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# The role of UNESCO biosphere reserves in the implementation of the Convention on Biological Diversity's post-2020 Global Biodiversity Framework

'Intentionally established as territories for combining biodiversity conservation with sustainable economic and social development, UNESCO designated biosphere reserves are relevant sites for the holistic implementation of the Global Biodiversity Framework Targets'

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## Overview

Biosphere reserves can support the implementation of the Convention on Biological Diversity's Global Biodiversity Framework. Firstly, they can significantly contribute to area-based targets, by including biosphere reserve areas with conservation benefits which are not currently accounted for in global biodiversity data accounting. Secondly, biosphere reserves offer countries the possibility to significantly increase their ambition for the implementation of non-area-based targets, through supporting cross-sectoral biodiversity mainstreaming activities. The biosphere reserve management approach has become increasingly relevant to address the interconnected challenges of biodiversity conservation and its sustainable management. Considering the evidence presented in this policy brief, we recommend that:

- Participating countries of UNESCO's Man and the Biosphere (MAB) Programme have the opportunity to build upon the foundations created by biosphere reserves to advance their national commitments on biodiversity and position their network of **biosphere reserves as key instruments** to support the implementation of the post-2020 Global Biodiversity Framework.
- Member States consider UNESCO designated biosphere reserves in the implementation of **area-based targets** through the national recognition of their areal contributions towards Targets 1, 2 and 3.
- Member States implement the Global Biodiversity Framework's **non-area-based targets** by supporting UNESCO designated biosphere reserves in their holistic and cross-sectoral approaches to biodiversity conservation and sustainable use.
- By mobilizing support and resources for national biosphere reserve networks, Member States and other stakeholders accelerate the potential of these networks to the **monitoring and reporting** of Global Biodiversity Framework implementation.

## Introduction

Biosphere reserves are areas of terrestrial, coastal and marine ecosystems or a combination thereof, which are internationally recognized within the framework of UNESCO's MAB Programme. This world network is positioned to be an ideal instrument for the implementation of the Convention on Biological Diversity's new Global Biodiversity Framework, as is set out by the Statutory Framework of the World Network of Biosphere Reserves and the Lima Action Plan for UNESCO's Man and the Biosphere Programme and its World Network of Biosphere Reserves (2016-2025)<sup>1</sup>. By fully integrating biosphere reserves into national biodiversity

The World Network of Biosphere Reserves is made up of 738 sites in 134 countries, including 23 transboundary sites as of 2022. Together, the land area of these sites is 7.9 million km<sup>2</sup>, equivalent to that of Australia, and more than 276 million people live within them. Of these, an estimated 82 % (6.7 million km<sup>2</sup>) are buffer zones and transition areas.

policy and mobilizing support for this network, Member States can use these sites to meet their objectives.

Biosphere reserves have been implementing a holistic, cross-sectoral, and rights-based approach to conservation for decades, to address biodiversity conservation and sustainable social and economic development, supported by monitoring, research and education<sup>1</sup>.

This document presents recommendations on how biosphere reserves can contribute to the Global Biodiversity Framework through:

- **In-situ biodiversity conservation** outside currently designated protected areas, such as through biodiversity-inclusive spatial planning and Other Effective Area-based Conservation Measures (OECMs), which function under a range of governance and management regimes, implemented by a diverse set of actors, including by Indigenous peoples and local communities, the private sector and government agencies.
- Supporting **holistic approaches to biodiversity conservation** beyond area-based measures, through the **mainstreaming of biodiversity conservation and sustainable use** with cross-sectoral and cross-scale approaches, by enhancing sustainable living amongst inhabitants, and supporting sustainability education and research.




## Research findings

Biosphere reserves can contribute to meet area-based 2030 action targets of the post-2020 global biodiversity framework

Biosphere reserves can contribute to area-based targets of the Global Biodiversity Framework, since they are areas under equitable and biodiversity inclusive spatial planning, as well as containing within their territories protected areas and other-effective area-based conservation measures. The Convention on Biological Diversity recognizes '**other effective area-based conservation measures**' (OECMs) as a conservation designation for areas that are achieving effective in-situ conservation of biodiversity with associated ecosystem functions and services and where applicable,

<sup>1</sup> <https://en.unesco.org/mab/strategy>



Criteria for OECMs (CBD/COP/DEC/14/8 Annex III)	Criteria for biosphere reserves (Statutory Framework of the World Network of Biosphere Reserves and Technical guidelines for Biosphere Reserves)	
<b>Criterion A:</b> Area is not currently recognized as a protected area	In most cases, biosphere reserve buffer zones and transition areas are not protected areas.	
<b>Criterion B:</b> Area is governed and managed	Each biosphere reserve is a geographically defined space. Biosphere reserves have legitimate governance authorities.  Biosphere reserves are managed to achieve positive and sustained outcomes for the conservation of biological and biocultural diversity with the participation of relevant stakeholders and rightsholders.	
<b>Criterion C:</b> Achieves sustained and effective contribution to <i>in situ</i> conservation of biodiversity.	Effective Sustained over the long term In situ conservation of biological diversity	

**Table 1** - Comparison of the criteria for Other Effective Area-based conservation measures (OECMs) and the criteria for biosphere reserves. The colour in the right column indicates qualitatively whether biosphere reserves criteria are compatible with OECM criteria (green: compatible; yellow: partially compatible).

cultural, spiritual, socio-economic, and other locally relevant values outside of protected areas. The Parties to the Convention on Biological Diversity adopted the OECM definition at their 14th Conference of Parties in November 2018, because many areas outside recognized protected area networks also result in the effective in-situ conservation of biodiversity, contributing to area-based Global Biodiversity Framework Targets.

Biosphere reserves have potential to increase their contributions to *Target 3* of the Global Biodiversity Framework by meeting the criteria for identifying OECMs set out by the Convention on Biological Diversity (CBD Decision 14/8), as shown through provisions set out in the **Statutory Framework of the World Network of Biosphere Reserves and the Lima Action Plan for UNESCO’s Man and the Biosphere Programme and its World Network of Biosphere Reserves (2016-2025)**<sup>1</sup> (Table 1). The criteria for biosphere reserve selection and evaluation, outlined in the Statutory Framework signed by Member States, are adapted and translated to national regional and local conservation contexts<sup>23</sup>.

Biosphere reserve core areas, which are typically designated protected areas, constitute ca. 18% of the total area worldwide. The remaining **82% of biosphere reserve areas are**

**buffer zones and transition areas.** Where these areas and zones do not overlap with Protected Areas, they can apply for OECM status, as they harbour activities compatible with the **conservation of biological and biocultural diversity**<sup>4</sup>.

Moreover, biosphere reserves could support proposed *Target 1* and *Target 2* as they encourage ecosystem restoration and sustainable economic development through existing socio-culturally and environmentally sustainable practices and as they underpin development through research, monitoring, education, and training.

To be designated, biosphere reserves are required to develop and implement of comprehensive management plans which **facilitate participation** of relevant stakeholders and rightsholders, and promote **monitoring** of indicators for biodiversity, ecosystem services, and sustainable development<sup>3</sup>. Therefore, biosphere reserves contribute to an ecologically representative and well-connected system of areas of particular importance for biodiversity, which are conserved through effective and equitable management practices.

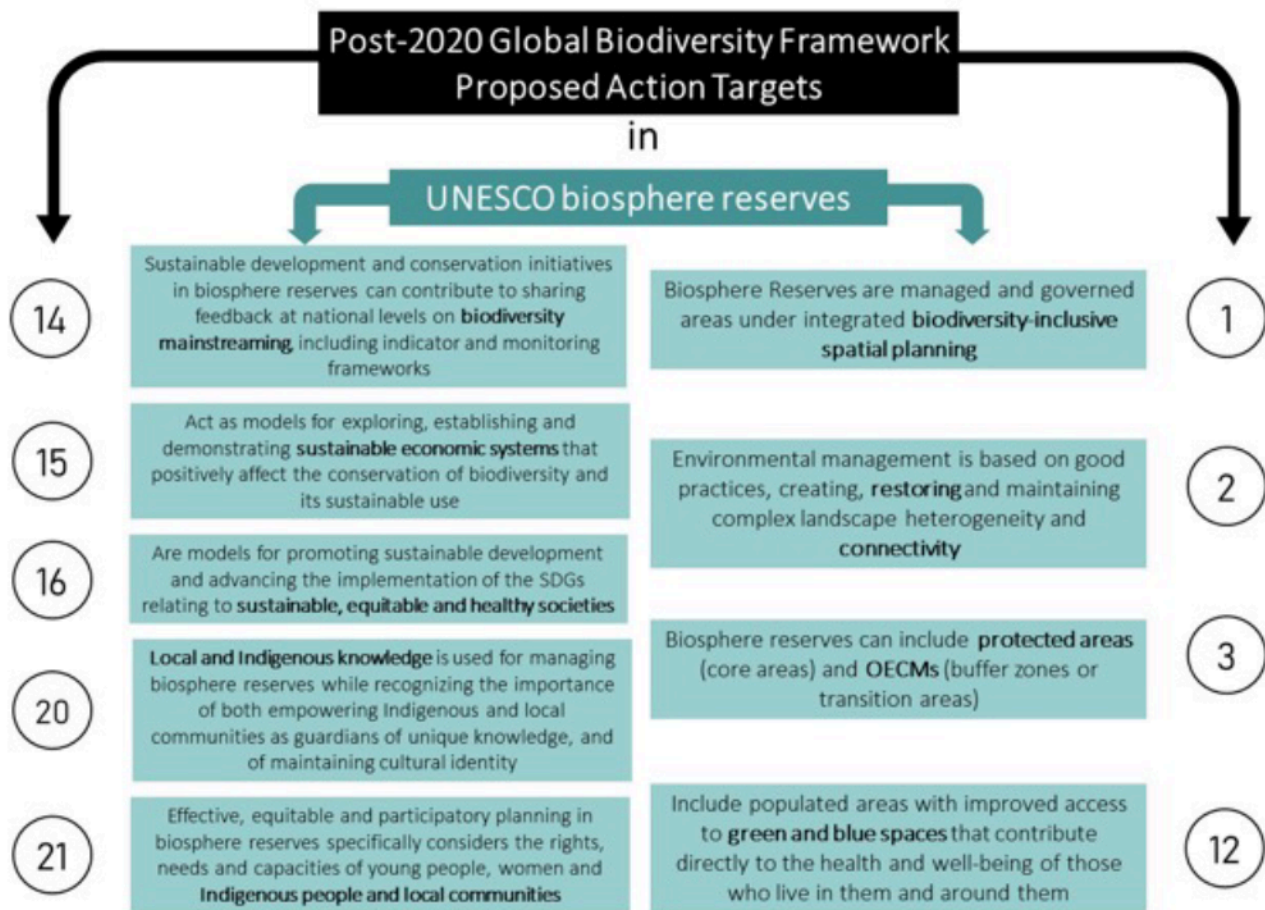
This efficient and equitable implementation within biosphere reserves depends on national and local contexts

2 Pool-Stanvliet et al. 2018 [https://econpapers.repec.org/article/eeelauspo/v\\_3a76\\_3ay\\_3a2018\\_3ai\\_3ac\\_3ap\\_3a654-663.htm](https://econpapers.repec.org/article/eeelauspo/v_3a76_3ay_3a2018_3ai_3ac_3ap_3a654-663.htm)

3 UNESCO 2021, Technical guidelines for Biosphere Reserves <https://unesdoc.unesco.org/ark:/48223/pf0000375692>

4 UNESCO 2017, A New roadmap for the Man and the Biosphere (MAB) Programme and its World Network of Biosphere Reserves <https://unesdoc.unesco.org/ark:/48223/pf0000247418>





**Figure 2** - Illustration of biosphere reserves as sites for the implementation of the Global Biodiversity Framework. In blue are core objectives of biosphere reserves, as defined by the Strategic Objectives of the MAB Strategy (2015-2025) and the Lima Action Plan (2016-2025), matched with the most relevant proposed Targets from the Global Biodiversity Framework (black circles).

and has been variable across and within countries<sup>5</sup>. The MAB International Coordination Council at its 33rd session in September 2021 adopted a decision that biosphere reserves should be considered as a whole entity; it is therefore up to Member States to choose if they wish to apply for the designation of OECMs<sup>6</sup> within their biosphere reserves.

### Biosphere reserves provide holistic measures that help countries implement the mainstreaming of biodiversity beyond area-based targets

The idea of **mainstreaming biodiversity** conservation beyond area-based measures has gained increasing momentum. Firstly, researchers have shown that much more than 30% of the world's area will need to contribute to

the conservation of biological diversity if we are to bend the curve of biodiversity loss<sup>7</sup>. Thus, both conservation and sustainable use of biodiversity are both required to **enhance biodiversity in the landscapes we inhabit**<sup>8</sup>. Secondly, cross-scale and cross-sectoral projects are required to enhance the **cooperation of all relevant actors** across institutions and jurisdictions. Implementing the global Action Targets under the Post-2020 Global Biodiversity Framework will need action beyond the boundaries of Protected Areas, enlisting the assistance of actors beyond 'environmental' authorities<sup>9</sup>, for example, through integrated and biodiversity-inclusive landscape-level spatial planning.

**Biosphere reserves** have been implementing this holistic vision since the 1970s, and implementing this model has the capacity to support the **transformation of key**

5 See the Process of Excellence in the Final report of the 33rd session of the MAB International Coordinating Council

6 Final report of the 33rd session of the MAB International Coordinating Council [https://en.unesco.org/sites/default/files/sc-21\\_conf233\\_15-mab\\_icc\\_report\\_eng\\_0.pdf](https://en.unesco.org/sites/default/files/sc-21_conf233_15-mab_icc_report_eng_0.pdf)

7 Ellis 2019. <https://doi.org/10.1016/j.oneear.2019.10.009>

8 Kremen and Merenlender 2018 <https://doi.org/10.1126/science.aau6020>

9 CBD/WG2020/REC/4/1 (26 June 2022)



**sectors** and facilitate sustainability change<sup>10</sup>. Biosphere reserves have been identified as hubs to **accelerate Agenda 2030** and **Sustainable Development Goals implementation**<sup>11</sup>.

A major strength of biosphere reserves is that they have been shown to help establish cooperation platforms that connect actors across scales and interests<sup>12</sup>, and thus offer opportunities for the cross-sectoral cooperation required to respond to the grand challenges of biodiversity loss and climate change at local and regional levels<sup>8</sup>.

Biosphere reserves have valuable experiences in establishing **participatory approaches to governance and management** with stakeholders and rightsholders, and as such they are mentioned in the Summary for policymakers of the IPBES assessment of the Sustainable Use of Wild

### Canada invests in biodiversity conservation in biosphere reserve buffer zones

The Ministry of Environment and Climate Change and Parks Canada announced in 2022 that the Government of Canada will invest USD 11.3 million over three years under a project working with Canada's 19 Canadian biosphere reserves. During this period, partners will work together to restore, maintain, and enhance biodiversity conservation in biosphere reserve's buffer zones across Canada. This will help further conservation work, supporting biodiversity research, documentation, and land management practices, stakeholder engagement and awareness. Through this project, the Canadian government hopes to achieve positive biodiversity outcomes in biosphere reserves' buffer zones equal to those of a protected area, and if they are successfully recognized as Other effective area-based conservation measures (OECMs), they could be counted towards Canada national's conservation goals. Investing in biosphere reserves is an example of mobilizing communities to address both the biodiversity and climate crises, support sustainable economic development, and foster healthy relationships with nature.

10 Reed and Price, 2019. UNESCO Biosphere Reserves: Supporting Biocultural Diversity, Sustainability and Society. Routledge, London.

11 Canadian Commission for UNESCO & United Kingdom National Commission for UNESCO, 2022. <https://unesdoc.unesco.org/ark:/48223/pf0000383176.locale=en>

12 Reed and Abernethy 2018 [https://doi.org/10.1007/978-981-13-2327-0\\_10](https://doi.org/10.1007/978-981-13-2327-0_10)

13 IPBES 2022 <https://ipbes.net/sustainable-use-assessment>

14 Schultz et al. 2011 <https://doi.org/10.1016/j.worlddev.2010.09.014>

Species as collaborative governance arrangements that engage key actors in a way that is meaningful for them<sup>13</sup>. With their special focus on the conservation of **biocultural diversity**, which is recognized by the UNESCO-SCBD Joint Programme on Biological and Cultural Diversity (2014), biosphere reserves acknowledge the importance of conserving cultural and biological diversity in tandem, and that local and Indigenous communities are central to implementing biodiversity conservation objectives.

Biosphere reserves also encourage **monitoring, research and education** for sustainable development and biodiversity conservation. Envisioned as 'learning spaces', they constitute ideal places to develop adaptive monitoring frameworks which are co-produced and integrate multiple forms of knowledge, from scientific understanding to Indigenous and local knowledge. This is an essential step in the implementation of the Global Biodiversity Framework, helping develop nationally transferrable but locally sensitive **monitoring, reporting, and stocktaking** for the fulfilment of national targets. Thus, biosphere reserves are ideal sites for implementing adaptive, responsive, and evidence-based approaches to biodiversity conservation<sup>14</sup>, which will allow countries to effectively respond to the biodiversity crisis by learning from their implementation challenges and successes.





## Recommendations and ways forward

Intentionally established as sites for combining biodiversity conservation with sustainable economic and social development, UNESCO designated biosphere reserves are ideal sites for the implementation of the Global Biodiversity Framework targets. Biosphere reserves have been at the forefront of implementing biodiversity conservation *with* people and have decades of collective experience in promoting holistic and cross-sectoral approaches to the conservation of biological and biocultural diversity. We provide a series of recommendations to maximize the potential of biosphere reserves as key sites for the implementation of the Global Biodiversity Framework:

- To establish national level procedures for the accounting of biosphere reserves towards the **area-based targets** of the Global Biodiversity Framework. These procedures should consider biosphere reserves as whole entities, evaluating the contribution of core areas, buffer zones, and transition areas overall and their unique area-based contributions to each of the Global Biodiversity Framework area-based targets. These procedures should provide support for either case-by-case or nationwide assessments as best suited to each site and national biosphere reserve network.
- To create regional, national, and local level programmes to support **intersectoral strategies for biodiversity conservation in biosphere reserves**. These should include support for **biosphere reserves' biodiversity mainstreaming activities**, cross-sectoral and collaborative approaches to landscape and sea-scape management, with multi-stakeholder and rightsholder participation.
- To strengthen national level **biosphere reserve research, monitoring and reporting** infrastructures, supporting biosphere reserve capacity to track biodiversity benefits and Global Biodiversity Framework target implementation. Support the development of biosphere reserve monitoring and reporting programs that connect diverse knowledge systems and locally relevant indicators, and inform the development of national Targets and monitoring frameworks.
- To support **knowledge and experience exchange networks** in and between biosphere reserves at regional, national, and local levels, particularly centred on the implementation of the Global Biodiversity Framework in biosphere reserves.







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