

Key Biodiversity Areas

Indicator name Number and protection of Key Biodiversity Areas (KBAs)

Indicator unit

- Number of KBAs in each country.
- Percentage of KBAs completely covered by protected areas (PAs), partially covered by PAs, and with no coverage by PAs in each country and each ecoregion, and average percentage of KBAs covered by PAs in each country and each ecoregion.

Area of interest The indicator is available in DOPA at the country and ecoregion level.

Related targets



[Sustainable Development Goal 14 on life below water](#)



[Sustainable Development Goal 15 on life on land](#)



[Aichi Biodiversity Target 11 on protected areas](#)



[Aichi Biodiversity Target 12 on species](#)

Policy question In which countries are the sites that most contribute to global biodiversity persistence located and how well are these sites covered by protected areas in each country? Safeguarding the Key Biodiversity Areas (KBAs) is vital for halting the decline in biodiversity and for ensuring the long term and sustainable use of terrestrial and marine natural resources. The establishment of protected areas in the locations where these KBAs are found is one of the priority actions to safeguard their conservation values. The KBA-related indicators contribute to measuring progress towards Aichi Target 11 of the [Convention on Biological Diversity](#) (CBD), and are also part of the suite of indicators adopted to assess progress towards Sustainable Development Goal 15 (life on land).

Use and interpretation The Key Biodiversity Areas (KBAs) are sites that contribute significantly to the global persistence of biodiversity in terrestrial, freshwater and marine environments. KBAs are identified according to a set of criteria and thresholds related to taxonomic, ecological and thematic subsets of biodiversity (presence of threatened species or ecosystems, geographically restricted species, ecological integrity, etc.). The identification of a site as a KBA on the basis of these criteria and thresholds is unrelated to its legal or protection status.

It is therefore of interest to know how many KBAs are found in each country and each ecoregion and, particularly, how well protected are they, i.e. if they are fully, partially or not covered at all by protected areas (PAs) in each country. The KBA indicators here provided help to assess the performance of PA systems

in covering these important sites for biodiversity, and to suggest potential regions or countries where the strategic expansion of the PA networks, or other relevant conservation efforts, can more significantly contribute to an improved conservation of global biodiversity, among other potential uses (Dudley *et al.*, 2014).



Figure 1. KBA indicators for an example country as shown in DOPA Explorer, reporting the total number of KBAs in the country, the number of KBAs with different protection levels (full protection, partial protection, no protection) and the average value of the percentage of each KBA that is covered by protected areas in the country.

Key caveats

Areas not identified as KBAs are not necessarily of lesser importance. For some regions, current limitations on capacity and technology may not have yet allowed to compile the quantitative data necessary to assess if the criteria and thresholds for defining a site as KBA are met. In addition, other areas, which do not meet the global criteria and thresholds set for defining global KBAs may be important for other reasons, such as regional or national significance for biodiversity, sites considered to be important at global, regional or national levels for other reasons different from just biodiversity (e.g. maintaining productivity, ecosystem services, aesthetics or cultural heritage), and seascapes or landscapes important for the persistence of biodiversity beyond the site scale (IUCN, 2016).

The KBA criteria have quantitative thresholds to ensure that site identification is transparent, objective and repeatable, but the availability of high-quality data differs significantly between different taxonomic groups and regions, and there is unavoidable uncertainty and potential for some degree of error in the estimates used to define a KBA.

KBAs are sites of importance for the global persistence of biodiversity, but this does not necessarily imply that a specific conservation action, such as protected area designation, is required. Other management systems or other area-based conservation measures different from PAs may have proved effective in conserving these sites, or may be implemented for this purpose. On the other hand, it is often desirable to incorporate other data and criteria into priority setting and decision making, such as conservation cost, opportunity for action, connectivity and importance for conserving evolutionary history. KBAs thus do not necessarily equate to conservation priorities but are one of the valuable information sources for informing systematic conservation planning and priority setting, among other potential uses (Dudley *et al.* 2014; IUCN, 2016).

Indicator status The average percentage of KBAs covered by protected areas is an official [SDG indicator](#) and is also one of the indicators recognized by the CBD mandated [Biodiversity Indicators Partnership](#) (BIP) under [Aichi Target 11](#)

Available data and resources

Data available DOPA Explorer provides the number and protection of KBAs at the country and ecoregion level. The tool makes it possible to visualize the locations of the KBAs but without their exact borders following the conditions of the associated data license.

Data updates Planned annually.

Codes Calculated using standard GIS operations involving vector and raster data.

Methodology

Methodology Sites defined as KBAs meet one or more of 11 criteria, clustered into five categories (threatened biodiversity, geographically restricted biodiversity, ecological integrity, biological processes, irreplaceability) as further described by IUCN (2016). KBAs include Important Bird and Biodiversity Areas (IBAs) identified by BirdLife International using data on birds, Alliance for Zero Extinction (AZE) sites holding the last remaining population of one or more Critically Endangered or Endangered species, and KBAs for a range of vertebrate, invertebrate and plant taxa identified through hotspot ecosystem profiles supported by the Critical Ecosystem Partnership Fund. KBAs are identified by the KBA Partnership, comprising BirdLife International, IUCN, Amphibian Survival Alliance, Conservation International, Critical Ecosystem Partnership Fund, Global Environment Facility, Global Wildlife Conservation, NatureServe, Royal Society for the Protection of Birds, Wildlife Conservation Society, and World Wildlife Fund.

The KBA indicators shown in DOPA Explorer only consider the KBAs that are reported in the World Database of Key Biodiversity Areas with defined polygon geometries (the KBAs that are defined as points are excluded). Both marine and terrestrial KBAs have been considered in the number and protection statistics of KBAs reported in DOPA Explorer.

The total number of KBAs in each country was obtained from the information available in the World Database of Key Biodiversity, while the total number of KBAs in each ecoregion was obtained through GIS spatial intersection of KBAs with ecoregions. Each of the considered KBAs was overlaid with the global protected area (PA) layer to determine its level of protection, i.e. the percentage of the KBA surface that is covered by PAs. The average value of the protection level of each of the KBAs in a country or an ecoregion was then calculated.

Finally, these results allowed reporting the number of KBAs in each country and ecoregion that fell into three different categories based on the protection level: fully protected (at least 98% of the KBA area is covered by PAs), partially

protected (between 2% and 98% of the KBA area is covered by PAs), and not protected (less than 2% of the KBA area is covered by PAs).

These thresholds are used to avoid reporting some protection, or lack of full protection, in the presence of small differences that may arise from differences in the scale or level or detail in the delineation of the boundaries of KBAs and PAs in different source maps, rather than from differences in the actual location of these areas on the ground. Also, we computed the average percentage of KBAs covered by PAs in each country and each ecoregion.

The PA layer used to determine the KBA protection levels was derived from the World Database on Protected Areas (WDPA) and excluded, following current practice, the UNESCO Man and Biosphere Reserves, as many of their buffer areas do not meet the IUCN's protected area definition (UNEP-WCMC & IUCN, 2016). PAs that are proposed (but not yet fully designated or established) and PAs recorded as points without a reported area in the WDPA were also excluded. In addition, all overlaps between different PA records were removed, before overlaying with the KBAs, to avoid double counting.

Input datasets

The method described above uses the following input datasets:

Key Biodiversity Areas

- World Database of Key Biodiversity Areas (September 2022 version), managed by BirdLife International on behalf of the KBA Partnership
 - <http://www.keybiodiversityareas.org>

Protected Areas

- WDPA of February 2023 (UNEP-WCMC & IUCN, 2023).
 - Latest version available from: www.protectedplanet.net

Terrestrial Ecoregions of the World

- TEOW (Olson *et al.*, 2001)
 - Latest version available from: <https://www.worldwildlife.org/publications/terrestrial-ecoregions-of-the-world>

Marine Ecoregions of the World

The marine ecoregions are the Marine Ecoregions Of the World (MEOW) and the Pelagic provinces of the world (PPOW)

- MEOW (Spalding *et al.*, 2007)
 - Latest version available from: <https://www.worldwildlife.org/publications/marine-ecoregions-of-the-world-a-bioregionalization-of-coastal-and-shelf-areas>
- PPOW (Spalding *et al.*, 2012)

- Latest version available from: <http://data.unep-wcmc.org/datasets/38>

References

Dudley, N., Boucher, J.L., Cuttelod, A., Brooks, T.M., and Langhammer, P.F. (Eds). (2014). Applications of Key Biodiversity Areas: end-user consultations. Cambridge, UK and Gland, Switzerland: IUCN. Available at <https://portals.iucn.org/library/node/44911>

IUCN. (2016). A Global Standard for the Identification of Key Biodiversity Areas, Version 1.0. First edition. Gland, Switzerland: IUCN. Available at <https://portals.iucn.org/library/node/46259>

Olson, D. M., *et al.* (2001). Terrestrial ecoregions of the world: A new map of life on Earth. *Bioscience*, 51: 933–938. [https://doi.org/10.1641/0006-3568\(2001\)051\[0933:TEOTWA\]2.0.CO;2](https://doi.org/10.1641/0006-3568(2001)051[0933:TEOTWA]2.0.CO;2)

Spalding, M. D., *et al.* (2007). Marine Ecoregions of the World: A bioregionalization of coastal and shelf seas. *Bioscience*, 57, 573–583. <https://doi.org/10.1641/B570707>

UNEP-WCMC & IUCN. (2016). Protected Planet Report 2016; UNEP-WCMC: Cambridge, UK; IUCN: Gland, Switzerland, 2016. [Protected Planet Report 2016](#)

UNEP-WCMC & IUCN (2023). Protected Planet: The World Database on Protected Areas (WDPA) [On-line], [February/2023], Cambridge, UK: UNEP-WCMC and IUCN. www.protectedplanet.net

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Factsheet last updated

September 28, 2023



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