



## STATUS AND PROSPECTS FOR ACHIEVING AICHI BIODIVERSITY TARGET 11: IMPLICATIONS OF NATIONAL COMMITMENTS AND PRIORITY ACTIONS

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### ABSTRACT

This paper reviews the current status of Aichi Biodiversity Target 11 at the global level. Although there remain gaps in the coverage of ecological regions and areas important for biodiversity and ecosystem services, 10 per cent coverage of coastal and marine areas under national jurisdiction has already been surpassed. The full implementation of agreed national priority actions and other commitments, including those in National Biodiversity Strategies and Action Plans, will expand coverage of the global ocean beyond 10 per cent, and result in more than 17 per cent coverage of terrestrial and inland waters. These commitments will also lead to substantial progress in other elements of the Target. Appropriate recognition of other effective area-based conservation measures and governance types, inter alia, privately protected areas and territories and areas conserved by indigenous peoples and local communities, currently under-reported in global assessments, would further improve the prospects for the achievement of Target 11. This will generate not only multiple benefits for the well-being of society by contributing solutions to the most important global challenges, but will also contribute to other Aichi Targets and globally agreed goals. Hence, concerted efforts by all stakeholders to facilitate the implementation of commitments towards achieving Target 11 will be a wise investment.

**Key words:** Protected Areas, Other Effective Area-Based Conservation Measures (OECMs), Aichi Biodiversity Target 11, Convention on Biological Diversity (CBD), National Priority Actions, National Biodiversity Strategies and Action Plans (NBSAPs)

### INTRODUCTION

The Strategic Plan for Biodiversity 2011–2020 and the 20 Aichi Biodiversity Targets were adopted in 2010 at the tenth meeting of the Conference of the Parties (COP) to the Convention on Biological Diversity (CBD, 2010a) and subsequently endorsed by all other global biodiversity-related conventions and by the United Nations General Assembly (Resolution 65/161). Target 11 calls for:

By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes (CBD, 2010a).

Furthermore, in October 2012, at its eleventh meeting, the COP invited Parties to undertake major efforts to achieve all elements of Target 11 (CBD, 2012). Two years later, the midterm assessment presented in the fourth Global Biodiversity Outlook (GBO-4) indicated that Target 11 showed some progress, suggesting that more focused and systematic efforts would be required for achieving all elements of the Target by 2020 (SCBD, 2014). Based on the available data, projections showed that, if current trends continued, at least 17 per cent coverage for terrestrial and inland waters would be achieved by 2020 but all other elements would not be met (SCBD, 2014).

Therefore, to facilitate the full achievement of Aichi Biodiversity Target 11, the Secretariat of the Convention on Biological Diversity, in collaboration with partners,

developed a two-phase strategy, to be carried out over the 2015 to 2020 period.

The first phase (2015–2016) included, inter alia, the development of baseline data/information dossiers on Target 11 for each country. It also entailed facilitating capacity development to Parties through regional workshops, for securing the submission of:

- information on the actual status of various elements of the Target, gaps and opportunities for improvement,
- priority actions in the form of roadmaps<sup>1</sup>, to advance progress in achieving the Target by 2020, and
- responses to a detailed questionnaire.

Following completion of the six regional workshops, 108 Parties submitted information on status, gaps and opportunities, 101 submitted their national priority actions, while 64 submitted responses to the questionnaire. The second phase (2017–2020) involves facilitating implementation of these priority actions, along with other national commitments, and will be discussed further in the last section.

The objective of this paper is to evaluate information on the current status of the elements of Target 11 at the global level. We wished to highlight the nature of potential progress to be made through, inter alia, fulfilling commitments made by the Parties in their National Biodiversity Strategies and Action Plans (NBSAPs) and national priority actions, the Promise of Sydney of the IUCN World Parks Congress 2014, and the 2016 IUCN World Conservation Congress, including their contribution to meet other Aichi Targets and globally agreed goals and challenges.

## STATUS AND PROSPECTS FOR ELEMENTS OF AICHI BIODIVERSITY TARGET 11

The indivisible nature of Target 11 means that for successful achievement, all elements of the Target need

to be met. The elements of Target 11 refer to the individual clauses in the language of the target, with separate indicators used to assess progress for each element, and include: at least 17 per cent coverage of terrestrial and inland waters and 10 per cent coverage of coastal and marine areas, ecological representation, coverage of areas important for biodiversity and ecosystem services, connectivity, integration into the wider landscapes and seascapes, and effective and equitable management.

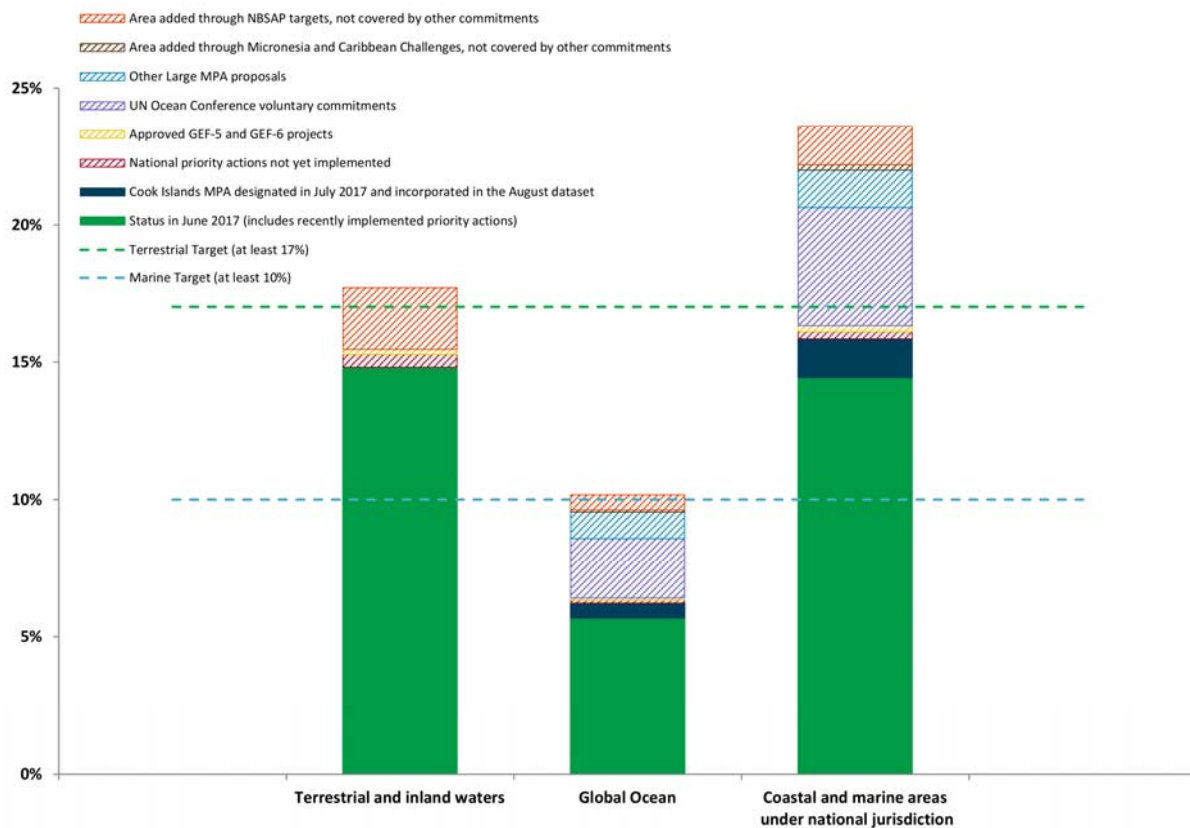
### At least 17 per cent of terrestrial and inland water and 10 per cent of coastal and marine areas

As of June 2017, global protected area coverage for terrestrial and inland waters had reached 14.8 per cent, excluding Antarctica; while in the marine realm, 14.4 per cent coverage had been achieved for areas within national jurisdiction, with 5.7 per cent coverage for the entire ocean (UNEP-WCMC, 2017a). In August 2017, following implementation of marine commitments in Cook Islands and Gabon, among others, marine coverage in national jurisdiction had reached 15.9 per cent, with 6.3 per cent coverage for the entire ocean (UNEP-WCMC & IUCN, 2017a).

National commitments have been communicated by Parties through several different fora (Table 1). If these commitments are implemented by 2020, it should be possible to achieve the minimum coverage for terrestrial and inland waters and at least 10 per cent coverage for the global ocean (Figure 1; see supplementary Tables 1 and 2 for the net commitments of each country, after removing redundancy and double counting). Coverage of areas beyond national jurisdiction would still lag, with approximately 1.8 per cent protected, almost all in Antarctic seas. Ongoing progress in work towards an international legally binding instrument under the UN Convention on the Law of the Sea, focusing on conservation and sustainable use of high seas biodiversity, may begin to address greater representation for areas beyond national jurisdiction, among other aims.

**Table 1. Area (km<sup>2</sup>) to be added if national commitments area implemented as proposed**

Source of national commitment	Terrestrial and inland waters	Coastal and marine areas within national jurisdiction	Marine areas beyond national jurisdiction
National priority actions	611,943	353,258	0
Approved GEF-5 and GEF-6 projects	257,217	315,439	0
Post-COP10 NBSAPs	3,003,408	2,004,710	0
UN Ocean Conference		8,065,824	1,800,000
Other Large MPA proposals		1,931,409	1,550,000
Micronesia and Caribbean Challenges		272,549	0
<b>Total additions:</b>	<b>3,872,568</b>	<b>12,943,189</b>	<b>3,350,000</b>



**Figure 1. Progress towards the minimum coverage targets of Aichi Biodiversity Target 11 resulting from the implementation of national priority actions, approved GEF-5 and GEF-6 projects, NBSAP protected area targets and other commitments. Current coverage of protected areas from the June 2017 release of the WDPA (UNEP-WCMC, 2017a)**

#### *Other opportunities*

In several decisions (e.g. IX/18 and X/31), Parties have been invited to recognise the contribution of privately protected areas (PPAs), and territories and areas conserved by indigenous peoples and local communities (ICCAs). However, both categories may be under-represented in the World Database on Protected Areas (WDPA), the global database that is used for assessing progress towards Target 11 (Kothari et al., 2012; Stolton et al., 2014; UNEP-WCMC & IUCN, 2017b). Efforts to recognise and report these areas, subject to the free, prior and informed consent of the relevant communities, would do much to address this knowledge gap and may change the outlook for Target 11 significantly.

Some national commitments included the intention to expand protected area networks (e.g. in national priority actions, NBSAPs, UN Ocean Conference voluntary commitments), yet they did not specify the extent of the planned expansions. Furthermore, 24 Parties submitted NBSAPs containing protected area targets with a deadline beyond 2020. If these targets are met, an additional 740,000 km<sup>2</sup> in terrestrial and over 1.1 million km<sup>2</sup> in marine protected areas will be added globally by 2030. Any of these proposed additions implemented prior to 2020 will contribute further to Target 11.

At the recent UN Ocean Conference, the Wildlife Conservation Society committed to supporting the establishment of 3.7 million km<sup>2</sup> of marine protected areas in 19 countries (WCS, 2017). As information regarding the area being added in each country is currently unavailable, this commitment was not included in this assessment, to avoid potential overlaps with other national commitments. These proposed new protected areas will also contribute significantly to improving marine coverage.

Additionally, many countries still do not formally recognise existing reserves (e.g. for forests and water protection) as part of their national system of protected areas. In recent years some countries have updated their national legislation on protected areas, recognising diverse categories and governance systems. To the extent that more countries could contemplate such revisions, formally recognising some of these existing reserves, the situation for Target 11 would further improve. However, care needs to be taken to ensure that these reserves, and all national commitments, meet the CBD and IUCN definition of a protected area<sup>2,3</sup>.

#### *Other effective area-based conservation measures*

The language of Target 11 allows for conservation goals to be met through either protected areas or other effective



Partnership for Achieving Aichi Biodiversity Target 11. © IISD/Kiara Worth ([enb.iisd.org/biodiv/cop13/riopavilion/12dec.html](http://enb.iisd.org/biodiv/cop13/riopavilion/12dec.html))

area-based conservation measures (OECMs). OECMs offering conservation value in areas complementary to protected areas will provide many potential benefits for the elements of Target 11, provided these are well-defined and include measures that lead to long-term outcomes for the conservation of nature as a whole. There is some concern that too broad a definition may be applied, opening the possibility of including inappropriate land uses or management activities, or that the designation of OECMs may be used to avoid having to expand protected areas (Woodley et al., 2012; Jonas et al., 2014). Therefore, there is a need for specific guidance and an agreed upon working definition for OECMs to maximise their impacts. A Taskforce established through IUCN's World Commission on Protected Areas has begun the process of developing technical guidance on OECMs, including a draft screening tool, and discussion over the potential types of OECMs.

The Conference of the Parties, at its thirteenth meeting (COP-13), invited Parties to review experiences on “protected areas and other effective area-based conservation measures, taking into account the work of the International Union for Conservation of Nature and other appropriate expert bodies” (CBD, 2016a). The Executive Secretary was requested to develop voluntary guidance on OECMs and to organise a technical expert workshop “to provide scientific and technical advice on definition, management approaches and identification of other effective area-based conservation measures and their role in achieving Aichi Biodiversity Target 11” and to report on progress to the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) before the fourteenth meeting of the COP (COP-14) in 2018 (CBD, 2016a). The conclusion of this process will enable the recognition of OECMs and support their contribution to Target 11.

### **Ecological representation and areas important for biodiversity and ecosystem services**

Globally, ecological representation is generally assessed based on the representation of different ecoregions within protected area networks (UNEP-WCMC & IUCN, 2016). Comprehensive systems of terrestrial and marine ecoregions (extending to the 200m isobath) have been developed (Olson et al., 2001; Spalding et al., 2007) with a system of 37 pelagic provinces covering marine areas beyond the 200m isobath (Spalding et al., 2012).

As per the analysis carried out for the Protected Planet Report 2016, in April 2016, 349 of the 821 non-Antarctic terrestrial ecoregions (42.5 per cent) had reached 17 per cent coverage (JRC & UNEP-WCMC, 2016). Reaching 17 per cent in all ecoregions, however, may be unrealistic due to the small size and fragmentation of remaining habitat in some ecoregions. A recent assessment found that some ecoregions did not have enough remaining natural or semi-natural habitat to reach 17 per cent protected area coverage (Dinerstein et al., 2017).

As of April 2016, only 84 of 232 marine ecoregions (36.2 per cent) had more than 10 per cent coverage and one-third of them had less than 2 per cent coverage; for pelagic provinces, coverage was even lower, with only 3 out of 32 (9.4 per cent) reaching 10 per cent (JRC & UNEP-WCMC, 2016). This is in line with the poor coverage for high seas areas and the uneven distribution of marine protected areas around the globe.

Priority actions were submitted by 93 Parties to make their protected area networks more ecologically representative. Many of these involve the expansion of protected areas in under-protected regions, like in Sierra Leone, where they have made two terrestrial and one marine ecoregion priority sites for further protection, or

in Brazil, whose goal is to protect 30 per cent of the Amazon, and 17 per cent of all other biomes.

Key Biodiversity Areas (KBAs) are sites that make a substantial contribution to the persistence of biodiversity globally, at the level of genes, species or ecosystems. They are identified nationally using global criteria and thresholds, and are useful for targeting strategic expansion of protected area networks (IUCN, 2016). KBAs are being used as one measure for tracking progress towards this element of Target 11 (CBD, 2016b; UNEP-WCMC & IUCN, 2016).

By April 2016, 14,595 KBAs had been identified, with many more country assessments still in progress (BirdLife International, 2016). These included among others, 585 Alliance for Zero Extinction sites (AZEs), containing more than 95 per cent of the global populations of highly threatened species with restricted geographic distribution (Ricketts et al., 2005), and over 12,000 important bird and biodiversity areas (IBAs), which are sites of global importance primarily for avian conservation (BirdLife International, 2014). As of 2016, only 19.3 per cent of these KBAs were fully covered by existing protected areas, and only 114 out of 585 AZEs (19.5 per cent) were fully covered (BirdLife International, 2016). Although protected area coverage has been increasing in recent years, improvement in the protection of KBAs has slowed, increasing by only one per cent over

the last decade (UNEP-WCMC & IUCN, 2016). As AZEs represent sites where extinction is imminent, it is necessary to fully protect all 585 sites. A marked growth in the number of IBAs and other KBAs that are covered by protected areas, other conserved areas or OECMs would constitute significant progress for this element.

Specific plans to protect KBAs were identified by 26 Parties in their priority actions, with 15 Parties providing the specific number of sites that will be protected. If implemented, the actions of these 15 Parties will improve protected area coverage for at least 84 IBAs and 12 AZEs by 2020. It is noteworthy that a majority of the terrestrial protected areas supported by the Global Environment Facility (GEF) funding over the years have addressed protection of KBAs (GEF, 2015). The proposed new or expanded protected areas in 98 GEF-5 and GEF-6 projects will certainly improve the coverage of KBAs.

For the coverage of areas important for ecosystem services, there is currently no indicator identified for use at the global level (CBD, 2016b), although many tools are available for mapping ecosystem service supply (Martínez-Harms & Balvanera, 2012) and demand (Wolff et al., 2015). These areas may also be poorly correlated with those areas of importance for biodiversity (Cimon-Morin et al., 2013). There is, therefore, a need to consider separately those areas important for biodiversity and for ecosystem services (Manhães et al. 2016).



Trevor Sandwith, IUCN, leading a session at the capacity-building workshop for East and South-East Asia on achieving Aichi Biodiversity Target 11 © Convention on Biological Diversity Secretariat

Several Parties have provided priority actions to address the protection of areas important for ecosystem services. For instance, Colombia plans to declare at least three areas for the protection of water resources, and to protect species contributing to the conservation of fisheries resources. Five countries have also proposed actions related to payment for ecosystem services programmes. Overall, there remains much work to be done to ensure that the contribution of the existing systems of protected and conserved areas to the conservation of ecosystem services is properly accounted for, and that the gaps in protecting areas important for a full range of ecosystem services are adequately addressed.

As spatial data for other proposed and newly established protected areas become available, and with the addition of PPAs, ICCAs and OECMs, it is likely that the status of the above three elements will improve further. There is a need for systematic mapping of all of these additions to assess the full extent of their contribution. There is work currently underway to assess OECM coverage of KBAs that fall outside protected areas in 10 countries (Cambridge Conservation Initiative, 2016). Better coordination with, and recognition of, biodiversity conservation efforts under way in other biodiversity-related conventions should also help countries to achieve the different elements of Target 11 by 2020. To this end, more explicit recognition of activities that contribute to Target 11 included in the national reports submitted by parties to these other conventions would be appropriate.

### **Connectivity and integration into the wider landscape and seascape**

For connectivity, the proposed indicator, Protected Area Connectedness Index (GEO BON, 2015), is under active development and not yet available for use (CBD, 2016b). Recent studies have attempted to quantify the degree of connectivity of the global protected area network, at country and continent-wide scales (Santini et al., 2016) and within terrestrial ecoregions (Saura et al., 2017). These assessments were done using graph-based metrics that measure the amount of land that is reachable through dispersal by terrestrial birds and mammals across the protected area network, accounting for both the area reachable within a protected area and between protected areas. The application of this approach has led to the development of the Protected-Connected indicator, which measures connectivity as the proportion of some region (country, continent, ecoregion, etc.) that is covered by connected protected lands for some specified dispersal distance (Saura et al., 2017).

It is reported that between 25 and 37 per cent of terrestrial ecoregions had protected area networks of sufficient configuration and scale to permit dispersal for median dispersal distances of 1 to 100 km, covering the abilities of most terrestrial birds and mammals (Saura et

al., 2017). Despite global protected area coverage approaching 15 per cent, only 8.5 to 11.7 per cent would meet this measure of connectivity for the same range of dispersal distances. Connectivity for marine protected areas has not yet been assessed, though with some modification, this indicator could be applied in the marine realm (Saura et al., 2017).

Alongside the expansion of protected areas, carrying out landscape-scale ecosystem restoration and the sustainable management of land-uses like agriculture and forestry, among others, is recognised as a required aspect of biodiversity conservation, enhancing ecosystem services and sustainable development (SCBD, 2014). In highly fragmented landscapes, these activities will be necessary to ensure appropriate levels of connectivity and encourage biodiversity conservation in protected areas (Janishevski et al., 2015).

Priority actions to address connectivity of protected area networks were provided by 91 Parties. Several of these actions address ecosystem restoration activities. For example, Bangladesh plans to restore degraded forests through assisted natural regeneration. As well, many actions include the creation of new, or improved management of existing biological corridors and connectivity areas (e.g. Timor-Leste and Samoa), or the development of transboundary conservation (e.g. several projects between Togo and its neighbours), among others.

Protected areas must also be integrated into the wider landscapes and seascapes, as well as broader sectoral plans and policies, to yield their full benefits (Ervin et al., 2010). In this context, the wider landscapes and seascapes include “the array of land and water uses, management practices, policies and contexts that have an impact within and beyond protected areas, and that limit or enhance protected area connectivity and the maintenance of biodiversity” (Ervin et al., 2010, p. 13), also including areas and sectors that can benefit from the biodiversity and associated ecosystem services provided by the protected areas.

The integration process is two-fold, involving not only linking protected areas into wider networks and with managed lands and waters, but also incorporating the design and management of protected areas into national and regional land-use plans, and other relevant laws and policies (Ervin et al., 2010).

No evaluation of progress for the integration element of Target 11 was included in the midterm assessment of GBO-4, and to date, no specific indicator is available (CBD, 2016b). Feasible early assessments could focus on the economic benefits provided by protected areas for water and hydropower supply, recovery of depleted

fisheries stocks and ecotourism. At COP-13, Parties were invited to review experiences on “additional measures to enhance integration of protected areas and other effective area-based conservation measures into the wider land- and seascapes”, while the Executive Secretary was requested to develop voluntary guidance on integration and report progress to SBSTTA (CBD, 2016a).

The most common sectors for integration with protected areas, identified by the Parties that responded to the workshop questionnaire, were agriculture (80 per cent), forestry (73 per cent), water resources (64 per cent), and energy and mining (58 per cent) (Figure 2). For the integration of protected areas into the wider land- and seascapes, and relevant sectors, 85 priority actions were submitted by 50 Parties.

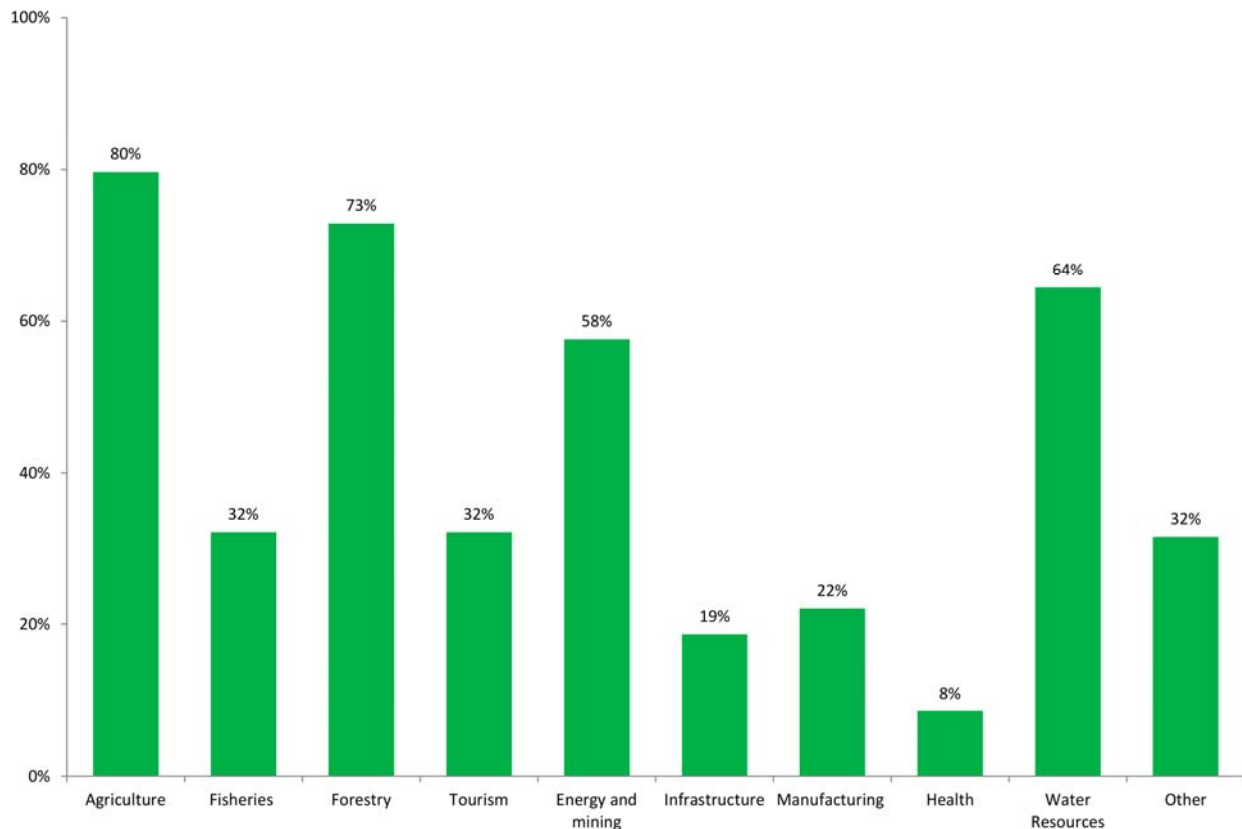
### Effective and equitable management

Expansion of the global protected area estate, alone, will not be sufficient to halt global biodiversity losses if it is not managed effectively, and does not have appropriate governance and equity measures in place. In 2010, Parties were invited to implement management effectiveness evaluations in at least 60 per cent of their total protected areas (CBD, 2010b). As of January 2015, only 21.4 per cent of CBD Parties, excluding overseas

territories, had met this target (Coad et al., 2015). However, the Global Database for Protected Area Management Effectiveness (GD-PAME) contains information for only a small portion of the sites listed in the WDPA (UNEP-WCMC, 2017b).

It is important that management effectiveness assessments are repeated at the same site (or system) to track changes over time and implement remedial measures as needed (Woodley et al., 2012). A recent study evaluating the 722 sites in the GD-PAME with multiple assessments carried out using the “management effectiveness tracking tool” (METT), found that 69.5 per cent showed improvement in management scores between assessments, while 25.1 per cent experienced decreases (Geldmann et al., 2015). This is positive in the sense that it illustrates how the implementation of adaptive processes may be improving protected area management, though the relation to biodiversity impacts is indirect. More work is needed to comprehend the connections between management effectiveness and biodiversity outcomes (Coad et al., 2015; Geldmann et al., 2015).

Although many protected area management effectiveness assessment tools, like METT, include questions for tracking biodiversity outcomes, they are primarily concerned with management processes and inputs.



**Figure 2.** Responses from the workshop Questionnaire regarding the most important sectors for integration with the protected area system (n = 59). The fisheries sector includes aquaculture; mining and energy includes other extractive industries (oil and gas, etc.); others include an array of different sectors, common responses include security, science/research and cultural sectors

While these aspects of protected area management are important, there is also a need to track actual biodiversity outcomes in protected areas, which will require the use of other indicators. One of many possible measures of biodiversity outcomes related to effective management, the Wildlife Picture Index, has been proposed as an indicator for this element of the Target (CBD, 2016b). The Wildlife Picture Index measures the rate of change in the diversity of forest and savannah birds and mammals (O'Brien et al., 2010), though as of 2017, only 16 protected areas in 14 countries have been assessed using this indicator (TEAM Network, 2017).

The 240 priority actions submitted in the roadmaps of 95 Parties included: over 70 actions relating to protected area management plans, more than 45 actions involving management effectiveness evaluations, and over 100 other actions aimed at general improvements to protected area management effectiveness. For example, Republic of Korea aims to conduct management evaluations in at least 70 per cent of marine and terrestrial protected areas.

At least 74 Parties have approved GEF-5 and GEF-6 projects for expansion of protected areas that include management effectiveness evaluations, and numerous Parties have approved projects aimed at improving the management of existing protected areas. Actions identified in NBSAPs will also contribute to improving the effective management of protected areas. Examples include Swaziland's plan to create management plans for each Protection-Worthy Area that are in line with its conservation goals, and Belize's goal of increasing average management effectiveness of its protected area system to 80 per cent. The implementation of all of these actions should assist in both improving the state of management effectiveness assessments as well as actual biodiversity outcomes.

Protected area governance is also a key indicator to predict the success of protected areas (Barnes et al., 2016). Past COP decisions (e.g. Decision X/31) have invited Parties to diversify and strengthen protected area governance types, and governance quality; and the past decades have seen a general increase in the number of protected areas with shared or private governance, or governance by indigenous peoples or local communities (Juffe-Bignoli et al., 2014). It has also been shown that protected areas that consider broader social concerns, including the empowerment of local communities and the equitable sharing of costs and benefits, often demonstrate more positive conservation outcomes (Oldekop et al., 2015). Although many Parties are implementing methods for the assessment of protected area governance (e.g. Borrini-Feyerabend et al., 2013) and for the assessment of the social impacts of protected areas (Franks & Small, 2016), neither has yet been widely

applied (Schreckenberg et al., 2016), and their global reporting is not comprehensive. Responding to the workshop questionnaire, 32 Parties reported completing some form of protected area governance assessment, while 81 have submitted priority actions to address governance and/or equity considerations for protected areas.

Decision XIII/28, on indicators for the Aichi Biodiversity Targets, did not include any specific indicator for equitable management (CBD, 2016b). However, there is an equity framework which has been proposed to assess progress on equitable management of protected areas, which includes 16 principles nested under three key dimensions (recognition of rights, procedure to promote participation in management decision making, and distribution of costs and benefits) all embedded within a set of enabling conditions (Schreckenberg et al., 2016). Many of the equity principles are included, to varying degrees, in several of the available governance and social assessment tools. The development of a focused equity assessment methodology, based around this framework, could be useful in situations where multiple assessments are not possible (Schreckenberg et al., 2016). A preliminary set of 10 indicators, covering the three dimensions of equity has been proposed, and could provide a useful means to address reporting on the equitable management element (Zafra-Calvo et al., 2017). Parties were invited to review experiences on "effective governance models for management of protected areas, including equity", while the Executive Secretary was requested to develop voluntary guidance and report progress to SBSTTA (CBD, 2016a).

The IUCN Green List of Protected and Conserved Areas Standard includes four components, addressing all aspects of the management elements of Target 11, namely, good governance, sound design and planning, and effective management, which all support successful conservation outcomes (IUCN & WCPA, 2016). The goal of the Green List is to "increase the number of Protected and Conserved Areas (PAs) that are effectively and equitably managed and deliver conservation outcomes" (IUCN & WCPA, 2016, p. 9). Parties were also invited to:

promote the IUCN Green List of Protected and Conserved Areas as a voluntary standard to promote and encourage protected area management effectiveness; and to undertake or participate in, where relevant, national protected area governance assessments with a view to promoting, recognising and improving governance diversity, efficiency and equity in protected area systems (CBD, 2016a).

Further work needs to be done to ensure that criteria for assessing and reporting on this element of Target 11 are more systematically and broadly applied.



## IMPORTANCE OF THE IMPLEMENTATION OF NATIONAL PRIORITY ACTIONS AND OTHER COMMITMENTS, AND THEIR IMPLICATIONS

For successful achievement of Target 11, all elements need to be considered, and significant progress should be made on each of them. It can be noted that the elements are closely linked; working towards one will influence the implementation of others. Results from the six regional workshops have provided a platform for participants to increase their understanding of the different elements, what information is needed for planning their contributions towards their achievement, and what actions they can undertake to realise the Target as a whole. CBD Parties from developing country regions identified over 1,400 actions to enhance the progress of these elements (Table 2), alongside the numerous commitments communicated through other fora by all CBD Parties.

Facilitating the implementation of the commitments, including monitoring and reporting, constitutes the main focus of the second phase (2017–2020) of the strategy of the CBD Secretariat.

### What is needed to facilitate implementation?

To make implementation a reality, funding, technical support, monitoring and reporting are needed. A recent study on the performance of marine protected areas found a strong link between human and financial capacity for protected area management and actual ecological outcomes (Gill et al., 2017). All relevant

partners, including government ministries/departments, GEF-implementing agencies, regional organisations, bilateral and multilateral funding agencies, the private sector, conservation and community organisations, should align their activities towards supporting implementation.

The second phase of the strategy of the CBD Secretariat is geared towards addressing this requirement. It includes, among other facets, the identification and mobilisation of relevant regional partners, bilateral and multilateral funding agencies and experts to enable regional implementation support networks that facilitate implementation on the ground, monitoring, and reporting to COP-14 in 2018. It is envisaged that these regional implementation support networks will coordinate and align ongoing capacity development activities by various agencies towards implementation of the national commitments, pursuant to Decision XIII/2 (CBD, 2016a). This would allow for mid-course corrections and continued support up to the 2020 target date and final reporting at the fifteenth meeting of the Conference of the Parties.

Hence, concerted efforts by all will be required to facilitate the implementation of national commitments and to put in place mechanisms for sustained capacity development, towards realising as many elements of the Target as possible by 2020, as called for in past COP decisions.

**Table 2. Summary of priority actions submitted in Parties' roadmaps; 123 Parties attended one of the six workshops, while 5 Parties that did not attend submitted a roadmap**

Element of Target 11	Number of Parties submitting at least one action	Number of priority actions submitted
Terrestrial Coverage	90	186
Marine Coverage	48	63
Ecological Representation	93	174
Areas Important for Biodiversity and Ecosystem Services*	91 (33)	207 (37)
Effective Management	94	238
Governance and Equity	80	163
Connectivity	91	173
Integrated into Wider Landscape and Seascapes	52	92
Other Effective Area Based Conservation Measures	84	158

\* Actions for the conservation of areas important for biodiversity and ecosystem services were combined (numbers in brackets refer to actions directly addressing ecosystem services).

## Implications of the implementation of commitments and the achievement of Target 11

If all national commitments are implemented as planned, taking consideration of their relative strength (e.g. availability of plans and funding for implementation), all elements of the Target will show improvements compared to the mid-term assessment of GBO-4. This will contribute to progress, both directly and indirectly, of many other Aichi Biodiversity Targets (SCBD, 2016a). Through the ecosystem services provided by protected areas, the implementation of the commitments could contribute to progress towards achievement of the goals and several targets of the 2030 Agenda for Sustainable Development, not only those on life on land and life below water, but also climate action, poverty eradication, and sustainable consumption and production, among others (SCBD, 2016b). It will also deliver various benefits with respect to climate change mitigation and adaptation (Gaüzère et al., 2016; Gross et al., 2016; Melillo et al., 2016), including to the (Intended) Nationally Determined Contributions of the Paris Agreement, the Sendai Framework for Disaster Risk Reduction 2015–2030 (Dudley et al., 2015), and the Land Degradation Neutrality goal of the United Nations Convention to Combat Desertification. In addition, there will also be contribution towards the fulfilment of requirements in other multilateral environmental agreements, such as UNESCO's World Heritage Convention and its Man and the Biosphere Programme, the Ramsar Convention, the Convention on Migratory Species, and other biodiversity-related conventions, in a synergistic manner.

These results will be important to inform the planning of the post-2020 global biodiversity framework and the setting of more ambitious goals for the future, as well as developing best practices for implementation based upon the lessons learned.

## CONCLUSIONS

This review supports the statement that several elements of Target 11 may be achieved if the efforts in the past few years continue, if the means to address lagging aspects are further developed, and if all Parties and partners strive for enhanced and targeted implementation in a coherent and systematic manner. While at least 10 per cent coverage for marine areas under national jurisdiction has been surpassed, continued focused implementation of national priority actions and other commitments has the potential to lead to the achievement of this element for the global ocean, as well as at least 17 per cent of terrestrial areas. This will lead to substantial progress in some other elements of the Target, and even more so, if renewed attention is accorded to their requirements. Furthermore, guidance on OECMs and a comprehensive assessment of the contribution of PPAs and ICCAs, not currently accounted for in the WDPA, along with the mapping of these areas,

will further improve the status of ecological representation, connectivity, and the coverage of areas important for biodiversity and ecosystem services. As more countries report on actions being taken to implement management effectiveness evaluations and begin to undertake assessments of protected area governance, equity and benefit sharing, a more encouraging picture will emerge regarding these elements of Target 11. Such expected progress and enhanced availability of information will certainly provide a sound basis for discussions regarding the post-2020 global biodiversity framework and the agreement of even more ambitious targets, as needed to achieve the agreed 2050 vision for biodiversity.

The achievement of Aichi Biodiversity Target 11 will generate multiple benefits for the well-being of society by contributing solutions to the most important of global challenges set out in the Strategic Plan for Biodiversity 2011–2020 and emphasised through the UN Sustainable Development Goals. It will also make a major contribution towards facilitating sustainable development through poverty alleviation and enhanced economic prosperity, towards a life in harmony with nature at the local, national and global levels, not only for the current but also future generations. The role and value of protected and conserved areas demonstrated in this way, we hope, will convince decision-makers and society at large that these areas are a valuable investment in the future of our planet.

## ENDNOTES

<sup>1</sup>All priority actions are provided in the annexes of the final workshop reports, and are available at: [www.cbd.int/meetings/](http://www.cbd.int/meetings/).

<sup>2</sup>"A geographically defined area which is designated or regulated and managed to achieve specific conservation objectives" (CBD, 1992).

<sup>3</sup>"A clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values" (Dudley, 2008).

## SUPPLEMENTARY ONLINE MATERIAL

**Supplementary Table 1.** National commitments for terrestrial protected areas.

**Supplementary Table 2.** National commitments for marine protected areas.

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## REFERENCES

- Barnes, M.D., Craigie, I.D., Dudley, N. and Hockings, M. (2016). Understanding local-scale drivers of biodiversity outcomes in terrestrial protected areas. *Annals of the New York Academy of Sciences*. doi: 10.1111/nyas.13154.
- BirdLife International (2014). *Important Bird and Biodiversity Areas: A global network for conserving nature and benefiting people*. Cambridge, UK: BirdLife International.
- BirdLife International (2016). Analysis of protected area coverage of Key Biodiversity Areas using the April 2016 WDPA release for the *Protected Planet Report 2016*.
- Borrini-Feyerabend, G., Dudley, N., Jaeger, T., Lassen, B., Broome, N.P., Phillips, A. and Sandwith, T. (2013). *Governance of Protected Areas: From understanding to action*. Best Practice Protected Area Guidelines Series No. 20, Gland, Switzerland: IUCN.
- Cambridge Conservation Initiative (2016). The role of 'other effective area-based conservation measures' in achieving Aichi Target 11. Project: CCI-06-16-001. Available at: [cambridgeconservation.org/collaboration/role-of-other-effective-area-based-conservation-measures-in-achieving-aichi-target-11](http://cambridgeconservation.org/collaboration/role-of-other-effective-area-based-conservation-measures-in-achieving-aichi-target-11).
- CBD (Convention on Biological Diversity) (1992). *Convention on Biological Diversity. Article 2. Use of Terms*. Available at: [cbd.int/convention/articles/default.shtml?a=cbd-02](http://cbd.int/convention/articles/default.shtml?a=cbd-02).
- CBD (2010a). Decision adopted by the Conference of the Parties to the Convention on Biological Diversity at its tenth meeting. *Decision X/2. Strategic plan for biodiversity 2011–2020*. Available at: [cbd.int/decision/cop/?id=12268](http://cbd.int/decision/cop/?id=12268).
- CBD (2010b). Decision adopted by the Conference of the Parties to the Convention on Biological Diversity at its tenth meeting. *Decision X/31. Protected Areas*. Available at: [cbd.int/decision/cop/default.shtml?id=12297](http://cbd.int/decision/cop/default.shtml?id=12297).
- CBD (2012). Decision adopted by the Conference of the Parties to the Convention on Biological Diversity at its eleventh meeting. *Decision XI/24. Protected Areas*. Available at: [cbd.int/doc/decisions/cop-11/cop-11-dec-24-en.pdf](http://cbd.int/doc/decisions/cop-11/cop-11-dec-24-en.pdf).
- CBD (2016a). Decision adopted by the Conference of the Parties to the Convention on Biological Diversity at its thirteenth meeting. *Decision XIII/2. Progress towards the achievement of Aichi Biodiversity Targets 11 and 12*. Available at: [cbd.int/doc/decisions/cop-13/cop-13-dec-02-en.pdf](http://cbd.int/doc/decisions/cop-13/cop-13-dec-02-en.pdf).
- CBD (2016b). Decision adopted by the Conference of the Parties to the Convention on Biological Diversity at its thirteenth meeting. *Decision XIII/28. Indicators for the Strategic Plan for Biodiversity 2011–2020 and the Aichi Biodiversity Targets*. Available at: [cbd.int/doc/decisions/cop-13/cop-13-dec-28-en.pdf](http://cbd.int/doc/decisions/cop-13/cop-13-dec-28-en.pdf).
- Cimon-Morin, J., Darveau, M. and Poulin, M. (2013). Fostering synergies between ecosystem services and biodiversity in conservation planning: a review. *Biological Conservation*, 166, 144–154. doi: 10.1016/j.biocon.2013.06.023.
- Coad, L., Leverington, F., Knights, K., Geldmann, J., Eassom, A., Kapos, V., Kingston, N., de Lima, M., Zamora, C., Cuadros, I., Nolte, C., Burgess, N. and Hockings M. (2015). Measuring impact of protected area management interventions: current and future use of the Global Database of Protected Area Management Effectiveness. *Philosophical Transactions of the Royal Society B*, 370 (1681). doi: 10.1098/rstb.2014.0281.
- Dinerstein, E., Olson, D., Joshi, A., Vynne, C., Burgess, N.D., Wikramanayake, E., Hahn, N., Palminteri, S., Hedao, P., Noss, R. and Hansen, M. (2017). An ecoregion-based approach to protecting half the terrestrial realm. *BioScience*, bix014, doi: 10.1093/biosci/bix014.
- Dudley, N. (ed.) (2008). *Guidelines for Applying Protected Area Management Categories*. Gland, Switzerland: IUCN.
- Dudley, N., Buyck, C., Furuta, N., Pedrot, C., Renaud, F. and Sudmeier-Rieux, K. (2015). *Protected Areas as Tools for Disaster Risk Reduction. A handbook for practitioners*. Tokyo and Gland, Switzerland: MOEJ and IUCN. doi: 10.2305/IUCN.CH.2015.02.en.
- Ervin, J., Mulongoy, K.J., Lawrence, K., Game, E., Sheppard, D., Bridgewater, P., Bennett, G., Gidda, S.B. and Bos, P. (2010). *Making Protected Areas Relevant: A guide to integrating protected areas into wider landscapes, seascapes and sectoral plans and strategies*. CBD Technical Series No. 44, Montreal, Canada: Secretariat of the Convention on Biological Diversity.
- Franks, P. and Small, R. (2016). *Understanding the social impacts of protected areas: a community perspective*. IIED Research Report. London: IIED.

- Gaüzère, P., Jiguet, F. and Devictor, V. (2016). Can protected areas mitigate the impacts of climate change on bird's species and communities? *Diversity and Distributions*, 22(6), 625–637. doi: 10.1111/ddi.12426.
- GEF (Global Environment Facility) (2015). Impact evaluation of GEF support to protected areas and protected area systems, GEF/ME/C.49/Inf.02. Available at: [thegef.org/](http://thegef.org/).
- Geldmann, J., Coad, L., Barnes, M., Craigie, I.D., Hockings, M., Knights, K., Leverington, F., Cuadros, I.C., Zamora, C., Woodley, S. and Burgess, N.D. (2015). Changes in protected area management effectiveness over time: A global analysis. *Biological Conservation*, 191, 692–699. doi: 10.1016/j.biocon.2015.08.029.
- GEO BON (2015). *Global Biodiversity Change Indicators*. Version 1.2. Leipzig: Group on Earth Observations Biodiversity Observation Network Secretariat.
- Gill, D.A., Mascia, M.B., Ahmadi, G.N., Glew, L., Lester, S.E., Barnes, M., Craigie, I., Darling, E.S., Free, C.M., Geldmann, J. and Holst, S. (2017). Capacity shortfalls hinder the performance of marine protected areas globally. *Nature*, 543(7647), 665–669. doi: 10.1038/nature21708.
- Gross, J.E., Woodley, S., Welling, L.A. and Watson, J.E.M. (eds.) (2016). *Adapting to Climate Change: Guidance for protected area managers and planners*. Best Practice Protected Area Guidelines Series No. 24, Gland, Switzerland: IUCN. doi: 10.2305/IUCN.CH.2017.PAG.24.en.
- IUCN (2016). *A Global Standard for the Identification of Key Biodiversity Areas*, Version 1.0, First Edition. Gland, Switzerland: IUCN.
- IUCN and WCPA (World Commission on Protected Areas) (2016). *IUCN Green List of Protected and Conserved Areas: User Manual*, Version 1.0. Gland, Switzerland: IUCN.
- Janishevski, L., Santamaria, C., Gidda, S.B., Cooper, H.D. and Brancalion, P.H.S. (2015). Ecosystem restoration, protected areas and biodiversity conservation. *Unasylva*, 66(245), 19–28.
- Jonas, H.D., Barbuto, V., Jonas, H.C., Kothari, A. and Nelson, F. (2014). New steps of change: looking beyond protected areas to consider other effective area-based conservation measures. *Parks*, 20(2), 111–128. doi: 10.2305/IUCN.CH.2014.PARKS-20-2.HDJ.en.
- JRC (European Commission Joint Research Centre) and UNEP-WCMC (2016). Global analyses of protected area coverage of marine and terrestrial ecoregions.
- Juffe-Bignoli, D., Burgess, N.D., Bingham, H., Belle, E.M.S., De Lima, M.G., Deguignet, M., Bertzky, B., Milam, A.N., Martinez-Lopez, J., Lewis, E. and Eassom, A. (2014). *Protected Planet Report 2014*. Cambridge, UK: UNEP-WCMC.
- Kothari, A., with Corrigan, C., Jonas, H., Neumann, A. and Shrumm, H. (eds.) (2012). *Recognising and Supporting Territories and Areas Conserved By Indigenous Peoples and Local Communities: Global Overview and National Case Studies*. CBD Technical Series No. 64, Montreal, Canada: Secretariat of the Convention on Biological Diversity, ICCA Consortium, Kalpavriksh, and Natural Justice.
- Manhães, A.P., Mazzochini, G.G., Oliveira-Filho, A.T., Ganade, G., and Carvalho, A.R. (2016). Spatial associations of ecosystem services and biodiversity as a baseline for systematic conservation planning. *Diversity and Distributions*, 22(9), 932–943. doi: 10.1111/ddi.12459.
- Martínez-Harms, M.J. and Balvanera, P. (2012). Methods for mapping ecosystem service supply: a review. *International Journal of Biodiversity Science, Ecosystem Services & Management*, 8(1-2), 17–25. doi: 10.1080/21513732.2012.663792.
- Melillo, J.M., Lu, X., Kicklighter, D.W., Reilly, J.M., Cai, Y. and Sokolov, A.P. (2016). Protected areas' role in climate-change mitigation, *Ambio*, 45(2), 133–145. doi: 10.1007/s13280-015-0693-1.
- O'Brien, T.G., Baillie, J.E.M., Krueger, L. and Cuke, M. (2010). The Wildlife Picture Index: monitoring top trophic levels. *Animal Conservation*, 13, 335–343. doi: 10.1111/j.1469-1795.2010.00357.x.
- Oldekop, J.A., Holmes, G., Harris, W.E. and Evans, K.L. (2015). A global assessment of the social and conservation outcomes of protected areas. *Conservation Biology*, 30(1), 133–141. doi: 10.1111/cobi.12568.
- Olson, D.M., Dinerstein, E., Wikramanayake, E.D., Burgess, N.D., Powell, G.V., Underwood, E.C., D'amico, J.A., Itoua, I., Strand, H.E., Morrison, J.C. and Loucks, C.J. (2001). Terrestrial Ecoregions of the World: A New Map of Life on Earth. *Bioscience*, 51(11), 933–938. doi: 10.1641/0006-3568(2001)051%5B0933:TEOTWA%5D2.0.CO;2.
- Ricketts, T.H., Dinerstein, E., Boucher, T., Brooks, T.M., Butchart, S.H., Hoffmann, M., Lamoreux, J.F., Morrison, J., Parr, M., Pilgrim, J.D. and Rodrigues, A.S. (2005). Pinpointing and preventing imminent extinctions. *Proceedings of the National Academy of Sciences of the United States of America*, 102(51), 18497–18501. doi: 10.1073/pnas.0509060102.
- Santini, L., Saura, S. and Rondinini, C. (2016). Connectivity of the global network of protected areas. *Diversity and Distributions*, 22(2), 199–211. doi: 10.1111/ddi.12390.
- Saura, S., Bastin, L., Battistella, L., Mandrici, A. and Dubois, G. (2017). Protected areas in the world's ecoregions: how well connected are they? *Ecological Indicators*, 76, 144–158. doi: 10.1016/j.ecolind.2016.12.047.
- SCBD (Secretariat of the Convention on Biological Diversity) (2014). *Global Biodiversity Outlook 4*. Montreal, Canada: Secretariat of the Convention on Biological Diversity.
- SCBD (2016a). Contribution of Aichi Biodiversity Target 11 National Priority Actions Identified in Regional Capacity-Building Workshops to Other Aichi Biodiversity Targets, UNEP/CBD/COP/13/INF/20. Available at: [cbd.int/doc/meetings/cop/cop-13/information/cop-13-inf-20-en.pdf](http://cbd.int/doc/meetings/cop/cop-13/information/cop-13-inf-20-en.pdf).
- SCBD (2016b). Contribution of Aichi Biodiversity Target 11 to the Sustainable Development Goals: Potential impacts of national priority actions identified in the regional capacity-building workshops, UNEP/CBD/COP/13/INF/19. Available at: [cbd.int/doc/meetings/cop/cop-13/information/cop-13-inf-19-en.pdf](http://cbd.int/doc/meetings/cop/cop-13/information/cop-13-inf-19-en.pdf).
- Schreckenberg, K., Franks, P., Martin, A., and Lang, B. (2016). Unpacking equity for protected area conservation. *Parks*, 22(2), 11–25. doi: 10.2305/IUCN.CH.2016.PARKS-22-2KS.en.
- Spalding, M.D., Fox, H.E., Allen, G.R., Davidson, N., Ferdaña, Z.A., Finlayson, M.A.X., Halpern, B.S., Jorge, M.A., Lombana, A.L., Lourie, S.A. and Martin, K.D. (2007). Marine Ecoregions of the World: A Bioregionalization of Coastal and Shelf Areas. *Bioscience*, 57(7), 573–583. doi: 10.1641/B570707.
- Spalding, M.D., Agostini, V.N., Rice, J. and Grant, S.M. (2012). Pelagic provinces of the world: a biogeographic classification of the world's surface pelagic waters. *Ocean & Coastal Management*, 60, 19–30. doi: 10.1016/j.ocecoaman.2011.12.016.

- Stolton, S., Redford, K.H. and Dudley, N. (2014). *The Futures of Privately Protected Areas*. Gland, Switzerland: IUCN.
- TEAM (Tropical Ecology, Assessment and Monitoring) Network (2017). About the Wildlife Picture Index (WPI) Analytics System. Available at: [wpi.teamnetwork.org/wpi/about](http://wpi.teamnetwork.org/wpi/about).
- UNEP-WCMC (2017a). Global statistics from the World Database on Protected Areas (WDPA), June 2017. Cambridge, UK: UNEP-WCMC.
- UNEP-WCMC (2017b). *Protected Planet: Global Database on Protected Area Management Effectiveness User Manual 1.0*. Cambridge, UK: UNEP-WCMC. Available at: [wcmc.io/GDPAME\\_User\\_Manual\\_EN](http://wcmc.io/GDPAME_User_Manual_EN).
- UNEP-WCMC and IUCN (2016). *Protected Planet Report 2016*, Cambridge, UK and Gland, Switzerland: UNEP-WCMC and IUCN.
- UNEP-WCMC and IUCN (2017a). Marine Protected Planet [September 2017]. Cambridge, UK: UNEP-WCMC and IUCN. Available at: [protectedplanet.net/marine](http://protectedplanet.net/marine).
- UNEP-WCMC and IUCN (2017b). The World Database on Protected Areas (WDPA) [June 2017]. Cambridge, UK: UNEP-WCMC and IUCN. Available at: [protectedplanet.net](http://protectedplanet.net).
- WCS (Wildlife Conservation Society) (2017). Protecting 3.7 million sq kms through the \$15 million WCS Marine Protected Area Fund, #OceanAction16178. Available at: [oceanconference.un.org/commitments/?id=16178](http://oceanconference.un.org/commitments/?id=16178).
- Wolff, S., Schulp, C.J.E. and Verburg, P.H. (2015). Mapping ecosystem services demand: A review of current research and future perspectives. *Ecological Indicators*, 55, 159-171. doi: 10.1016/j.ecolind.2015.03.016.
- Woodley, S., Bertzky, B., Crawhall, N., Dudley, N., Londoño, J.M., MacKinnon, K., Redford, K. and Sandwith, T. (2012). Meeting Aichi Target 11: what does success look like for protected area systems. *Parks*, 18(1), 23-36. doi: 10.2305/IUCN.CH.2012.PARKS-18-1.SW.en.
- Zafra-Calvo, N., Pascual, U., Brockington, D., Coolsaet, B., Cortes-Vazquez, J.A., Gross-Camp, N., Palomo, I. and Burgess, N.D. (2017). Towards an indicator system to assess equitable management in protected areas. *Biological Conservation*, 211, 134-141. doi.org/10.1016/j.biocon.2017.05.014.

## RESUMEN

### RÉSUMÉ

Ce document passe en revue l'état actuel de l'Objectif 11 du plan stratégique d'Aichi pour la biodiversité au niveau mondial. Bien qu'il subsiste des lacunes dans la couverture des régions écologiques, des zones particulièrement importantes pour la biodiversité et des services écosystémiques, une couverture de 10% des zones côtières et marines relevant de la juridiction nationale a déjà été dépassée. La pleine mise en œuvre des priorités approuvées au niveau nationale ainsi que d'autres engagements, y compris ceux dans le cadre des Stratégies et Plans d'Action Nationaux pour la diversité Biologique, élargiront la couverture de l'océan au-delà des 10% et aboutira à une couverture de plus de 17% des eaux terrestres et intérieures. Ces engagements conduiront également à de forts progrès sur d'autres aspects de l'Objectif. En effet, la bonne prise en compte d'autres mesures efficaces de conservation et de types de gouvernance, notamment dans les aires protégées privées et les territoires et aires conservés par les peuples autochtones et les communautés locales, qui sont actuellement sous-déclarés dans les évaluations mondiales, améliorera les perspectives de réalisation de l'Objectif 11. Cela générera non seulement de multiples avantages sociétaux en apportant des solutions aux plus grands défis mondiaux, mais contribuera également à d'autres objectifs d'Aichi et à des objectifs convenus à l'échelle mondiale. Par conséquent, les efforts concertés de toutes les parties prenantes en vue de faciliter la réalisation des engagements de l'Objectif 11 constituent un investissement judicieux.