, the International Union for Conservation of Nature (IUCN) proposed that 10 per cent of the Earth's land surface should be in protected areas, a target widely considered to be unattainable at the time. In 2010, in Japan, Parties to the UN Convention on Biological Diversity (CBD) set a new interim target of protecting and conserving 17 per cent of terrestrial and inland water and 10 per cent of coastal and marine areas by 2020 (Aichi Biodiversity Target 11 of the Strategic Plan for Biodiversity, 2011–2020), marking another increase. The total area component of Aichi Target 11 seems attainable, certainly on land, although associated elements covering areas of importance for biodiversity, ecological connectivity, ecological representativeness and equity and effectiveness may be less so, and represent a significant challenge for parties to the treaty.

At the same time as conservation aspirations increased, so did understanding of indigenous peoples and local communities' roles in conservation, and their land and resource tenure rights and claims, transforming how we understand conservation outcomes over the past two decades. Indigenous people and other local communities manage or have tenure rights over at least 38 million km² (Garnett et al., 2018) and claim over half the world's land surface (Rights and Resources Initiative, 2015), emphasising their critical role in future conservation policies. Research on the performance of indigenous protected areas, for example in the Amazon Basin (Schleicher et al., 2017), has transformed our understanding of the links between tenure and conservation outcomes. The concepts and definitions of what constitutes a protected area have therefore also evolved. Protected areas have come to be more formally encompassing of a wider range of sustainable uses and governance types, including private, indigenous, community, and state lands (Kothari et al., 2013). The implications of this for conservation policy are still being worked out in many cases.

2. Proposals for a 50% conservation target and their detractors

Aichi Target 11 has been demonstrated by conservation scientists to be insufficient to meet current biodiversity conservation needs (Butchart et al., 2015; Larsen et al., 2015; Venter et al., 2017). In a similar vein, the International Union for Conservation of Nature (IUCN) called for 30% of the ocean to be in marine protected areas or other effective conservation areas at its 2014 World Parks Congress, and confirmed this by resolution at the 2016 World Conservation Congress (WCC-2016-Res-047-EN). Recognition of the scale and rate of biodiversity loss and what that means for the planet's future has prompted interest in an even more ambitious target: to conserve and protect half the global land surface for conservation (Noss et al., 2012). The call from ecologist E.O. Wilson (2016), stressed that we need to conserve at least half of Earth (which he coined "Half-Earth") for biodiversity. In stating that "... wildlands ... are not recreation centres or reservoirs of natural resources or sanatoriums or undeveloped sites of business opportunities", Wilson (2017) inferred that this should be in protected areas. The "Nature Needs Half" initiative (<https://natureneedshalf.org/>) proposes a similar target, based on the inclusion of 50 per cent of all ecoregions in the protected areas estate (Dinerstein et al., 2017). Many call for a "Global Deal for Nature" in 2020, similar to the 2015 Paris Agreement under the UN Framework Convention on Climate Change (Dinerstein et al., 2017), which could take forward these targets under the framework of intergovernmental agreements and financing mechanisms. These ideas have generated interest around the world (e.g., Hance, 2016; Dreifus, 2016).

The practical, social and political implications of setting aside half of the Earth under some form of protected area management have drawn strong reactions. Concerns build on a considerable existing critique of protected areas, which comes from the perspective of human rights, governance, equity and livelihoods (e.g., Brockington et al., 2008; Dowie, 2009; Pyhälä et al., 2016). Büscher et al. (2016) critique the Half-Earth concept on ethical grounds and because it does not address the underlying causes of biodiversity loss tied to existing social and economic systems and patterns of production, or what happens in the human-dominated half of the planet: "*the Half-Earth proposal, in short, is infeasible, and will have dangerous and counter-effective consequences if implemented*". Büscher and his co-authors call instead for widespread political reform, focusing more on free markets as drivers of biodiversity loss, addressing inequality and tackling consumption.

Some proponents of Half-Earth argue that "*protected area critics reliably demand fairness for human beings at the expense of nonhuman beings, who they treat as morally inconsequential*" (Kopnina, 2016). Social surveys in Australia, Brazil, China, India, South Africa, the USA and UK suggest majority support amongst the general public for a fifty per cent target, with support higher amongst women, youth and people working outdoors (Kumpel, 2014). But even cautious supporters of Wilson's proposals point out that he provides little practical guidance on how the goal might be achieved or maintained (McKie, 2016). As a consequence, there have been calls for a clearer plan, based on key conservation objectives and the different types of actions needed to achieve them, in order to clearly delineate the space allocated to safeguard nature (Watson and Venter, 2017; Maron et al., 2018).

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