

BirdLife Information Paper – August 2019

A site conservation target for the post-2020 global biodiversity framework

BirdLife believes that site-based conservation should be a key component of the new biodiversity framework. A new target for site-based conservation must sit alongside other targets for achieving sustainable production, conserving natural habitats, conserving species, ensuring sustainable delivery of ecosystem services, and tackling the key drivers of biodiversity loss, among others. Site conservation is the most urgent priority for the majority of threatened species.

SUMMARY

Aichi Target 11 is considered by many people to have been the most successful Aichi Target, with the percentage thresholds for area coverage thought by many to have stimulated designation of new and expanded protected areas, resulting in likely achievement of the 17% global coverage of terrestrial areas and 10% global coverage of marine areas by 2020.

However, (1) the proportion of protected area extent covering KBAs has declined; (2) protected areas continue to be established primarily in locations that minimize conflict with agriculturally suitable lands instead of protecting areas of biodiversity importance; (3) ecological representation of protected areas has improved no more than if established at random; (4) recent protected area expansion has failed to target places with high concentrations of threatened vertebrate species; (5) less than half of protected areas are effectively managed; and (6) less than a quarter of protected areas report having adequate resources in terms of staffing and budget.

BirdLife International recommends the following wording for an updated site conservation target:

By 2030, the value of all sites of significance for biodiversity, including key biodiversity areas, is documented, retained, and restored through protected areas and other effective area-based conservation measures covering at least 30% of terrestrial and inland water environments and 30% of marine environments

Proposed indicators for this target include (but are not limited to):

1. Mean percentage of Key Biodiversity Area extent covered by protected areas and OECMs (existing)
2. Proportion of KBAs in favourable condition (new)
3. Number of countries where KBA inventories have been updated with the global KBA Standard (new)

Further explanation and details on the background and proposed new target and indicators are provided in the rest of this paper.

**For more information, contact: Dr Stuart Butchart, Chief Scientist, BirdLife International
+44 (0) 1223 747530, stuart.butchart@birdlife.org**

CONTEXT

The importance of site-based conservation in the post-2020 biodiversity framework

Current Aichi Target 11

The current Aichi Target 11 states: *By 2020, at least 17 per cent of terrestrial and inland water areas 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 landscape and seascape.*

Aichi Target 11 is considered by many people to have been the most successful Aichi Target, with the percentage thresholds for area coverage thought by many to have stimulated designation of new and expanded protected areas. The target also addresses the key aspects of a desirable protected area estate, including locations of importance, ecological representation, connectivity, effectiveness, equitable management etc, and some progress has been achieved towards these elements, too.

Protected area coverage has increased since 2010 from 13% to 15% on land, and from 2% to 7.5% in the marine realm (and 17.3% coverage in national waters), although half of all countries have no significant difference between protected area coverage for 2005-2010 vs 2011-2019 (54.9% and 45.9% of countries for terrestrial and marine coverage respectively). Specific commitments made by particular countries through National Priority Actions, NBSAPS or GEF projects are expected to bring coverage to over 17% of land and 10% of the ocean. There have also been increases since 2010 in coverage of Key Biodiversity Areas (KBAs) and ecoregions. However, (1) the proportion of protected area extent covering KBAs has declined, with only 46% of each KBA covered on average (Visconti et al submitted); (2) protected areas continue to be established primarily in locations that minimize conflict with agriculturally suitable lands instead of protecting areas of biodiversity importance (Venter et al., 2017); (3) ecological representation of the global protected area estate has improved no more than if protected areas were established at random (Kuempel et al., 2016); (4) recent PA expansion has failed to target places with high concentrations of threatened vertebrate species (Venter et al., 2017); (5) less than half of protected areas are effectively managed (Clark et al., 2013); and (6) less than a quarter of protected areas report having adequate resources in terms of staffing and budget (Coad et al., 2019). (See Annex 1 for further details of progress towards the Target). Hence, while there were diverse reasons for these shortcomings, BirdLife believes the target should be strengthened in the post-2020 biodiversity framework in order to improve the chances of future success.

Particular aspects of the current target to consider in any future formation include the following:

- Disproportionate focus on the percentage thresholds for area of land and sea covered by protected areas may have incentivised unintended outcomes, because recently designated protected areas have tended to be established in locations that are unsuitable for agriculture and/or remote, rather than of biodiversity/conservation importance, on both land and sea.
- Most protected areas are inadequately managed or resourced, and do not reduce or prevent any or all of the threats to their biodiversity, but the target gives such areas equal value to those that are well-sited and well-managed.
- 'Ecologically representative' is recommended to be measured as coverage of ecoregions, but ecoregions are too broad to capture variability in species composition and endemism as well as other core elements of biodiversity as defined by the CBD, such as genetic variation and ecological and evolutionary processes.

- Under the Strategic Plan, countries are free to interpret the target at the national level as they wish, but applying a universal percentage across nations is inappropriate in light of the unequal distribution of biodiversity and of area-based conservation needed to protect it. Nearly half of all countries that have specified national protected area commitments have set levels that are insufficient to meet the global target.

Proposed new target for site-based conservation

To increase the focus on the biodiversity benefits that protected and conserved areas are intended to deliver, BirdLife proposes the following text for a new target for site-based conservation (to sit alongside other targets for achieving sustainable production, conserving natural habitats, conserving species, conserving ecosystem services, and tackling the key drivers of loss etc).

By 2030, the value¹ of all sites of significance for biodiversity, including key biodiversity areas, is documented, retained, and restored through protected areas and other effective area-based conservation measures covering at least 30% of terrestrial and inland water environments and 30% of marine environments

A number of features of this proposed target are discussed below:

Biodiversity value means all biodiversity elements (populations, ecosystems, and ecological processes) for which a site has been identified as being of global biodiversity importance, which should be kept in favourable condition. The word ‘biodiversity’ could be inserted before ‘value’ to clarify that this does not refer to other values, but adds repetition.

Sites of significance for biodiversity: this encompasses, in decreasing order of significance for addressing global biodiversity loss: sites of ‘global’ significance (the most important for Parties to conserve), sites of ‘international’ significance (encompassing Regional and Subregional IBAs, which are already included in indicators of protected area coverage of KBAs under Sustainable Development Goal 15), and sites of ‘national or local’ significance (which may be important priorities for individual countries). While a restriction of the target to sites of global significance would direct attention to the first of these, it may achieve less resonance with governments that have fewer such sites.

Key Biodiversity Areas (KBAs) are defined as “sites of significance for the global persistence of biodiversity”, and the [16,000 KBAs identified to date](#) in all countries, and terrestrial, freshwater and marine ecosystems represent the only global network of systematically identified sites of significance for biodiversity, justifying their explicit mention in the target. KBAs encompass [Important Bird and Biodiversity Areas](#), [Alliance for Zero Extinction sites](#), and KBAs identified through [CEPF hotspot ecosystem profiles](#). KBAs have not yet been identified for all taxa and ecosystems, and further application of the [Global Standard for the identification of KBAs](#) may reveal that modifications are necessary to the criteria identify sites of global importance to biodiversity comprehensively. Furthermore, the KBA initiative is still in its early days (albeit building on four decades of IBA identification and protection), and KBAs vary in the degree to which they are recognised and utilised by governments. Hence, ‘sites of significance for biodiversity’ in the wording are not restricted to KBAs, and effective conservation of all sites of documented importance for biodiversity is encouraged, e.g., those Ecologically or Biologically Significant Marine Areas (EBSAs) that have been identified at the site scale, Natura 2000 sites in the EU, natural and mixed World

¹ Note that the content of an apex target or targets, and the inclusion or omission of language on site-based conservation within these, is covered in a separate paper.

Heritage Sites listed under the World Heritage Convention, and Wetlands of International Importance identified under the Ramsar Convention.

Restoration is relevant if the biodiversity value of the site has declined since the time of identification/designation.

Effective management of important sites is required to retain or restore their biodiversity value, but the language is not prescriptive about the specific policies and actions required. Any form of governance or management of sites of significance for biodiversity, including protected areas and Other Effective Area-based Measures (OECMs; such as traditional management systems), is appropriate if it provides clearly defined, desired biodiversity outcomes and ongoing monitoring of biodiversity values. Protected areas are the most prevalent mechanism for delivering potentially effective site-based conservation, but preliminary data suggests that OECMs may also be significant for KBA conservation (Donald et al., 2019). At some important sites, strict protection may be more appropriate than management regimes that allow multiple uses, while at other important sites the converse may be true. For a tiny fraction of sites that are under no threat, neither PAs or OECMs may be necessary, and broader safeguard policies may be sufficient.

Systematic monitoring would by implication be required across all important sites to determine whether the current management regime is effective in retaining or restoring a site's biodiversity value. This would require standardised methods based on a combination of remote sensing (currently available for tracking trends in forest cover only) and systematic in situ monitoring (e.g., IBA/KBA monitoring [currently available for c.2,000 sites], Nature 2000 site status assessments, and potentially, aspects of METT assessments etc).

Spatial connectivity and social equity are desirable characteristics of protected areas and often essential for them to be effective, but the proposed options do not require such context-dependent features to be specified because area-based approaches will generally not be effective, and the target not be met, unless these issues are addressed. The wording focuses on the outcomes rather than the mechanisms.

Ecosystem services are not specified because their conservation is better dealt with in different targets (including the current Aichi Target 5 on preventing loss of natural habitats, Target 14 on maintaining ecosystems that provide services and Target 15 on ecosystems contributing to carbon stocks). This is because areas of importance for most ecosystem services are typically located close to areas of high human population density with low biodiversity importance. A site-based conservation target could produce unintended outcomes if it tries to mix both conservation of biodiversity and protection of ecosystem services. Multiple targets will require protected areas as part of the solution to meet them, but this target focuses on their contribution to biodiversity conservation specifically.

Percentage coverage: A threshold of 30% area coverage for protected and conserved areas is proposed given the momentum behind such a proposal, with several NGOs, including BirdLife, signing on to a call for coverage to increase to 30% by 2030. However while various papers provide evidence that the extent of site-based conservation needs to increase, there is not a strong basis for 30% *per se*. There are no comprehensive, robust and widely accepted estimates of the terrestrial area required for site-based conservation specifically (i.e., through protected and conserved areas). This is partly because the current target doesn't specify the biodiversity outcomes that increasing coverage of protected and conserved areas aims to achieve (so, for example, assumptions have to be made about the proportion of each species' range to be covered), and partly owing to knowledge gaps about where alternative policy responses are more appropriate for areas under no or little

immediate threat (e.g., some wilderness areas). Stronger evidence is available for the marine realm. Relevant studies include:

- Butchart et al. (2015) showed that the terrestrial PA network would need to cover at least 28% of land to meet each country's nationally set target, 17% of each ecoregion, 100% of all KBAs, and species-specific targets for coverage of species' distributions. However, this incorporates the current arbitrary 17% threshold.
- Hanson et al. (in review) showed that conserving all terrestrial birds, mammals and amphibians, accounting for variation in the diversity of environmental conditions across species' ranges (i.e., their environmental niches) would require at least 35% of land.
- The recent Global Deal for Nature paper (Dinerstein et al., 2019) takes 30% global coverage of protected and conserved areas as a desired milestone, and discusses the means to reach this, but does not provide evidence to support the threshold itself.
- O'Leary et al., (2016) found that 30-40% of the ocean (mean 37%, median 35%, modal group 21–30%) needed to be protected to achieve, maximize, or optimize six environmental and/or socioeconomic objectives, including both biodiversity conservation and maximising or optimising fisheries yields.
- Studies that are currently in review indicate that extending existing protected areas to cover all wilderness areas and KBAs as well as to meet coverage targets for thousands of species with mapped ranges would require over 40% of both the terrestrial marine environment. However, this includes both site-scale approaches (protected areas and OECMs: the focus of our proposed new target) and broad-scale policy responses (which are more appropriate for many large areas of wilderness).

Proposed indicatorsⁱ

To measure progress towards these target elements and milestones, we propose that the following **global** indicators be included **alongside other metrics** (including percent of terrestrial/inland water/marine environments covered by protected areas).

1. Mean percentage of KBA extent covered by protected areas and OECMs² [[Existing CBD and SDG indicator](#) reported by BirdLife International, UNEP-WCMC and IUCN]
2. Proportion of KBAs in favourable condition (i.e. in which the species/ecosystem for which the site is significant is in 'favourable status', either measured directly or through proxy metrics) [New indicator; feasible to produce from data from the World Database of KBAs but will require scaled-up KBA monitoring; reported by BirdLife international]
3. Number of countries in which KBA inventories have been updated using the [Global KBA Standard](#) [New indicator to track progress in formally identifying sites of significance for the persistence of biodiversity; feasible to produce from data from the World Database of KBAs; reported by BirdLife international]

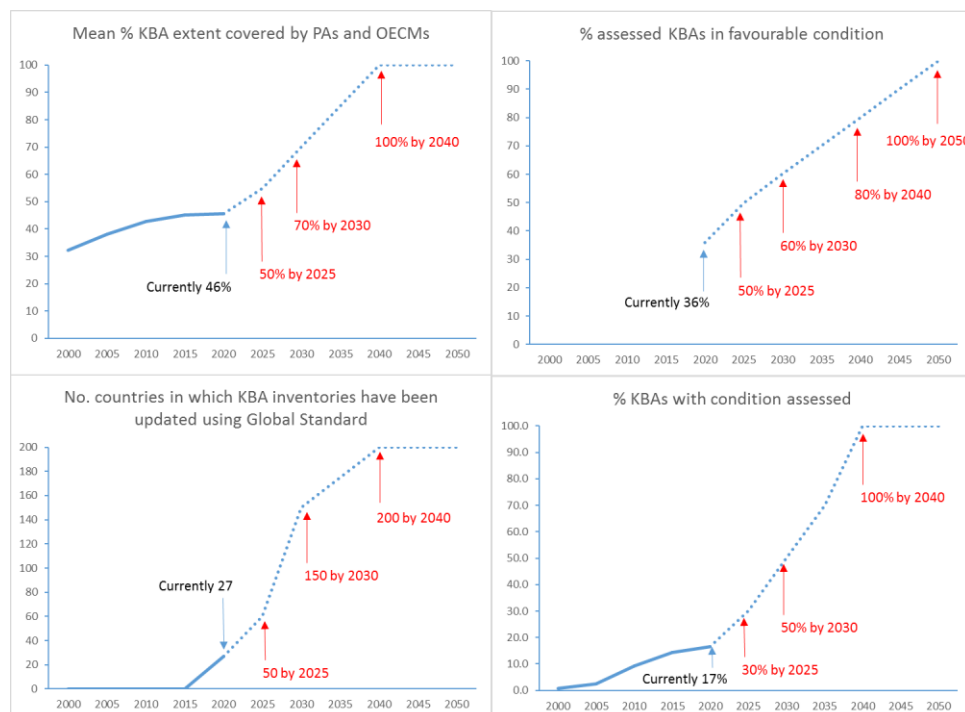
² Systematic data on OECM coverage of KBAs are currently not available, because only one country has submitted any data on OECMs to the WDPA/WCMC. As this dataset expands, it will be possible to incorporate this information into the indicator. It may be necessary to update the proposed milestones as such information becomes available.

Proposed new milestones

To measure progress towards these options for targets, we suggest the following milestones for the proposed indicators (with baseline values indicated in square brackets). **Note that milestones could also be proposed for other non-KBA indicators of course.**

1. Mean % KBA extent covered by protected areas and OECMs¹ exceeds 55% by 2025 and 70% by 2030, reaching 100% by 2040 (currently, 46%, having increased from 32% in 2000 and 43% in 2010)
2. Proportion of assessed KBAs in favourable condition exceeds 50% by 2025, 60% by 2030, 80% by 2040, and reaches 100% by 2050 (currently c.36% of assessed KBAs are in favourable condition out of 2,589 with relevant data)
3. The number of countries in which KBA inventories have been updated using the [Global KBA Standard](#) exceeds 50 by 2025, 150 by 2030 and covers all countries by 2040³ (currently, such exercises are underway in 27 countries)
4. Assessments of the condition of KBAs have been carried out for 30% of KBAs by 2025, 50% by 2030, and 100% by 2040 (currently, baseline assessments for the condition of the species' population for which the site is important, or its habitat as a proxy, scored on a 4-point scale from favourable to near-favourable, unfavourable and very unfavourable status, are available for 17% of KBAs (2,664 KBAs), and a standardised KBA monitoring protocol is under development).

The logic behind these values is that identification of KBAs should be complete by 2040, by when all should have been assessed for their condition and covered by PAs or OECMs, with the effectiveness of these continuing to increase such that 100% of sites are in favourable condition by 2050.



³ Note that updating KBA inventories is a nationally led multi-stakeholder exercise.

Relevant science [publications involving BirdLife are underlined]

Visconti et al (2019) outlined the main shortcomings of the current Target 11 listed above, and proposed option 1 as a new target for site-based conservation.

Butchart et al. (2015) showed that the existing terrestrial protected area network would require nearly doubling to 28% of the terrestrial environment to achieve, cost efficiently, each country's nationally set target for terrestrial coverage (or 17% in countries with no nationally set target), 17% of each ecoregion, 100% of all KBAs, and species-specific targets for coverage of species' distributions. However, this incorporates the arbitrary 17% threshold in the current Target 11, which was the result of a political negotiation rather than having any scientific basis. Poorer countries have the largest relative shortfalls in coverage.

Hanson et al. (in review) considered only one of these aspects: the area of land required to conserve terrestrial birds, mammals and amphibians, but also took account of the need to safeguard variation in the diversity of environmental conditions across species' ranges that affect species' adaptive potential. Combining existing protected areas with priority areas for protected area expansion to represent species' environmental niches would require effectively conserving 35% of land.

Donald et al. (2019) showed that OECMs cover 76% of unprotected KBAs in ten countries with available data.

O'Leary et al (2016) reviewed 144 studies and found that 30-40% of the ocean needed to be protected to achieve, maximize, or optimize six environmental and/or socioeconomic objectives, including both biodiversity conservation and maximising or optimising fisheries yields (mean 37%, median 35%, modal group 21–30%). The objectives were (1) protect biodiversity; (2) ensure population connectivity among MPAs; (3) minimize the risk of fisheries/population collapse and ensure population persistence; (4) mitigate the adverse evolutionary effects of fishing; (5) maximize or optimize fisheries value or yield; and (6) satisfy multiple stakeholders (i.e., studies contain analyses designed to identify the required percentage coverage to minimize trade-offs between stakeholders and maximize value)].

Annex 1

Progress in meeting Aichi Target 11

Element	Positive aspects	Negative aspects
Coverage of terrestrial and marine environments	Protected area coverage increased since 2010 from 13% to 15% on land, and 2% to 7.5% in the marine realm (including 17.3% of national waters) (IPBES 2019). Specific commitments made by particular countries through National Priority Actions, National Biodiversity Strategies and Action Plans or Global Environment Facility projects are expected to bring coverage to over 17% of land and 10% of the ocean by 2020 (IPBES 2019).	The rate of designation and total extent of additional PAs between 2010 and 2014 was half that in the previous 5 years (Venter et al. 2017). Half of all countries have no significant difference between protected area coverage for 2005-2010 vs 2011-2019 (54.9% and 45.9% of countries for terrestrial and marine coverage respectively). A significant majority of national PA networks are biased to higher elevations, steeper slopes and greater distances to roads and cities (Joppa & Pfaff 2009). PAs continue to be established primarily in locations that minimize conflict with agriculturally suitable lands (Venter et al 2017) PA downgrading, downsizing, and degazettement is extensive (0.5 million km ² removed, 1.6 million km ² less protected since 1800s), 62% associated with industrial-scale resource extraction and development (Kroner et al 2019). Lower PA categories are included but may offer little additional biodiversity protection.
PA coverage of Key Biodiversity Areas (KBAs) ('areas of particular importance for biodiversity')	Protected area coverage of KBAs Increased since 2010 from 43% to 46%.	Recent PA expansion has disproportionately targeted areas outside KBAs (Butchart et al. 2012). The proportion of PAs covering KBAs has declined from 20-30% in 2010 to 17-18% in 2019. Only 20% of KBAs (incl 17% of AZEs) are completely covered by PAs while 35% of KBAs (43% of AZEs) have no coverage.
Coverage of ecoregions ('ecologically representative')	43% of the 823 terrestrial ecoregions globally have ≥17% of their area covered by PAs and 47% of the 232 marine ecoregions (and 10.8% of pelagic provinces) have ≥10% of their area covered.	Ecological representation of the global PA estate has improved only slightly since 2010, and no more than if PAs were established at random (Kuempel et al 2016). Over half of terrestrial and marine ecoregions

		globally are still not protected at 17% and 10% levels.
Coverage of species distributions ('ecologically representative')	43% of 25,380 assessed terrestrial, freshwater and species have adequate coverage of their distributions (Butchart et al 2015)	Recent PA expansion has failed to target places with high concentration of threatened vertebrate species: if PA growth during 2004-2014 had strategically targeted unprotected threatened vertebrates, it would have been feasible to protect >30 times more threatened species for the same area or cost as the actual expansion that occurred (Venter et al. 2017). Over 85% of threatened vertebrates have distributions that overlap no PAs: 4% more than a decade earlier (Venter et al 2014). Only 4–9% of terrestrial amphibians, birds, and mammals are sufficiently represented within adequately resourced PAs (Coad et al 2019). 97.4% of marine fish, mammal and invertebrate species have <10% of their ranges covered by strict MPAs
Management effectiveness ('effectively and equitably managed')	21% of countries have assessed management effectiveness for at least 60% of their terrestrial PAs while 15% of countries have done so for marine PAs	In many countries, <50% of all PAs are effectively managed (having the same level of modification as non-protected lands (Clark et al. 2013). <25% of PAs report having adequate resources in terms of staffing and budget (Coad et al 2019). Only 3.6% of the global ocean is covered by fully implemented and actively managed protected areas (Marine Conservation Institute 2017).
Connectivity ('well-connected systems')	About a third of the world's ecoregions and 30.5% of countries currently have 17% of their area covered by well-connected PAs (Saura et al. 2017, 2018, Santini et al. 2016)	Adequately connected protected areas cover only 9.3-11.7% of the terrestrial realm (Saura et al. 2017, 2018, Santini et al. 2016)

ⁱ If KBA monitoring can be scaled up in detail, extent and frequency, two additional potential **medium-term** options for indicators that are more sensitive metrics include:

- Mean distance from the reference value for each biodiversity element (e.g., species or ecosystem) for which each site of biodiversity significance has been identified [measured, for

example, by using population abundance or habitat extent and condition; need to consider the need for these to be dynamic given climate change]

- The proportion of biodiversity elements below reference value [see comments above]

Consideration might also be given to an indicator of restoration of KBAs (area of KBAs restored?, number of sites with restoration activities initiated?), but we do not yet know at what proportion of sites such interventions are needed, and defining restoration is problematic.