Convention on Biological Diversity

UNDP

Aichi Biodiversity Target 11 Country Dossier: BANGLADESH

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GLOSSARY

AZEs	Alliance for Zero Extinction sites
CEPF	Critical Ecosystem Partnership Fund
EBSA	Ecologically or Biologically Significant Marine Area
EEZ	Exclusive Economic Zone
GCF	Green Climate Fund
GD-PAME	Global Database on Protected Area Management Effectiveness
GEF	Global Environment Facility
IBA	Important Bird and Biodiversity Area
ICCAs	Indigenous and Community Conserved Area Area (may also be referred to as territories and areas conserved by Indigenous peoples and local communities or "territories of life")
IPLC	Indigenous Peoples and Local Communities
KBA	Key Biodiversity Area
MEOW	Marine Ecosystems of the World
MPA	Marine Protected Area
NBSAP	National Biodiversity Strategy and Action Plan
OECM	Other Effective Area-Based Conservation Measures
PA	Protected Area
PAME	Protected Area Management Effectiveness
PPA	Privately Protected Area
PPOW	Pelagic Provinces of the World
ProtConn	Protected Connected land indicator
SOC	Soil Organic Carbon
TEOW	Terrestrial Ecosystems of the World
WDPA	World Database on Protected Areas
WD-OECM	World Database on Other Effective Area-Based Conservation Measures

Disclaimer

The designations employed and the presentation of material in this dossier do not imply the expression of any opinion whatsoever on the part of the Secretariat of the Convention on Biological Diversity (SCBD) or United Nations Development Programme (UNDP) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. The information contained in this publication do not necessarily represent those of the SCBD or UNDP.

This country dossier is compiled by the UNDP and SCBD from publicly available information. It is prepared, within the overall work of the Global Partnership on Aichi Biodiversity Target 11, for the purpose of attracting the attention of the Party concerned and other national stakeholders to facilitate the verification, correcting, and updating of country data. The statistics might differ from those reported officially by the country due to differences in methodologies and datasets used to assess protected area coverage and differences in the base maps used to measure terrestrial and marine area of a country or territory. Furthermore, the suggestions from the UNDP and SCBD are based on analyses of global datasets, which may not necessarily be representative of national policy or criteria used at the national level. The analyses are also subject to the limits inherent in global indicators (precision, reliability, underlying assumptions, etc.). Therefore, they provide useful information but cannot replace analyses at a national level nor constitute a future benchmark for national policy or decision-making.

The preparation of this dossier was generously supported by: the Government of the Federal Republic of Germany, *Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GMbH*; the European Commission; the Government of the United Kingdom of Great Britain and Northern Ireland; and the Government of Japan (Japan Biodiversity Fund). The dossier does not necessarily reflect their views.

EXECUTIVE SUMMARY

This document provides information on the coverage of protected areas (PAs) and other effective area-based conservation measures (OECMs), as currently reported in global databases (the World Database on Protected Areas (WDPA) and World Database on Other Effective Area-Based Conservation Measures (WD-OECM)). It also includes details on the status of the other qualifying elements of Aichi Biodiversity Target 11 based on this data. These statistics might differ from those reported officially by countries due to difference in methodologies and datasets used to assess protected area coverage, differences in the base maps used to measure terrestrial and marine area of a country or territory, or if global datasets differ from the criteria and indicators used at the national level. This dossier also provides a summary of commitments made under Aichi Biodiversity Target 11, and a summary of potential opportunities regarding elements of the target for future planning.

The dossier has been developed in consultation with the UN Environment Programme World Conservation Monitoring Centre (UNEP-WCMC), which manages the WDPA, WD-OECM and Global Database on Protected Area Management Effectiveness (GD-PAME).

Parties to the CBD are requested to contact protectedareas@unep-wcmc.org with any updates to the information in these databases.

Aichi Biodiversity Target 11 Elements: Current status and opportunities for action

Coverage - Terrestrial & Marine

- **Status:** as of May 2021 (per the WDPA), terrestrial coverage in Bangladesh is 6,455.7 km^2 (4.6%) and marine coverage is 4,530.0 km^2 (5.4%); national reporting in Bangladesh indicates that as of December 2021, terrestrial coverage has increased to 8,038.7 km^2 (5.44 %) and marine coverage has increased to 7,367 km^2 (6.2%).

- **Opportunities for action:** opportunities for the near-term include updating the WDPA with unreported PAs, and the recognizing and reporting OECMs to the WD-OECM. In the future, focus on relatively intact areas, while addressing the elements in the following sections, could be considered when planning new PAs or OECMs.

Ecological Representativeness– Terrestrial & Marine

- **Status:** Bangladesh contains 9 terrestrial ecoregions, 1 marine ecoregion, and 1 pelagic province: the mean coverage by reported PAs and OECMs (per the May 2021 WDPA) is 4.5% (terrestrial), 6.3% (marine), and 0.1% (pelagic); 5 terrestrial ecoregions have no coverage from reported PAs and OECMs. Coverage will be higher, as of December 2021, due to the increase in PA coverage.

- **Opportunities for action:** there is opportunity for Bangladesh to increase protection in terrestrial and marine ecoregions and pelagic provinces that have

lower levels of coverage by PAs or OECMs. Ecoregions which currently have no coverage by PAs or OECMs are key areas for action.

Areas Important for Biodiversity

- **Status:** Bangladesh has 20 Key Biodiversity Areas (KBAs): the mean protected coverage of KBAs by reported PAs and OECMs is 45.6%, while 9 KBAs have no coverage by reported PAs and OECMs.

- **Opportunities for action:** there is opportunity for Bangladesh to increase protection of KBAs that have lower levels of coverage by PAs and OECMs; priority could be given to those with no current coverage.

Areas Important for Ecosystem Services

- **Status:** coverage of areas important for ecosystem services: In Bangladesh, 11.8% of aboveground biomass carbon, 11.7% of belowground biomass carbon, 4.1% of soil organic carbon, 4.1% of carbon stored in marine sediments is covered by PAs and OECMs.

- **Opportunities for action:** for carbon, there is opportunity for Bangladesh to increase PA and OECM coverage in both marine and terrestrial areas with high carbon stocks. Protecting areas with high carbon stocks secures the benefits of carbon sequestration in the area.

- For water, there is opportunity to increase the area of the water catchment under protection by PAs and OECMs, or in cases where there is high levels of protection, focus on effective management for these areas. Protecting the current area of forested land and potentially reforesting would have benefits for improving water security.

Connectivity and Integration

- **Status:** coverage of protected-connected lands is 2.8%.

- **Opportunities for action:** there is opportunity for a general increase of PAs or OECMs and to focus on PA and OECM management for enhancing and maintaining connectivity. Improving connectivity increases the effectiveness of PAs and OECMs and reduces the impacts of fragmentation.

- As well, a range of suggested steps for enhancing and supporting integration are included in the voluntary guidance on the integration of PAs and OECMs into the wider land- and seascapes and mainstreaming across sectors to contribute, inter alia, to the SDGs (Annex I of COP Decision 14/8).

Governance Diversity

- **Status:** the most common governance type for reported PAs in Bangladesh is: 41.2% under Government (Federal or national ministry or agency).

- **Opportunities for action:** explore opportunities for governance types that have lower representation, for Bangladesh this could relate to governance by Indigenous

Peoples and/or local communities (IPLC), etc. Increase efforts to identify the governance types for the designated sites that do not have their governance type reported.

- There is also opportunity for Bangladesh to complete governance and equity assessments, to establish baselines and identify relevant actions for improvement. As well, a range of suggested actions are included in the voluntary guidance on effective governance models for management of protected areas, including equity (Annex II of COP Decision 14/8).

Protected Area Management Effectiveness

- **Status:** Bangladesh's December 2021 update indicates that 59.66% of terrestrial PAs and 0% of marine PAs have completed Protected Area Management Effectiveness (PAME) assessments; however, these have not yet been reported in the GD-PAME.

- **Opportunities for action:** the 60% target for completed management effectiveness assessments (per COP Decision X/31) **has not** been met for terrestrial PAs and **has not** been met for marine PAs. Therefore, there is opportunity to increase protected area management effectiveness (PAME) evaluations and reporting for both terrestrial and marine PAs to achieve the target.

- There is also opportunity to implement the results of completed PAME evaluations, to improve the quality of management for existing PAs and OECMs (e.g. through adaptive management and information sharing, increasing the number of sites reporting 'sound management') and to increase reporting of biodiversity outcomes in PAs and OECMs.

INTRODUCTION

The Strategic Plan for Biodiversity 2011-2020 was adopted at the tenth meeting of the Conference of the Parties (COP) to the Convention on Biological Diversity (CBD) held in Nagoya, Aichi Prefecture, Japan from 18-29 October 2010. The vision of the Strategic Plan is one of "Living in harmony with nature" where *"By 2050, biodiversity is valued, conserved, restored and wisely used, maintaining ecosystem services, sustaining a healthy planet and delivering benefits essential for all people"* (CBD, 2010). In addition to this vision, the Strategic Plan is composed of 20 targets, under five strategic goals. Aichi Biodiversity Target 11 states that *"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."*

With the conclusion of the Aichi Biodiversity Targets in 2020, Target 11 on area-based conservation has seen success in the expansion of the global network of protected areas (PA) and other effective area-based conservation measures (OECMs). The negotiation of the post-2020 Global Biodiversity Framework (GBF) and its future targets provide an essential opportunity to further improve the coverage of PAs and OECMs, to improve other aspects of area-based conservation, to accelerate progress on biodiversity conservation more broadly, while also addressing climate change, and the Sustainable Development Goals. This next set of global biodiversity targets are to be adopted at the fifteenth meeting of the Conference of the Parties to the Convention on Biological Diversity. These new targets must aim to build upon lessons learned from the last decade of progress to deliver transformative change for the benefit of nature and people, to realize the 2050 Vision for biodiversity.

The United Nations Development Programme (UNDP) and the Secretariat of the Convention on Biological Diversity have developed the Aichi Biodiversity Target 11 Country Dossiers, which provide countries with an overview of the status of Target 11 elements, opportunities for action, and a summary of commitments made by Parties over the last decade. Each dossier can support countries in assessing their progress on key elements of Aichi Biodiversity Target 11 and identifying opportunities to prioritize new protected areas and OECMs.

This dossier provides an overview of area-based conservation in Bangladesh. Section I of the dossier presents data on the current status of Bangladesh's PAs and OECMs. The data presented in Section I relates to each element of Target 11. Section I also presents the PA and OECM coverage for two critical ecosystem services: water security and carbon stocks. In addition, the dossier presents potential opportunities for action for Bangladesh, in relation to each Target 11 element. The analyses present options for improving Bangladesh's area-based conservation network to achieve enhanced protection and benefits for livelihoods and climate change. Section II presents details on Bangladesh's existing PA and OECM commitments as a summary of existing efforts towards achieving Target 11. This gives focus not only to national policy and actions but also voluntary

commitments to the UN. Furthermore, where data is available, this dossier provides information on potential OECMs, Indigenous and Community Conserved Areas (ICCAs; also, often referred to as territories and areas conserved by Indigenous peoples and local communities or "territories of life") and Privately Protected Areas (PPAs) and the potential contribution they will have in achieving the post-2020 targets.

The information on PAs and OECMs presented here is derived from the World Database on Protected Areas (WDPA) and World Database on Other Effective Area-Based Conservation Measures (WD-OECM). These databases are joint products of UNEP and IUCN, managed by UNEP-WCMC, and can be viewed and downloaded at www.protectedplanet.net. Parties are encouraged to provide data on their PAs and OECMs to UNEP-WCMC for incorporation into the databases (see e.g., Decisions 10/31 and 14/8). The significant efforts of Parties in updating their data in the build up to the publication of the Protected Planet Report 2020 (UNEP-WCMC and IUCN, 2021) were greatly appreciated. UNEP-WCMC welcomes further updates, following the data standards described here (www.wcmc.io/WDPA_Manual), and these should be directed to protectedareas@unep-wcmc.org. The statistics presented in this dossier are derived from the May 2021 WDPA and WD-OECM releases, unless explicitly stated otherwise. Readers should consult www.protectedplanet.net for the latest coverage statistics (updated monthly).

Some data from the WDPA and WD-OECM are not made publicly available at the request of the data-provider. This affects some statistics, maps, and figures presented in this dossier. Statistics provided by UNEP-WCMC (terrestrial and marine coverage) are based upon the full dataset, including restricted data. All other statistics, maps, and figures are based upon the subset of the data that is publicly available.

Where data is less readily available, such as for potential OECMs, ICCAs and PPAs, data has also been compiled from published reports and scientific literature to provide greater awareness of these less commonly recorded aspects. These data are provided to highlight the need for comprehensive reporting on these areas to the WDPA and/or WD-OECM. Parties are invited to work with indigenous peoples, local communities and private actors to submit data under the governance of these actors, with their consent, to the WDPA and/or WD-OECM.

Overall, PAs and OECMs are essential instruments for biodiversity conservation and to sustain essential ecosystem services that support human well-being and sustainable development, including food, medicine, and water security, as well as climate change mitigation and adaptation and disaster risk reduction. The data in this dossier, therefore, aims to celebrate the current contributions of PAs and OECMs, whilst the gaps presented hope to encourage greater progress, not just for the benefit of biodiversity and the post-2020 GBF, but also to recognize the essential role of PAs and OECMs to the Sustainable Development Goals and for addressing the climate crisis.

SECTION I: CURRENT STATUS

Aichi Biodiversity Target 11 refers to both protected areas (PAs) and other effective area-based conservation measures (OECMs). This section provides the current status for all elements of Aichi Biodiversity Target 11 where indicators with global data are available. Statistics for all elements are presented using data on both PAs and OECMs (where this data is available and reported in global databases like the WDPA and WD-OECM). It is recognized that statistics reported in the WPDA and WD-OECM might differ from those reported officially by countries due to differences in methodologies and datasets used to assess protected area coverage and differences in the base maps used to measure terrestrial and marine area of a country or territory. Details on UNEP-WCMC's methods for calculating PA and OECM coverage area available here. The global indicators adopted here for presenting the status of other elements of Target 11 may also differ from those in use nationally.

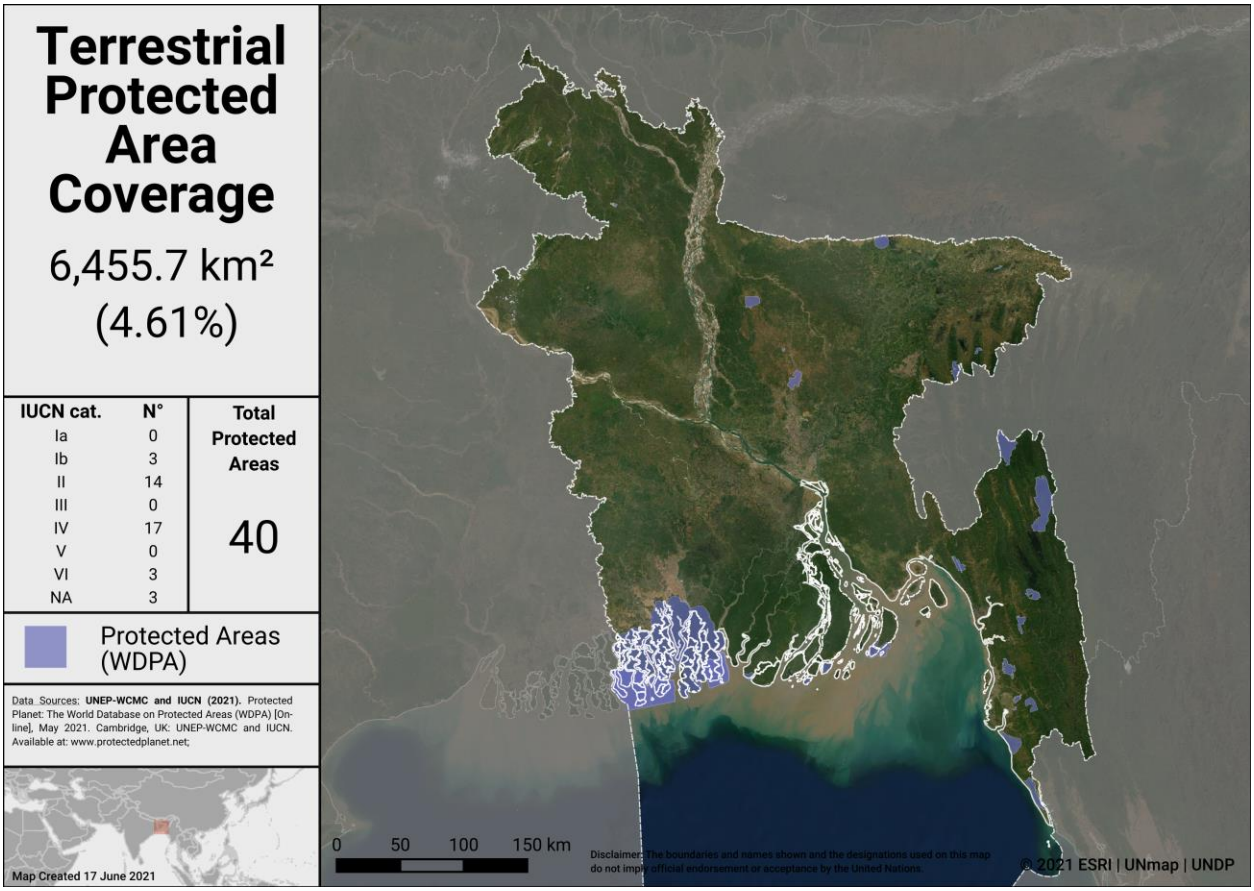
COVERAGE - TERRESTRIAL & MARINE

As of May 2021, Bangladesh had 51 protected areas reported in the World Database on Protected Areas (WDPA). 9 proposed PAs are not included in the following statistics (see details on UNWP-WCMC's methods for calculating PA and OECM coverage **here**). As of December 2021, Bangladesh's national reporting indicates that there are now **66** protected areas in the country (see list in Annex I) [these additional sites are not yet reflected in the WDPA].

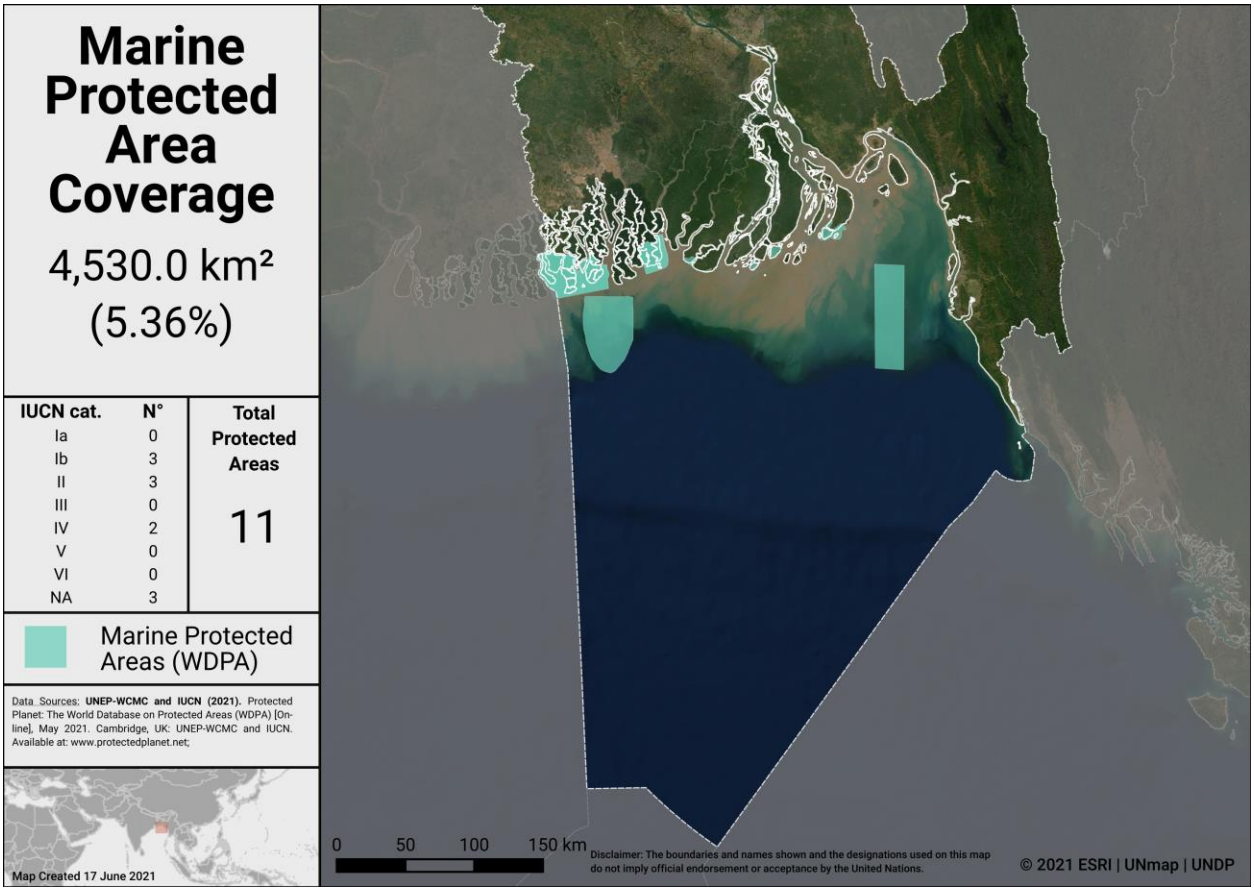
As of May 2021, Bangladesh has **0** OECMs reported in the world database on OECMs (WD-OECM).

Current coverage for Bangladesh (as of May 2021 WDPA):

- 4.6% terrestrial (40 protected areas, 6,455.7 km^2)
  - By December 2021, Bangladesh's national reporting indicates that there are now **62** terrestrial protected areas covering **8,038.68935 km^2** (or **5.44%** of terrestrial area of the country)
- 5.4% marine (11 protected areas, 4,530.0 km^2)
  - By December 2021, Bangladesh's national reporting indicates that there are now **4** marine protected areas covering **7,367.0 km^2** (or **6.2%** of the marine area of the country)



Terrestrial Protected Areas in Bangladesh (per the May 2021 WDPA). Actual coverage is now 5.44% (from 62 terrestrial PAs).



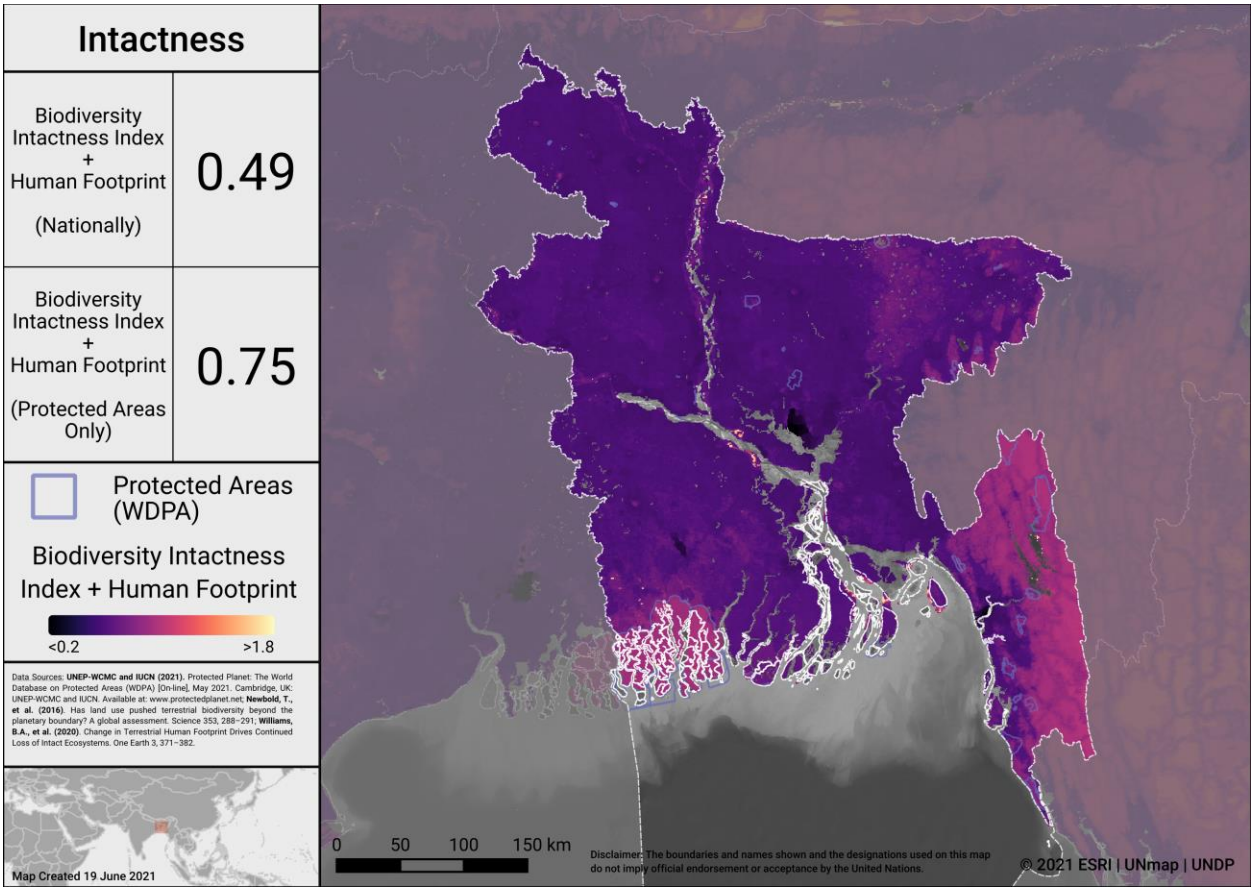
Marine Protected Areas in Bangladesh (per the May 2021 WDPA). Actual coverage is now 6.2% (from 4 marine PAs).

Potential OECMs

Potential OECMs in Bangladesh include: Village common forest of Chattagram Hill Tracts and near shore areas in between Swatch of no Ground MPA and Nijhum Deep MR (Proposed blue belt OECMs).

Opportunities for action

Opportunities for the near-term include updating the WDPA with unreported PAs, and the recognizing and reporting OECMs to the WD-OECM. In the future, as Bangladesh considers where to add new PAs and OECMs, the map below identifies areas in Bangladesh where intact terrestrial areas are not currently protected. Focus on relatively intact areas, while addressing the elements in the following sections, could be considered when planning new PAs or OECMs.



Intactness in Bangladesh

To explore more on intactness visit the UN Biodiversity Lab: map.unbiodiversitylab.org.

ECOLOGICAL REPRESENTATIVENESS – TERRESTRIAL & MARINE

Ecological representativeness is assessed based on the PAs and OECMs coverage of broad-scale biogeographic units. Globally, ecoregions have been described for terrestrial areas (Dinerstein et al, 2017), marine coastal and shelf ecosystems (to a depth of 200m; Spalding et al 2007) and surface pelagic waters (Spalding et al 2012).

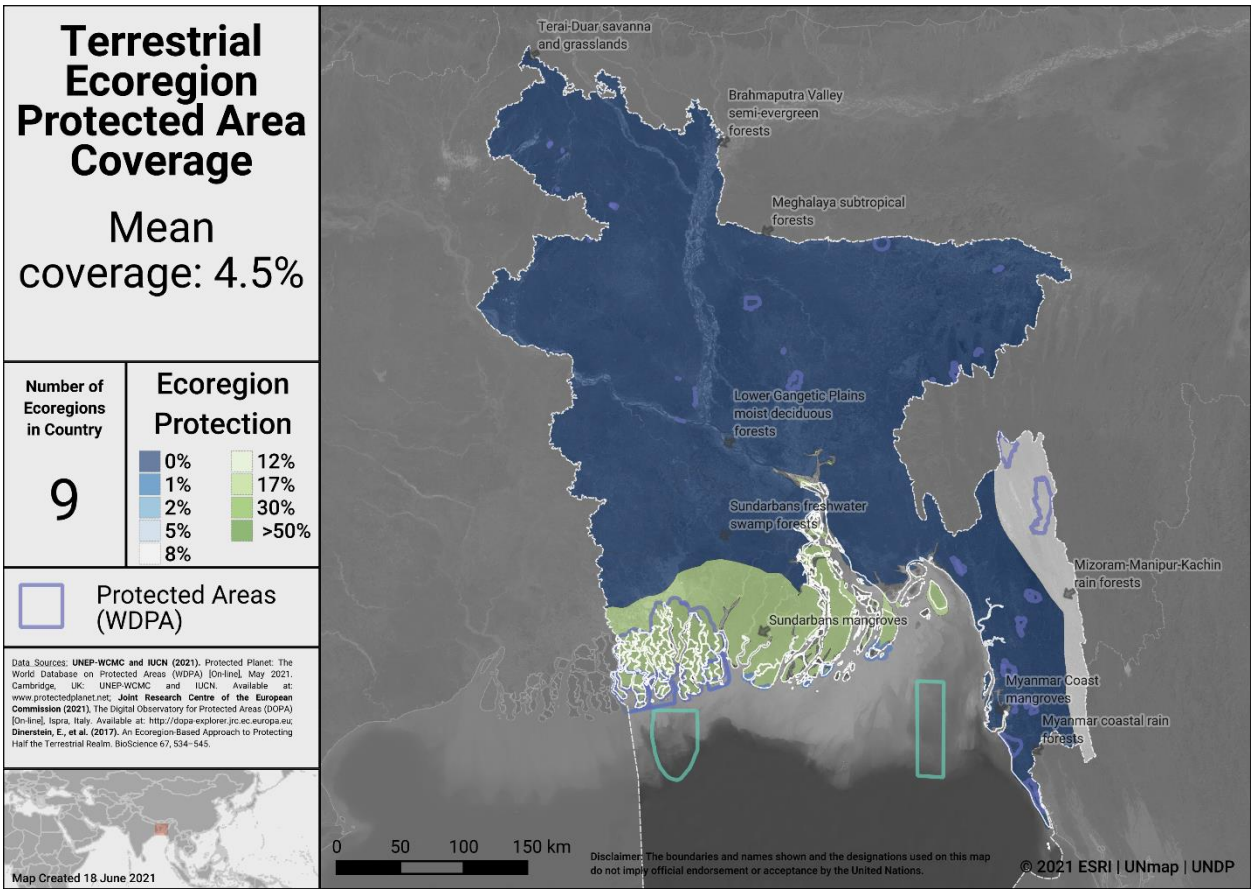
Bangladesh has 9 **terrestrial** ecoregions. Out of these (based on the May 2021 WDPA):

- 4 ecoregions have at least some coverage from PAs and OECMs.
- 1 ecoregion has at least 17% protected within the country.
- The average terrestrial coverage of ecoregions is 4.5%.
- *As terrestrial coverage has increased from 4.6% (in the May 2021 WDPA) to 5.44% as of December 2021, the coverage of terrestrial ecoregions will be higher.*

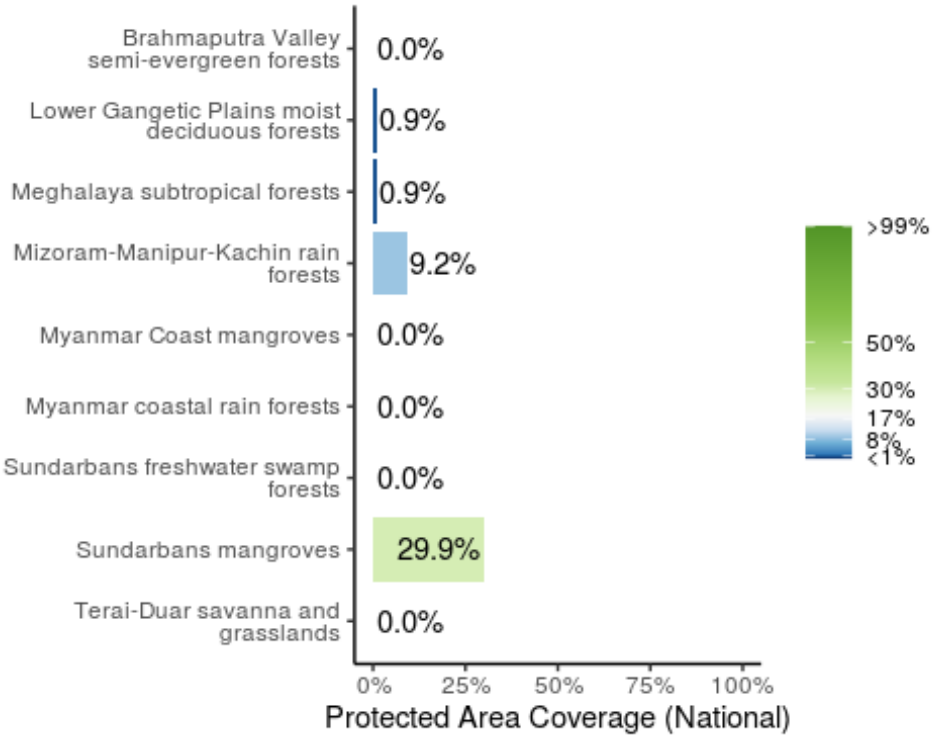
A full list of terrestrial ecoregions in Bangladesh is available in Annex II

Bangladesh has 1 **marine** ecoregion and 1 **pelagic province**:

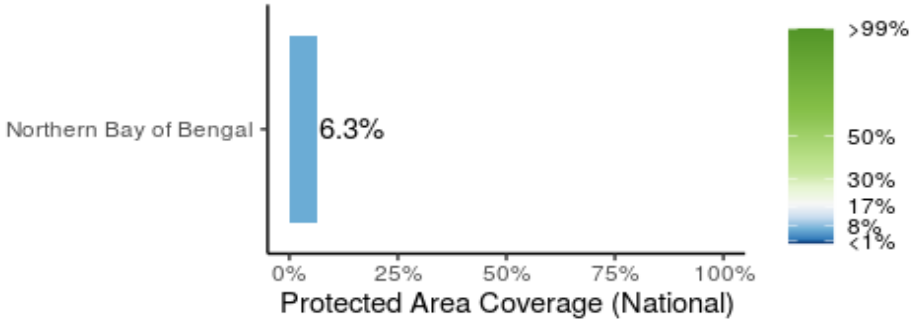
- Coverage from reported PAs and OECMs (based on the May 2021 WDPA) is 6.3% (marine ecoregion) and 0.1% (pelagic province)
- *As terrestrial coverage has increased from 5.4% (in the May 2021 WDPA) to 6.2% as of December 2021, the coverage of the marine ecoregion and/or the pelagic province will be higher.*



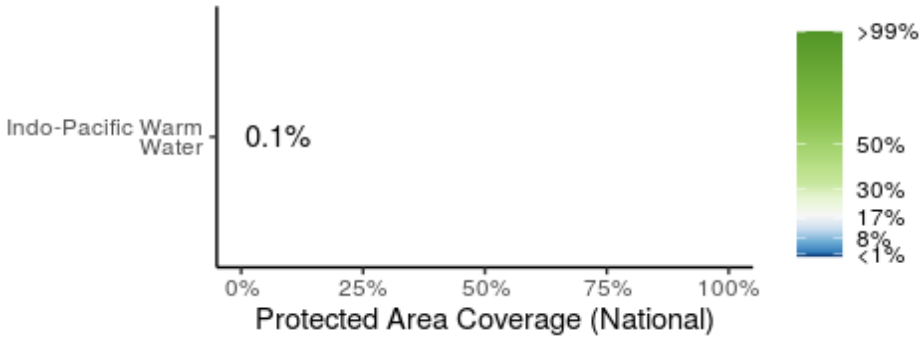
Terrestrial ecoregions in Bangladesh (per the May 2021 WDPA). Actual coverage will be higher due to new PAs.



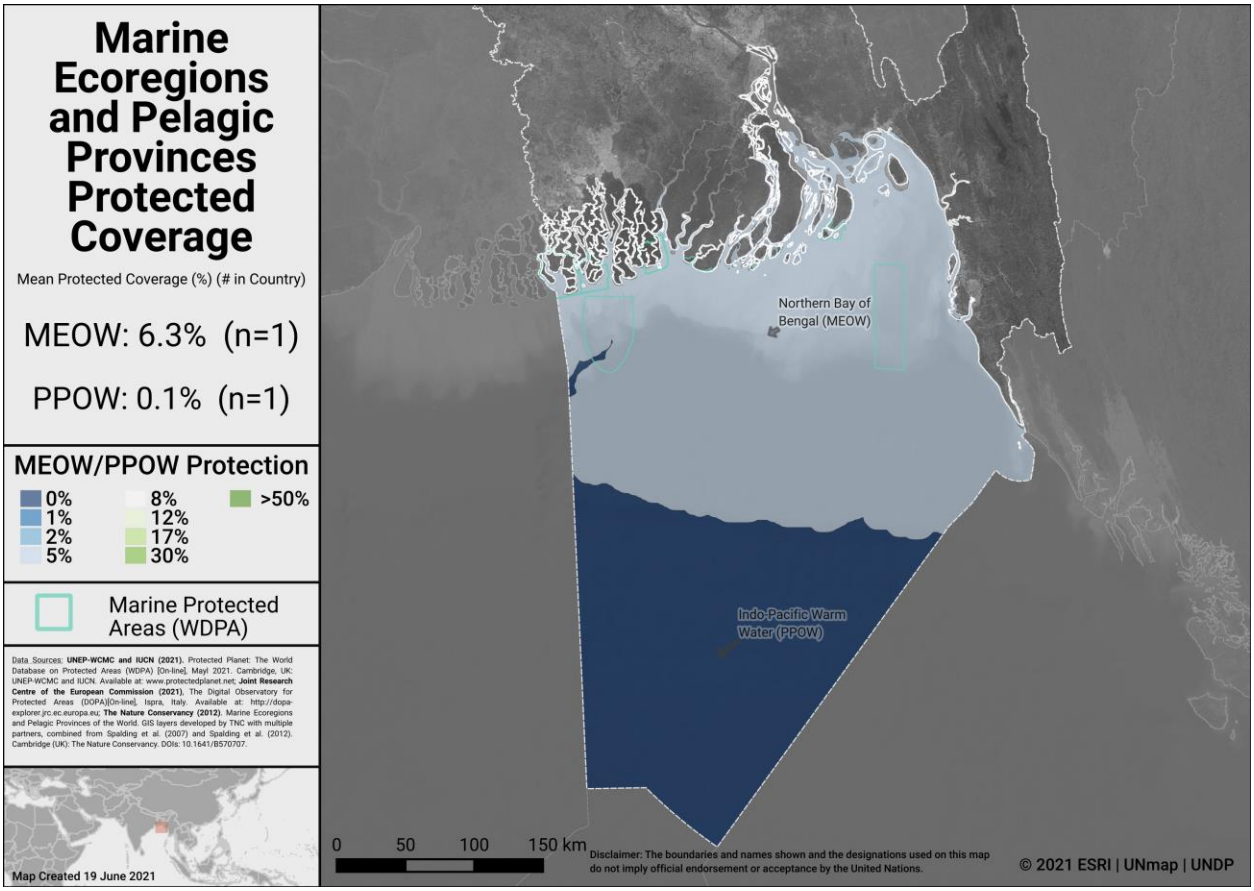
Terrestrial ecoregions of the World (TEOW) in Bangladesh



Marine Ecoregions of the World (MEOW) in Bangladesh



Pelagic Provinces of the World (PPOW) in Bangladesh



Marine ecoregions and pelagic provinces (per the May 2021 WDPA). Actual coverage will be higher due to new PAs.

Opportunities for action

There is opportunity for Bangladesh to increase protection in terrestrial and marine ecoregions and pelagic provinces that have lower levels of coverage by PAs or OECMs. Ecoregions which currently have no coverage by PAs or OECMs are key areas for action.

AREAS IMPORTANT FOR BIODIVERSITY

Key Biodiversity Areas (KBAs)

Protected area and OECM coverage of Key Biodiversity Areas (KBAs) provide one proxy for assessing the conservation of areas important for biodiversity at national, regional and global scales. KBAs are sites that make significant contributions to the global persistence of biodiversity (IUCN, 2016). The KBA concept builds on four decades of efforts to identify important sites for biodiversity, including Important Bird and Biodiversity Areas, Alliance for Zero Extinction sites, and KBAs identified through Hotspot ecosystem profiles supported by the Critical Ecosystem Partnership Fund. Incorporating these sites, the dataset of internationally significant KBAs includes Global KBAs (sites shown to meet one or more of 11 criteria in the Global Standard for the Identification of KBAs, clustered into five categories: threatened biodiversity; geographically restricted biodiversity; ecological integrity; biological processes; and irreplaceability), Regional KBAs (sites identified using pre-existing criteria and thresholds, that do not meet the Global KBA criteria based on existing information), and KBAs whose Global/Regional status is Not yet determined, but which will be assessed against the global KBA criteria within 8-12 years. Regional KBAs are often of critical international policy relevance (e.g., in EU legislation and under the Ramsar Convention on Wetlands), and many are likely to qualify as Global KBAs in future once assessed for their biodiversity importance for other taxonomic groups and ecosystems. To date, nearly 16,000 KBAs have identified globally, and information on each of these is presented in the World Database of Key Biodiversity Areas: www.keybiodiversityareas.org.

Bangladesh has **20** Key Biodiversity Areas (KBAs).

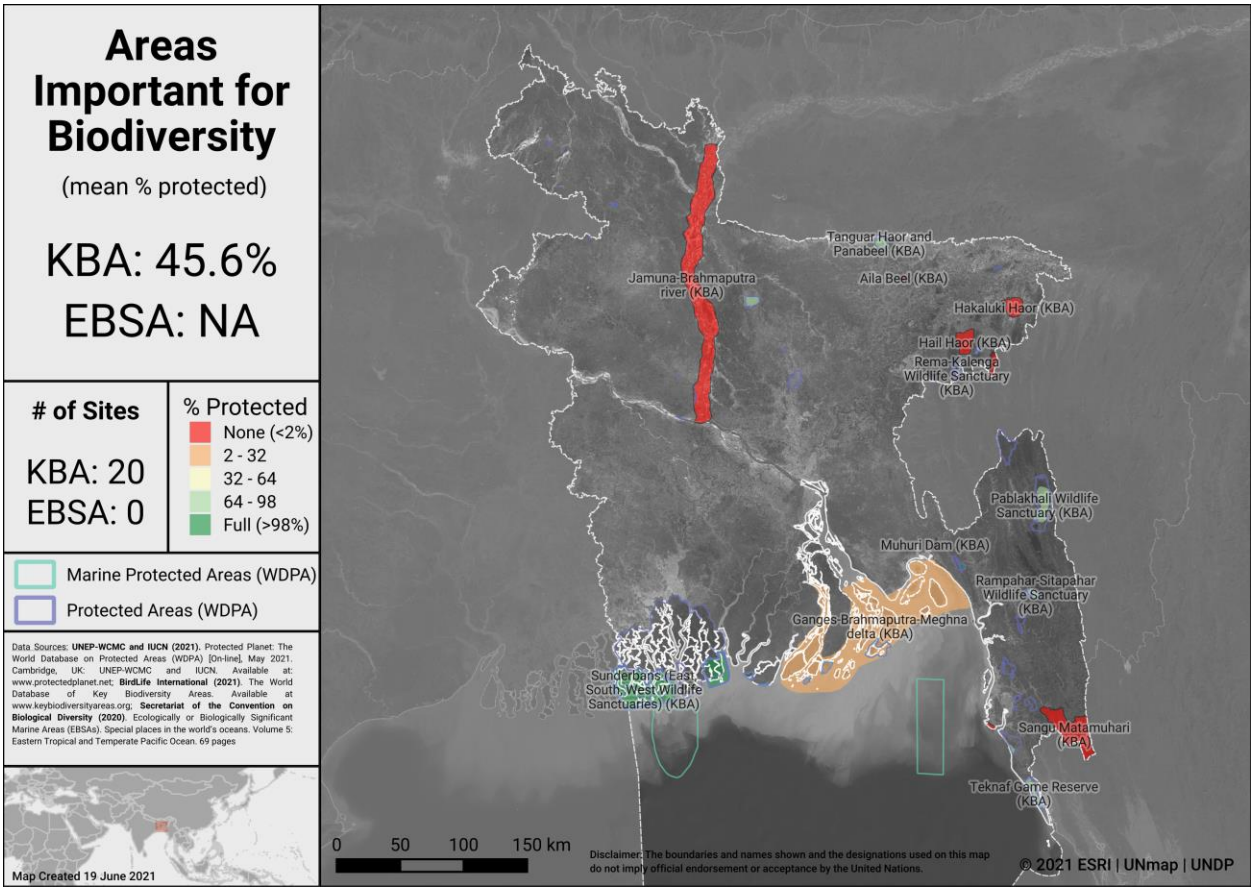
- Mean percent coverage of all KBAs by PAs and OECMs in Bangladesh is **45.6%**.
- **2** KBAs have full (>98%) coverage by PAs and OECMs.
- **9** KBAs have partial coverage by PAs and OECMs.
- **9** KBAs have no (<2%) coverage by PAs and OECMs.

Due to the increase in PA coverage as of December 2021 (see section above), the coverage of KBAs may now be higher.

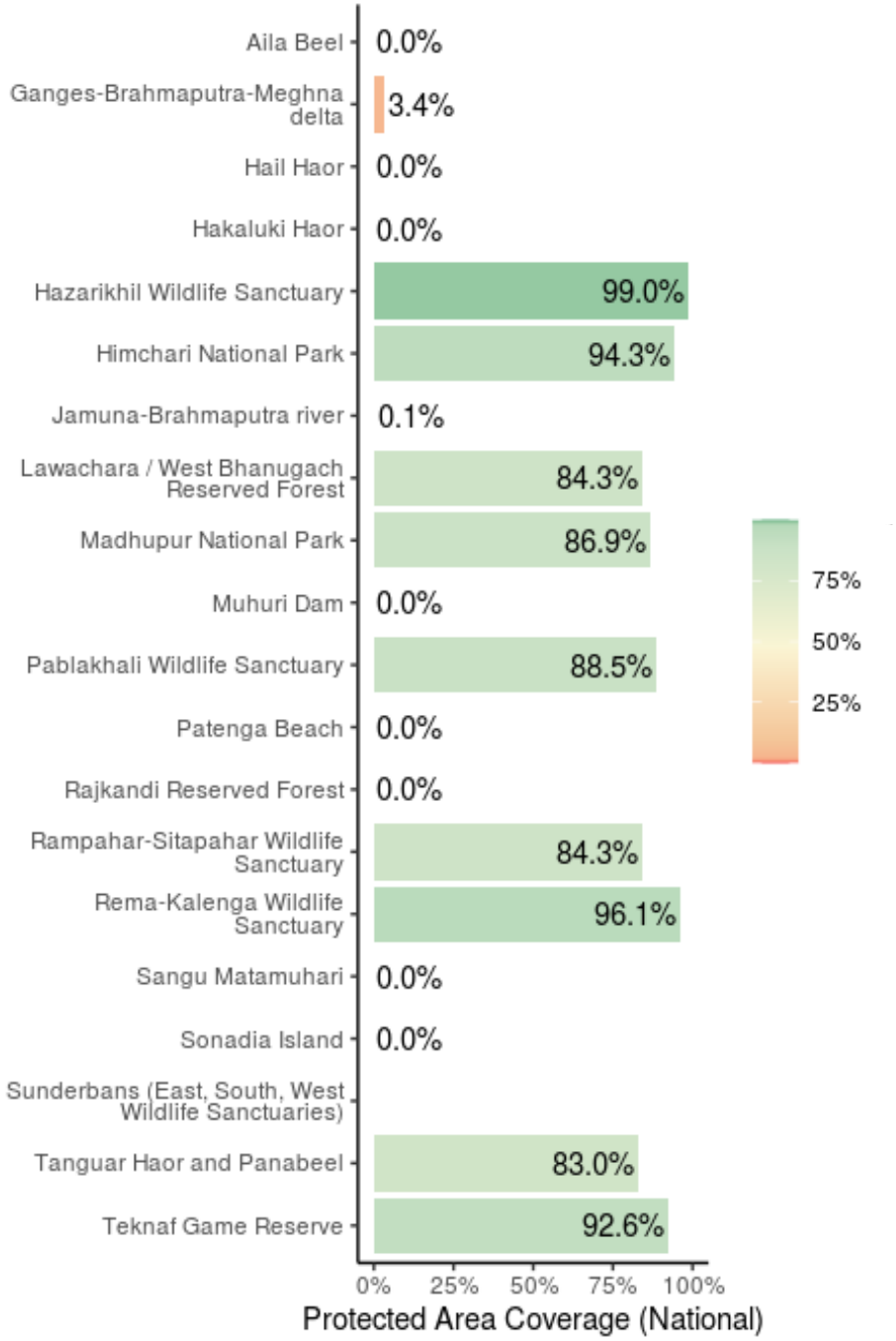
Ecologically or Biologically Significant Marine Areas (EBSAs)

Other important areas for biodiversity may also include Ecologically or Biologically Significant Marine Areas (EBSAs), which were identified following the scientific criteria adopted at COP-9 (Decision IX/20; see more at: https://www.cbd.int/ebsa/). Sites that meet the EBSA criteria may require enhanced conservation and management measures; this could be achieved through means including MPAs, OECMs, marine spatial planning, and impact assessment.

There are no EBSAs to report in Bangladesh.



Areas Important for Biodiversity in Bangladesh (per the May 2021 WDPA). Actual coverage may be higher due to new PAs.



Key Biodiversity Area Coverage (KBA) in Bangladesh

Opportunities for action

There is opportunity for Bangladesh to increase protection of KBAs that have lower levels of coverage by PAs and OECMs; priority could be given to those with no current coverage.

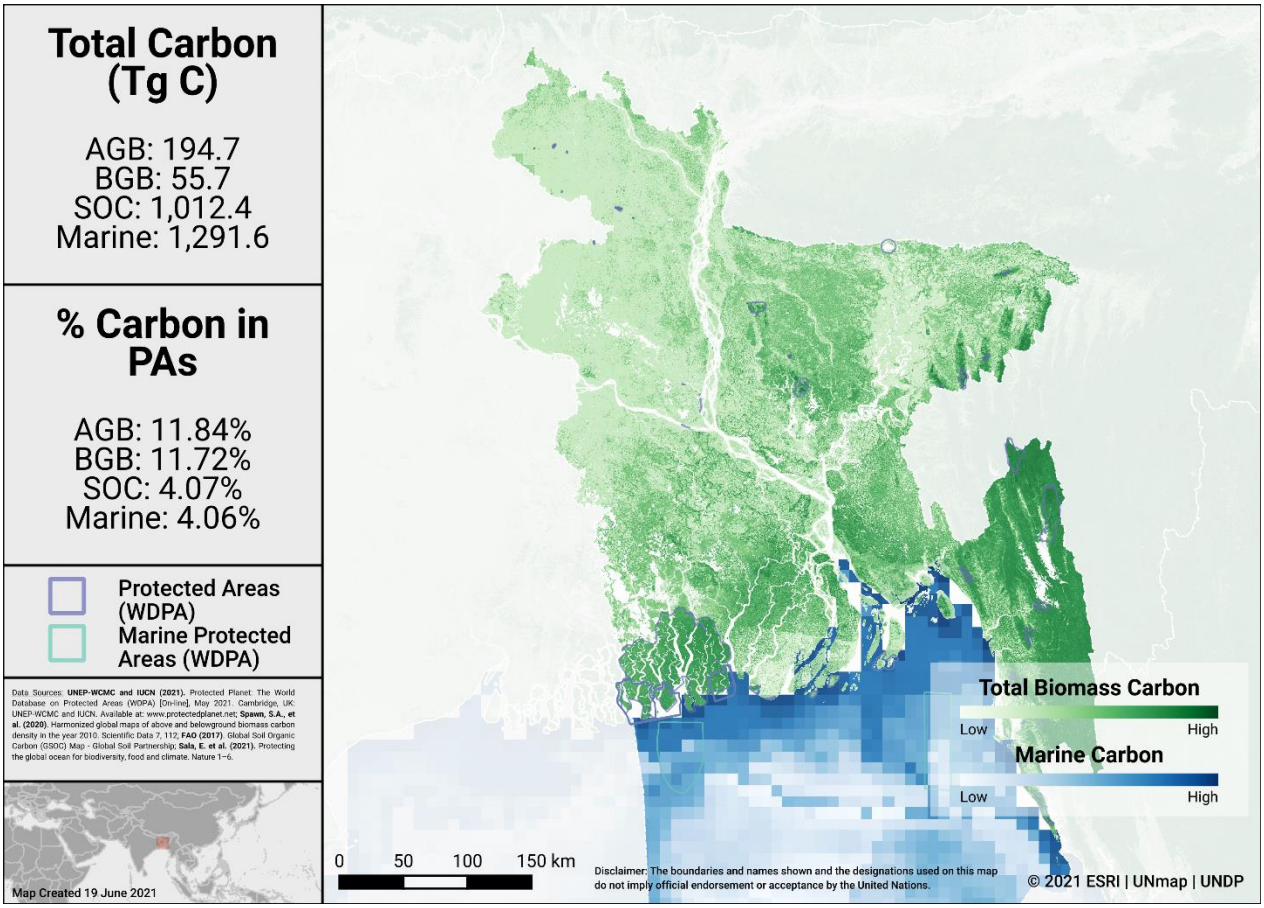
AREAS IMPORTANT FOR ECOSYSTEM SERVICES

There is no single indicator identified for assessing the conservation of areas important for ecosystem services. For simplicity, two services with available global datasets are assessed here (carbon and water). In future, other critical ecosystem services could be explored.

Carbon

Data for biomass carbon comes from temporally consistent and harmonized global maps of aboveground biomass and belowground biomass carbon density (at a 300-m spatial resolution); the maps integrate land-cover specific, remotely sensed data, and land-cover specific empirical models (see Spawn et al., 2020 for details on methodology). The Global Soil Organic Carbon Map present an estimation of SOC stock from 0 to 30 cm (see FAO, 2017). Data is also presented from global maps of marine sedimentary carbon stocks, standardized to a 1-meter depth (see Sala et al., 2021, and Atwood et al., 2020).

The map on the following page presents the total carbon stocks in Bangladesh and the percent of carbon in protected areas (based on the May 2021 WDPA). The total carbon stock is 194.7 Tg C from aboveground biomass (AGB), with 11.8% in protected areas; 55.7 Tg C from below ground biomass (BGB), with 11.7% in protected areas; 1,012.4 Tg C from soil organic carbon (SOC), with 4.1% in protected areas; and 1,291.6 Tg C from marine sediment carbon, with 4.1% in protected areas. As PA coverage has increased, as of December 2021 (see section above), the carbon stocks in terrestrial and marine PAs will now be higher.



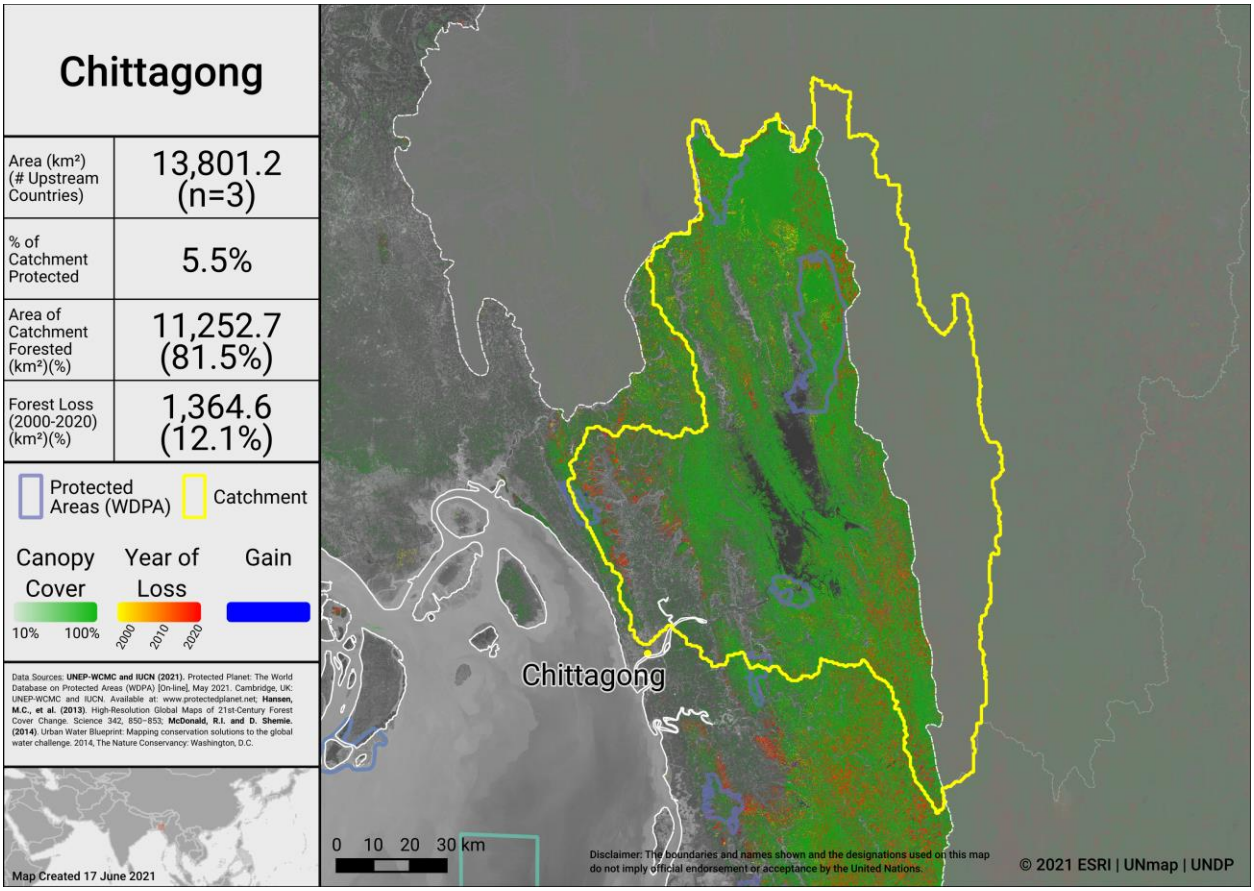
Carbon Stocks in Bangladesh (per the May 2021 WDPA). Actual carbon stocks in PAs will now be higher due to new sites added.

Water

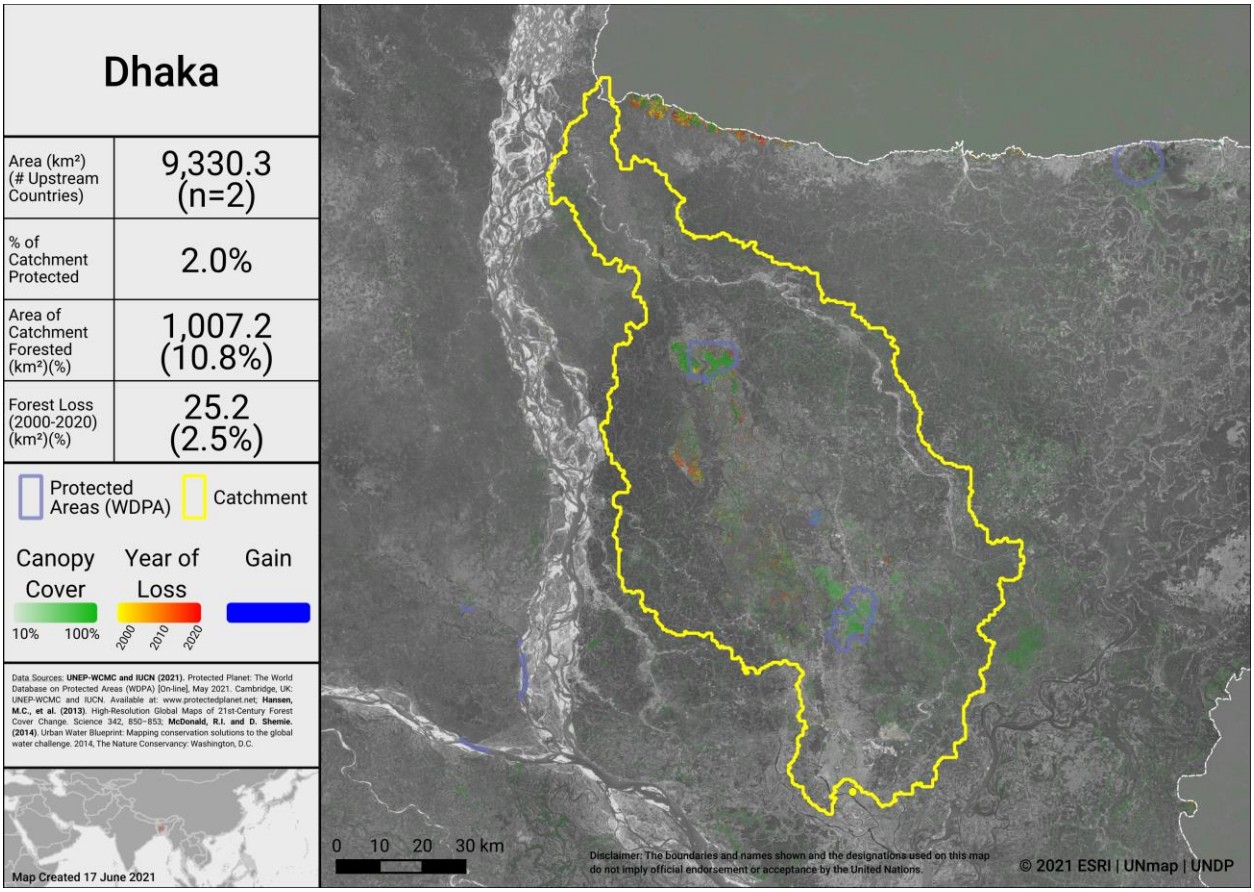
Information on the water sources for 534 cities is available via the City Water Map (CWM) and provides details on the catchment area of the watershed that supplies these cities (see McDonald et al., 2014 for details on methodology).

Forests and intact ecosystems support stormwater management and clean water availability, especially for large urban populations. Research that has examined the role of forests for city drinking water supplies shows that of the world's 105 largest cities, more than 30% (33 cities) rely heavily on the local protected forests, which provide ecosystem services that underpin local drinking water availability and quality (Dudley & Stolton, 2003).

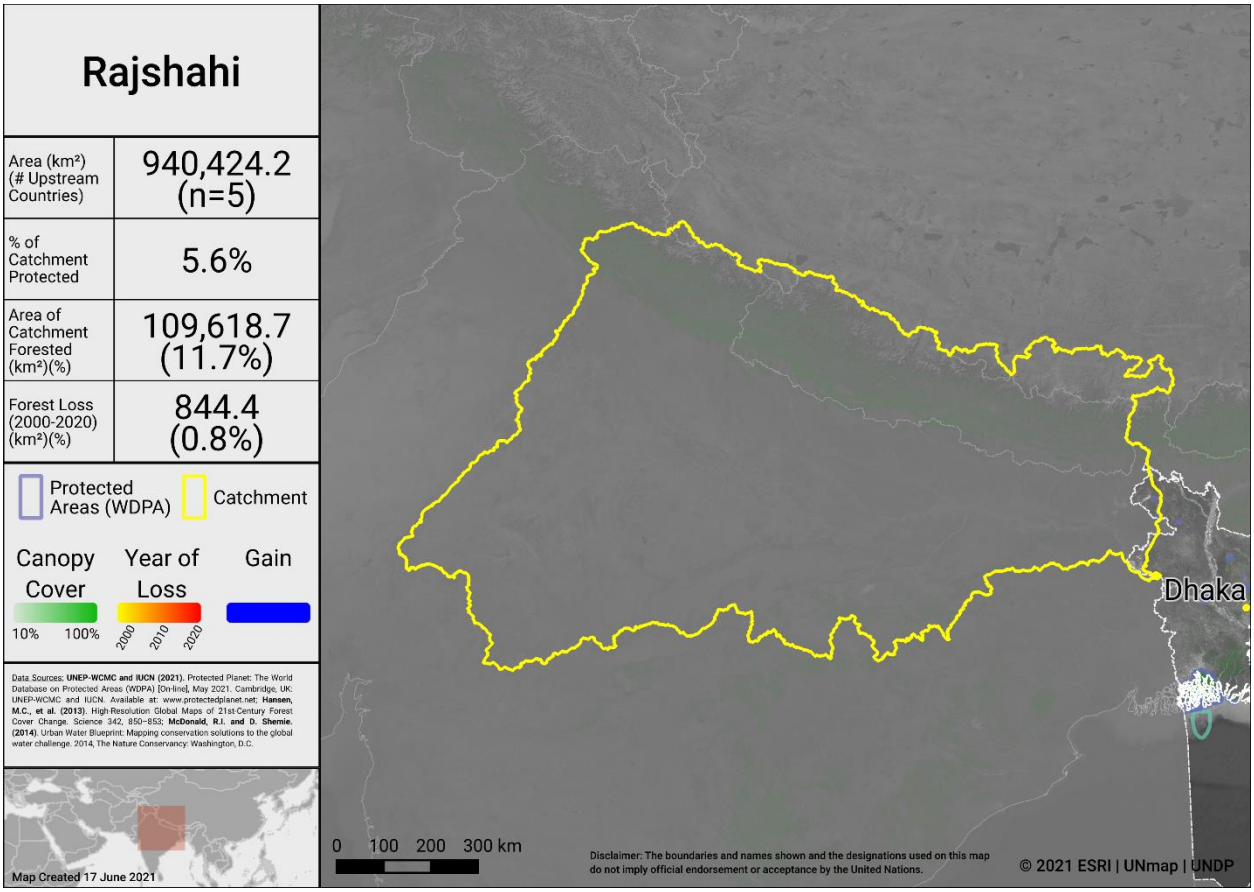
Drinking water supplies for cities in Bangladesh may similarly depend on protected forest areas within and around water catchments. The maps below show the percentage forest and PA cover and the forest loss from 2000-2020 in the most heavily populated water catchments of Bangladesh. Intact catchments can support more consistent water supply and improved water quality.



Water supply area for the city of Chittagong



Water supply area for the city of Dhaka



Water supply area for the city of Rajshahi

Opportunities for action

For carbon, there is opportunity for Bangladesh to increase PA and OECM coverage in both marine and terrestrial areas with high carbon stocks, as identified in the map above. Protecting areas with high carbon stocks secures the benefits of carbon sequestration in the area.

For water, there is opportunity to increase the area of the water catchment under protection by PAs and OECMs, or in cases where there is high levels of protection, focus on effective management for these areas. Protecting the current area of forested land and potentially reforesting would have benefits for improving water security.

CONNECTIVITY & INTEGRATION

Two global indicators, the Protected Connected land indicator (ProtConn; EC-JRC, 2021; Saura et al., 2018) and the PARC-Connectedness indicator (CSIRO, 2019), have been proposed for assessing the terrestrial connectivity of PA and OECM networks. To date there is no global indicator for assessing marine connectivity, though some recent developments include proposed guidance for the treatment of connectivity in the planning and management of MPAs (see Lausche et al., 2021).

Values for both Prot-Conn and the PARC-Connectedness Index for Bangladesh may now be higher due to the recent increase in PAs (see section on Coverage).

Protected Connected Land Indicator (Prot-Conn)

As of January 2021, as reported in the Joint Research Centre of the European Commission's Digital Observatory for Protected Areas (DOPA) (JRC, 2021), the coverage of protected-connected lands (a measure of the connectivity of terrestrial protected area networks, assessed using the ProtConn indicator) in Bangladesh was 2.8%.

PARC-Connectedness Index

In 2019, as assessed using the PARC-Connectedness Index (values ranging from 0-1, indicating low to high connectivity), connectivity in Bangladesh is 0.37. This represents a slight decrease from 0.38 in 2010.

Corridor case studies

There are currently no corridor case studies available for Bangladesh (but see general details on conserving connectivity through ecological networks and corridors in Hilty et al 2020).

Opportunities for action

There is opportunity for a general increase of PAs or OECMs and to focus on PA and OECM management for enhancing and maintaining connectivity. Improving connectivity increases the effectiveness of PAs and OECMs and reduces the impacts of fragmentation.

As well, a range of suggested steps for enhancing and supporting integration are included in the voluntary guidance on the integration of PAs and OECMs into the wider land- and seascapes and mainstreaming across sectors to contribute, inter alia, to the SDGs (Annex I of COP Decision 14/8).

GOVERNANCE DIVERSITY

There is a lack of comprehensive global data on governance quality and equity in PAs and OECMs. Here, we provide data on the diversity of governance types for reported PAs and OECMs.

As of May 2021 (in the WDPA), PAs in Bangladesh reported in the WDPA have the following governance types:

- 37.3% are governed by **governments** (by federal or national ministry or agency)
- 41.2% are under **shared** governance (by collaborative governance)
- 0.0% are under **private** governance
- 0.0% are under **IPLC** governance
  - 0.0% by Indigenous Peoples
  - 0.0% by local communities
- 21.6% **do not** report a governance type
  - (Most of which are proposed PAs)

OECMs

As of May 2021, there are **0** OECMs in Bangladesh reported in the WD-OECM, therefore there is no data available on OECM governance types.

Potential OECMs in Bangladesh include: Village common forest of Chattagram Hill Tracts and near shore areas in between Swatch of no Ground MPA and Nijhum Deep MR (Proposed blue belt OECMs).

Privately Protected Areas (PPAs)

Based on a response from Bangladesh's CBD PoWPA focal point (as reported in Stolton et al 2014), there are 0 PPAs established or recognized in the country.

Territories and areas conserved by Indigenous Peoples and local communities (ICCAs)

From Kothari et al. (2012) potential ICCAs (or similar designation) in Bangladesh include:

- 107 Community Conserved Areas (CCAs) in the Chittagong Hill Tracts
  - These cover **71.6 km²**.
- There might be additional sites with diverse delineation criteria as well as nature and characteristics of sites.

Other Indigenous lands

Lands managed and/or controlled by Indigenous Peoples cover an area of 13,269.0 km², of which 12,497.0 km² falls outside of formal protected areas. Indigenous lands with a human footprint less than 4 (considered as 'natural landscapes') cover an area of 0.0 km² (for details on analysis see Garnett et al., 2018).

For Bangladesh, evidence for the presence of Indigenous Peoples comes from: Indigenous Work Group on Indigenous Affairs. Indigenous World 2017 (Indigenous Working Group on Indigenous Affairs, 2017); and Cultural Survival. Observations on the state of Indigenous human rights in Bangladesh (Cultural Survival, 2017).

Boundaries of the lands Indigenous Peoples manage or have tenure rights over come from: Chittagong Hill Tracts, administrative areas for districts Bandarbon, Khagrachari, Parbattya Chattagram: Global Administrative Areas (GADM) v2.8, http://gadm.org/version2 (2015).

Opportunities for action

Explore opportunities for governance types that have lower representation, for Bangladesh this relates to governance by Indigenous Peoples and/or local communities (IPLC) and private governance. Increase efforts to identify the governance types for the 21.6% of sites that do not have their governance type reported.

There is also opportunity for Bangladesh to complete governance and equity assessments, to establish baselines and identify relevant actions for improvement. Examples of existing tools and methodologies include: Governance Assessment for Protected and Conserved Areas (Franks & Brooker, 2018), Social Assessment of Protected Areas (Franks et al 2018), and Site-level assessment of governance and equity (IIED, 2020). As well, a range of suggested actions are included in the voluntary guidance on effective governance models for management of protected areas, including equity (Annex II of COP Decision 14/8).

Equator Prize Projects

The Equator Initiative brings together the United Nations, governments, civil society, businesses and grassroots organizations to recognize and advance local sustainable development solutions for people, nature and resilient communities.

The Equator Prize projects provide examples of unique and locally based governance of natural resources. Bangladesh has the following Equator Prize winners that showcase examples of local, sustainable community action:

Organization	Year	Project Description
Chunoti Co-Management Committee	2012	The Chunoti Co-Management Committee (CMC) protects the once-degraded Chunoti Wildlife Sanctuary through the coordination of volunteer patrols and reinvestment of ecotourism revenues into conservation activities. Illegal logging and unsustainable resource extraction were threatening the Chunoti forest. The community mobilized and advocated for a protected area co-management arrangement with the government. Women-led community patrol groups monitor the forest to prevent illegal logging and poaching. Forest conservation has directly translated to increases in resident populations of Asian elephants and several bird species. An ecotourism enterprise has created needed jobs and offers a revenue stream to fund investment in community infrastructure projects. Local women have also been supported to start small-scale businesses. The Chunoti co-management model has been replicated across Bangladesh, and has resulted in the official recognition by the national government of the need to include communities in protected area decision-making.

PROTECTED AREA MANAGEMENT EFFECTIVENESS

This section provides information on the coverage of PAs and OECMs with completed protected area management effectiveness (PAME) assessments as reported in the global database (GD-PAME). The proportion of terrestrial and marine PAs with completed PAME assessments is also calculated and compared with the 60% target agreed to in COP-10 Decision X/31. Information is also included regarding changes in forest cover nationally within PAs and OECMs.

Protected area management effectiveness (PAME) assessments

As of December 2021, Bangladesh has 66 PAs gazetted/notified by the Government, of which 37 PAs (56.06%) have management effectiveness evaluations; however, these are not yet reported[1] in the global database on protected area management effectiveness (GD-PAME).

- 4,538.72 km^2 (3.3%) of the terrestrial area of the country is covered by PAs with completed management effectiveness evaluations.
    - 56.46% of the area of terrestrial PAs have completed evaluations.
- 0% of the marine area of the country is covered by PAs with completed management effectiveness evaluations.
    - 0% of the area of marine PAs have completed evaluations.

The 60% target for completed management effectiveness assessments (per COP Decision X/31) **has not** been met for terrestrial PAs and **has not** been met for marine PAs.

OECMs

As of May 2021, there are **0** OECMs in Bangladesh reported in the WD-OECM, therefore there is no data available on OECM governance types.

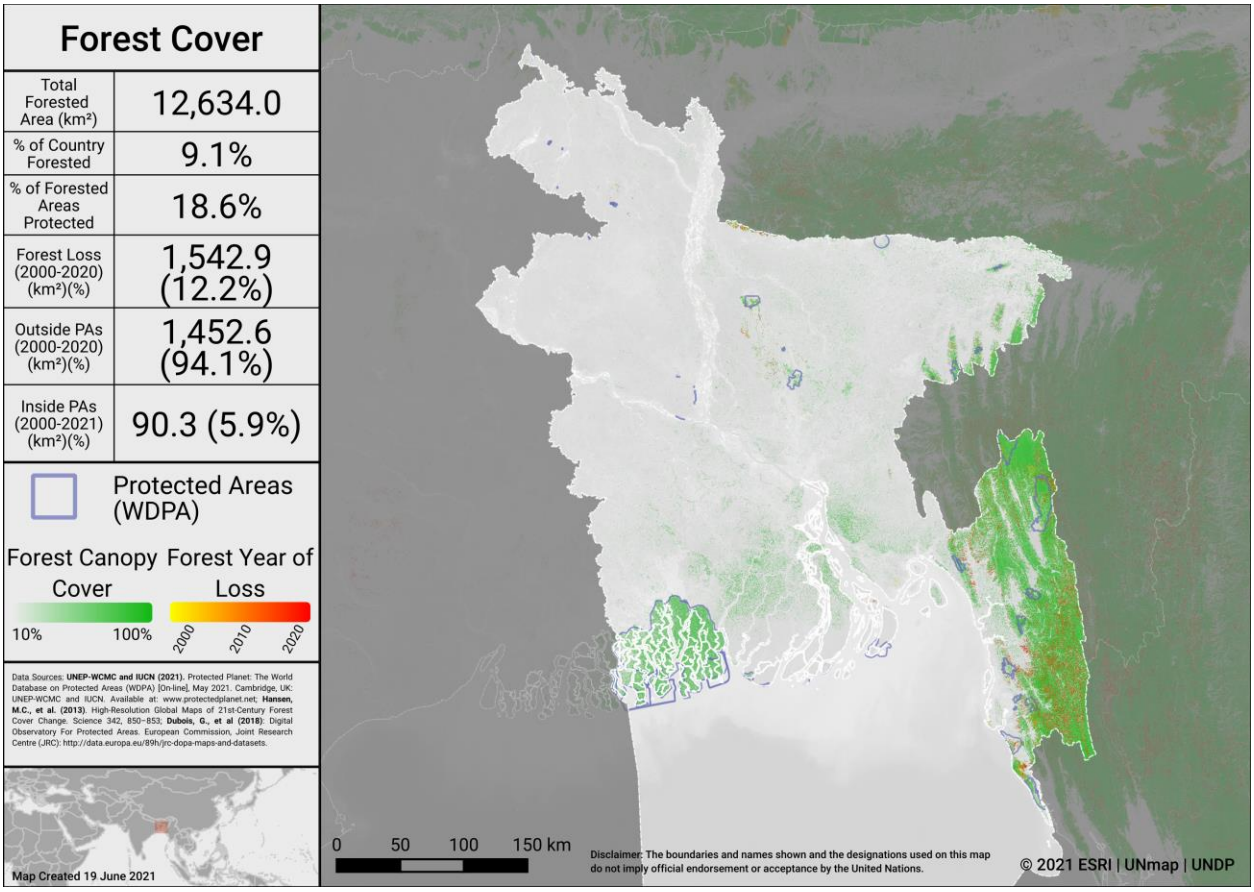
Potential OECMs in Bangladesh include: Village common forest of Chattagram Hill Tracts and near shore areas in between Swatch of no Ground MPA and Nijhum Deep MR (Proposed blue belt OECMs).

Changes in forest cover in protected areas and OECMs

Forested areas in Bangladesh cover approximately 9.1% of the country, an area of 12,634.0 km^2. Approximately 18.6% (2,345.7 km^2) of this is within the protected area estate of Bangladesh. Over the period 2000-2020 loss of forest cover amounted to over 1,542.9 km^2, or 1.1% of the country (12.2% of forest area), of which 90.3 km^2 (5.9% of forest loss) occurred within protected areas. The map below shows how forest cover has changed in

[1] Currently the database shows 51 PAs, of which 1 has a reported PAME assessment (see: https://www.protectedplanet.net/country/BGD).

Bangladesh from 2000-2020 both inside and outside of PAs. This can indicate how effective PAs are in reducing forest cover loss.



Forest Cover and Forest Loss in Bangladesh

Opportunities for action

The 60% target for completed management effectiveness assessments (per COP Decision X/31) **has not** been met for terrestrial PAs and **has not** been met for marine PAs. Therefore, there is opportunity to increase protected area management effectiveness (PAME) evaluations and reporting for both terrestrial and marine PAs to achieve the target.

There is also opportunity to implement the results of completed PAME evaluations, to improve the quality of management for existing PAs and OECMs (e.g. through adaptive management and information sharing, increasing the number of sites reporting 'sound management') and to increase reporting of biodiversity outcomes in PAs and OECMs.

SECTION II: EXISTING PROTECTED AREA AND OECM COMMITMENTS

PRIORITY ACTIONS FROM 2015-2016 REGIONAL WORKSHOPS

National priority actions for Aichi Biodiversity Target 11 were provided by Parties following a series of regional workshops in 2015 and 2016. The Capacity-building workshop for South, Central and West Asia on achieving Aichi Biodiversity Targets 11 and 12 took place 7 - 10 December 2015 in New Delhi, India. Progress towards the quantitative targets for marine and terrestrial coverage has been assessed based on data reported in the WDPA and WD-OECM as of 2021. For more information, see the workshop report at: https://www.cbd.int/meetings/

The following actions were identified during the workshops:

Terrestrial coverage: Protected Area coverage of terrestrial and inland water will be increased from less than 1% (1170 sq km) to 3% (4430 sq. km) to 5% (7400 sq km) of the country.

Marine coverage:

1) Marine and Coastal Protected Area coverage will be expanded from 3.28% (3968 sq km) to about 7% (8500 sq km) by declaring rest of the Sundarbans (IUCN category VI) under Protected Area network. [Marine target will be reached with implementation of UN Ocean Action/WCS MPA Fund project, see below].

2) Initiatives can be taken to extend MPA coverage to 10% by establishing a corridor between Swatch of no ground PA and Sundarbans, surrounding area of St. Martin (coral island) can be brought under PA network.

[target will be reached with implementation of UN Ocean Action: WCS MPA Fund project].

Ecological representation:

1) Out of total 10 Ecoregions, 4 in Bangladesh have been detected as high priority for protection. Of the 4 ecoregions: Protection of the Sundarbans Mangrove will be extended by another 4609 sq km soon [There is little scope of improving the representation of Sundarbans Freshwater Swamp forests in Bangladesh; it is not recognized as an important ecoregion locally]

2) Ecological representation of the Northern Bay of Bengal already taken care declaring Marine Park of 1738 sq km and one marine reserve of 582 sq km.

3) Initiatives will be taken to improve the Ecological Representation of Lower Gangetic Plains Moist Deciduous Forests by about further 3000 to 4000 sq. km.

Areas Important for biodiversity and ecosystem services:

1) New IBAs will be assessed and enlisted in future to facilitate achieving the target 11 and 12 nationally and globally.
2) The protection of the 8 partially protected IBAs will be improved further with the enforcement of wildlife (Conservation and security) Act 2012.

Connectivity: Wildlife corridors assessment and MPA connectivity assessment is going on

Management effectiveness: Management effectiveness assessments for 37 Terrestrial PAs have been completed.

Governance and Equity: Co-management system is operating in 22 PAs

Integration: Assessment for integration is ongoing.

OECMs: Study for the identification of potential OECMs is ongoing.

NATIONAL BIODIVERSITY STRATEGY AND ACTION PLANS (NBSAPs)

Bangladesh has submitted an NBSAP during the Strategic Plan for Biodiversity 2011-2020 (most recent NBSAP is available at: https://www.cbd.int/nbsap/search/).

National Target 11: By 2021, Bangladesh's 3% area under terrestrial ecosystem (forests), 3% area under inland wetlands and coastal ecosystems and 5% of total marine area will come under PAs or ECAs with development and implementation of management plan for these areas

This NBSAP **did** include a quantitative target for **terrestrial** PAs or OECMs.

- As of December 2021, has the target been met: **YES**

This NBSAP **did** include a quantitative target for **marine** protected areas or OECMs.

- As of December 2021, has the target been met: **YES**

APPROVED GEF-5, & GEF-6 PROTECTED AREA PROJECTS

Approved GEF-5 and GEF-6 PA-related biodiversity projects

This includes biodiversity projects from the fifth and sixth replenishment of the Global Environment Facility (GEF-5 and GEF-6) with a clear impact of the quantity or quality of PAs; also including some projects occurring within the wider landscapes/seascapes around PAs. Only those with a status of 'project approved' or 'concept approved' as of June 2019 were considered. The qualifying elements likely benefiting from each GEF project is assessed based on a keyword search of Project Identification Forms (PIF). Where spatial data for the proposed PAs was available, further details (based on an analysis by UNDP) regarding their impacts for ecological representation, coverage of KBAs, and coverage of areas important for carbon storage is included.

GEF ID	PA increase?	Area to be added (km^2)	Type of new protected area	Qualitative elements potentially benefitting (based on keyword search of PIFs)
5099	Yes	0.4	Terrestrial	Areas important for biodiversity; Effectively managed; Equitably managed; Integration
9913	No	N/A	N/A	Ecosystem services; Effectively managed; Equitably managed

Based on spatial data available for GEF project 5099, benefits will arise for several elements of Target 11:

Coverage of Terrestrial and Marine Ecoregions:

- 1 Terrestrial Ecoregion will have improved coverage (Sundarbans mangroves).
  - The increase in coverage will be 0.01%.

Ecosystem services:

- 0.02 % increase in the PA coverage of aboveground biomass.
- 0.002 % increase in the PA coverage of soil organic carbon (SOC).

UN OCEAN CONFERENCE VOLUNTARY COMMITMENTS

Voluntary commitments for the UN Ocean Conference are initiatives voluntarily undertaken by governments, the UN system, non-governmental organizations, among other actors—individually or in partnership—that aim to contribute to the implementation of SDG 14 (here we focus in particular on SDG 14.5). The registry of commitments was opened in February 2017, in the lead up to the first UN Ocean Conference (5 to 9 June 2017).

Ocean Actions improving MPA or OECM coverage:

#OceanAction16178: Protecting 1 million sq kms through the $15 million WCS Marine Protected Area Fund, by Wildlife Conservation Society (Non-governmental organization).

- Area to be added: **6,950 km²**.
- Notes on area added: Nijhum Dwip Marine Protected Area (designated in July 2019), 2 new proposed MPAs (Saint Martin's Island and Sonadia Island) and the expansion of the Swatch-of-No-Ground (designated in October 2014); see WCS MPA project country profile: https://mpafund.wcs.org/.
- Progress report: Yes (2019), status=On Track.
- Further details available at: https://oceanconference.un.org/commitments/?id=16178.

OTHER ACTIONS/COMMITMENTS

Leaders' Pledge for Nature

Bangladesh **has** signed onto the Leaders' Pledge for Nature.

Political leaders participating in the United Nations Summit on Biodiversity in September 2020, representing 88 countries from all regions and the European Union, have committed to reversing biodiversity loss by 2030. By doing so, these leaders are sending a united signal to step up global ambition and encourage others to match their collective ambition for nature, climate, and people with the scale of the crisis at hand.

Global Ocean Alliance

Bangladesh **has** joined the Global Ocean Alliance: 30by30 initiative.

The Global Ocean Alliance 30by30 is a UK led initiative [currently containing 53 countries as signatories]. Its aim is to protect at least 30% of the global ocean as Marine Protected Areas (MPAs) and Other Effective area-based Conservation Measures (OECMs) by 2030.

ANNEX I

UPDATED LIST OF PAs

National Parks

Sl. No.	Name	Management effectiveness	Managed by	Location	Area (ha.)
1	Bhawal National Park	yes	FD	Gazipur	5022.29
2	Madhupur National Park	yes	FD	Tangail and Mymensingh	8436.13
3	Ramsagar National Park	yes	FD	Dinajpur	27.75
4	Himchari National Park	yes	FD	Cox's Bazar	1729
5	Lawachara National Park	yes	FD	Moulavibazar	1250
6	Kaptai National Park	yes	FD	Chittagong Hill Tracts	5464.78
7	Nijhum Dweep National Park	yes	FD	Noakhali	16352.23
8	Medhakachhapia National Park	yes	FD	Cox's Bazar	395.92
9	Satchari National Park	yes	FD	Habigonj	242.91
10	Khadimnagar National Park	yes	FD	Sylhet	678.8
11	Baroiyadhala National Park	yes	FD	Chittagong	2933.61
12	kadigar National Park	yes	FD	Mymensingh	344.13
13	Kuakata National Park	yes	FD	Patuakhali	1613
14	Nababgonj National Park	yes	FD	Dinajpur	517.61
15	Singra National Park	no	FD	Dinajpur	305.69
16	Altadighi National Park	yes	FD	Naogaon	264.12
17	Birgonj National Park	yes	FD	Dinajpur	168.56
18	Nation Botanical Garden	no	FD	Dhaka	87.1
19	Sheikh Jamal Inani National Park	no	FD	Cox's Bazar	7085.16
20	Dharmopur Nation Park	no	FD	Dinajpur	704.7

Wildlife Sanctuaries

Sl. No.	Name	Management effectiveness	Managed by	Location	Area (ha.)
1	Rema-Kalenga Wildlife Sanctuary	yes	FD	Hobigonj	1795.54
2	Char Kukri-Mukri Wildlife Sanctuary	yes	FD	Bhola	40
3	Sundarban (East) Wildlife Sanctuary	yes	FD	Bagerhat	122920.9
4	Sundarban (West) Wildlife Sanctuary	yes	FD	Satkhira	119718.88
5	Sundarban (South) Wildlife Sanctuary	yes	FD	Khulna	75310.3
6	Pablakhali Wildlife Sanctuary	yes	FD	Chittagong Hill Tracts	42069.37
7	Chunati Wildlife Sanctuary	yes	FD	Chittagong	7763.97
8	Fashiakhali Wildlife Sanctuary	yes	FD	Cox's Bazar	1302.42
9	Dudpukuria-Dhopachari Wildlife Sanctuary	yes	FD	Chittagong	4716.57
10	Hajarikhil Wildlife Sanctuary	yes	FD	Chittagong	1177.53
11	Sangu Wildlife Sanctuary	yes	FD	Bandarban	2331.98
12	Teknaf Wildlife Sanctuary	yes	FD	Cox's Bazar	11614.57
13	Tengragiri Wildlife Sanctuary	yes	FD	Barguna	4048.58
14	Dudhmukhi Wildlife Sanctuary	yes	FD	Bagerhat	170
15	Chadpai Wildlife Sanctuary	yes	FD	Bagerhat	560
16	Dhangmari Wildlife Sanctuary	yes	FD	Bagerhat	340
17	Sonarchar Wildlife Sanctuary	yes	FD	Patuakhali	2026.48
18	Nazirganj Wildlife (Dolphin) Sanctuary	yes	FD	Pabna	146

Sl. No.	Name	Management effectiveness	Managed by	Location	Area (ha.)
19	Shilanda-Nagdemra Wildlife (Dolphin) Sanctuary	yes	FD	Pabna	24.17
20	Nagarbari-Mohanganj Dolphine Sanctuary	yes	FD	Pabna	408.11
21	Pankhali Wildlife (Dolphin) Sanctuary	no	FD	Khulna	404
22	Shibsha Wildlife (Dolphin) Sanctuary	no	FD	Khulna	2155
23	Vadra Wildlife (Dolphin) Sanctuary	no	FD	Khulna	868

Eco-parks

Sl. No.	Name	Management effectiveness	Managed by	Location	Area (ha.)
1	Madhabkundu Eco-Park	no	FD	Moulavibazar	202.35
2	Tilagar Eco-Park	no	FD	Sylhet	45.33
3	Char-muguria Eco-park	no	FD	Madaripur	4.2

Special Biodiversity Conservation Areas

Sl. No.	Name	Management effectiveness	Managed by	Location	Area (ha.)
1	Special Biodiversity Conservation Area (Ratargul)	no	FD	Sylhet	204.25
2	Altadighi water based Special Biodiversity Conservation Area	no	FD	Naogaon	17.34

All these 49 protected areas declared under the Wildlife (Preservation) Act, 1974 and the Wildlife (conservation security) Act ,2012 by the Ministry of Environment, Forest and Climate Change and managed by Forest Department.

Ecological Critical Area (ECA)

No.	Name of the ECA	Type of Ecosystems	Location	Area (ha)
1	Sundarbans (10 km landward periphery)	Coastal and Marine	Satkhira, Khulna, Bagerhat, Pirojpur and Barguna District	292,926
2	Teknaf Peninsula (Cox's Bazar-Teknaf Sea beach)	Coastal and Marine	Cox's Bazar District	10,465
3	St. Martin Island	Marine Island with coral reefs/colony	Cox's Bazar District	590
4	Sonadia Island	Coastal Island	Cox's Bazar District	4,916
5	Hakaluki Haor	The Largest Inland Freshwater Wetland in Bangladesh	Sylhet and Moulvibazar District	18,383
6	Tanguar Haor (also one of the Ramsar Sites in Bangladesh)	Inland Freshwater Wetland	Sunamgonj District	9,727
7	Marjat Baor	Oxbow Lake	Jhinaidah District	200
8	Gulshan-Baridhara Lake	Urban Wetland	Dhaka city	101
9	Buriganga River	River	Around Dhaka City	1336
10	Turag River	River	Around Dhaka City	1184
11	Balu River	River	Around Dhaka City	995
12	Sitalakhya River	River	Around Dhaka and Narayangonj City	3771
13	Jaflong-Dawki River	River and 500m in each side of the river including the Khashiapunji, a tribal village in between the Jaflong-Dawki River and the Piyaain River	Sylhet District	1493

All the 13 Ecological Critical Areas has been declared under Bangladesh Environment Conservation Act, 1995 by Ministry of Environment, Forest and Climate Change and managed by Department of Environment

Marine Protected Area

Sl. No.	Name	Management effectiveness	Managed by	Location	Area (ha.)
1	Swatch of No-Ground Marine Protected Area	no	FD	Bay of Bengal.	1738
2	Nijhum Dweep Marine Reserve	no	DoF	Noakhali	3188
3	St. Martin's Island Marine Protected Area	no	FD	Cox's Bazar	1743
4	Marine Reserve	no	DOF	Bay of Bengal.	698

Marine protected area declared under wildlife conservation and security act 2012 by Ministry of Environment, Forest and Climate Change and managed by Forest Department.

Marine Reserve has been declared under Marine Fisheries Ordinance, 1983 by the Ministry of Fisheries and Livestock and managed by the Department of Fisheries.

ANNEX II

FULL LIST OF TERRESTRIAL ECOREGIONS

Ecoregion Name	Area (km^2)	% of Global Ecoregion in Country	% of Country in Ecoregion	Area Protected (km^2)	% Protected in Country
Brahmaputra Valley semi-evergreen forests	40.9	0.1	0.0	0.0	0.0
Lower Gangetic Plains moist deciduous forests	107,780.0	42.5	77.1	947.3	0.9
Meghalaya subtropical forests	133.8	0.3	0.1	1.1	0.9
Mizoram-Manipur-Kachin rain forests	6,967.6	5.2	5.0	638.4	9.2
Myanmar coastal rain forests	21.3	0.0	0.0	0.0	0.0
Myanmar Coast mangroves	376.0	1.8	0.3	0.0	0.0
Sundarbans freshwater swamp forests	7,669.7	52.8	5.5	0.0	0.0
Sundarbans mangroves	15,787.5	77.5	11.3	4,712.2	29.8
Terai-Duar savanna and grasslands	129.9	0.4	0.1	0.0	0.0

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