



Convention on
Biological Diversity



Aichi Biodiversity Target 11 Country Dossier: VIET NAM

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TABLE OF CONTENTS

GLOSSARY	3
EXECUTIVE SUMMARY	5
<i>Aichi Biodiversity Target 11 Elements: Current status and opportunities for action</i>	5
INTRODUCTION	8
SECTION I: CURRENT STATUS	10
<i>COVERAGE - TERRESTRIAL & MARINE</i>	11
<i>ECOLOGICAL REPRESENTATIVENESS – TERRESTRIAL & MARINE</i>	14
<i>AREAS IMPORTANT FOR BIODIVERSITY</i>	19
<i>AREAS IMPORTANT FOR ECOSYSTEM SERVICES</i>	27
<i>CONNECTIVITY & INTEGRATION</i>	30
<i>GOVERNANCE DIVERSITY</i>	31
<i>PROTECTED AREA MANAGEMENT EFFECTIVENESS</i>	34
SECTION II: EXISTING PROTECTED AREA AND OECM COMMITMENTS	36
<i>PRIORITY ACTIONS FROM 2015-2016 REGIONAL WORKSHOPS</i>	36
<i>NATIONAL BIODIVERSITY STRATEGY AND ACTION PLANS (NBSAPs)</i>	37
<i>APPROVED GEF-5, GEF-6, & GCF PROTECTED AREA PROJECTS</i>	40
<i>OTHER ACTIONS/COMMITMENTS</i>	41
ANNEX I	42
<i>FULL LIST OF ECOREGIONS</i>	42
ANNEX II	44
<i>ADDITIONAL DETAILS ON PPAs</i>	44
REFERENCES	45



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
OECD	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-OECD	World Database on Other Effective Area-Based Conservation Measures



4 | Aichi Biodiversity Target 11 Country Dossier: VIET NAM

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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.

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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. Where available, data from national statistics for the elements of Target 11 are included alongside records from these global databases. 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, terrestrial coverage in Viet Nam is 24,994.3 km² (7.6%) and marine coverage is 3,630.3 km² (0.6%).
- **Opportunities for action:** opportunities for the near-term include updating the WDPA with any 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:** Viet Nam contains 15 terrestrial ecoregions, 5 marine ecoregions, and 1 pelagic province: the mean coverage by reported PAs and OECMs is 9.9% (terrestrial), 0.7% (marine), and 0.0% (pelagic); 3 terrestrial ecoregions, 2 marine ecoregions, and 1 pelagic province have no coverage.
- **Opportunities for action:** there is opportunity for Viet Nam 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.



6 | Aichi Biodiversity Target 11 Country Dossier: VIET NAM

Areas Important for Biodiversity

- **Status:** Viet Nam has 117 Key Biodiversity Areas (KBAs): the mean coverage of KBAs by reported PAs and OECMs is 39.4%, while 53 KBAs have no coverage by reported PAs and OECMs.
- **Opportunities for action:** there is opportunity for Viet Nam 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 Viet Nam, 13.9% of aboveground biomass carbon, 10.7% of belowground biomass carbon, 7.6% of soil organic carbon, 0.9% of carbon stored in marine sediments is covered by PAs and OECMs.
- **Opportunities for action:** for carbon, there is opportunity for Viet Nam 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 1.7%.
- **Opportunities for action:** there is for a general increase of PAs or OECMs and to focus on PA and OECM management for enhancing and maintaining connectivity. Increasing 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(s) for reported PAs in Viet Nam is: 76.6% under Government (64.1% Government-delegated management; 8.1% Sub-national ministry or agency; 4.3% Federal or national ministry or agency).
- **Opportunities for action:** explore opportunities for governance types that have lower representation, for Viet Nam this could relate to governance by Indigenous Peoples and/or local communities (IPLC), shared governance. Increase efforts to



7 | Aichi Biodiversity Target 11 Country Dossier: VIET NAM

identify the governance types for the 23.4% of sites that do not have their governance type reported.

- There is also opportunity for Viet Nam 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:** 54.0% of terrestrial PAs and 19.7% of marine PAs have completed Protected Area Management Effectiveness (PAME) assessments reported.
- **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 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 Viet Nam. Section I of the dossier presents data on the current status of Viet Nam’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 Viet Nam, in relation to each Target 11 element. The analyses present options for improving Viet Nam’s area-based conservation network to achieve enhanced protection and benefits for livelihoods and climate change. Section II presents details on Viet Nam’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.

9 | Aichi Biodiversity Target 11 Country Dossier: VIET NAM

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](#), 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.



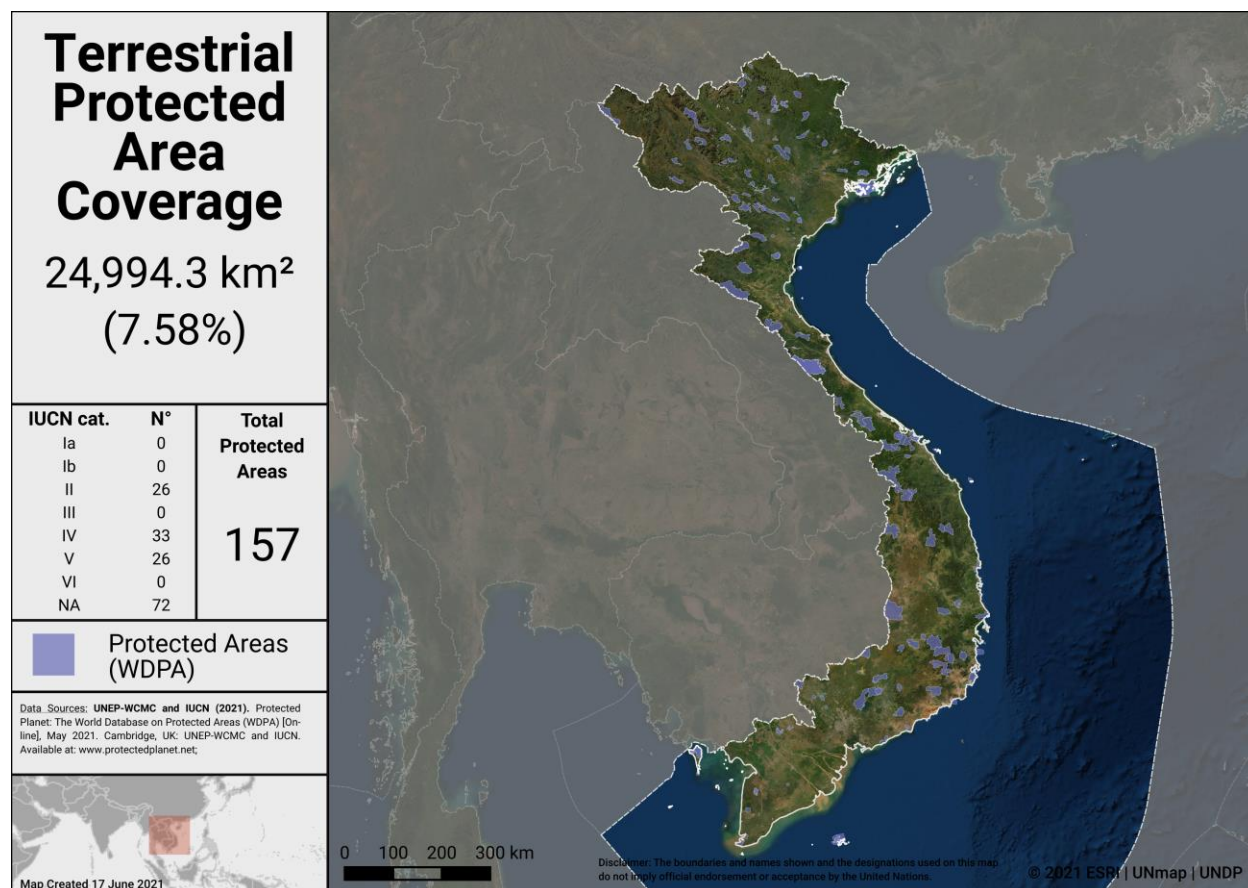
COVERAGE - TERRESTRIAL & MARINE

As of May 2021, Viet Nam has **209** protected areas reported in the World Database on Protected Areas (WDPA). 37 proposed PAs (including 1 PA that has no spatial boundary and no area listed in the WDPA), and a further 8 UNESCO-MAB Biosphere Reserves are not included in the following statistics (see details on UNWP-WCMCs methods for calculating PA and OECM coverage [here](#)).

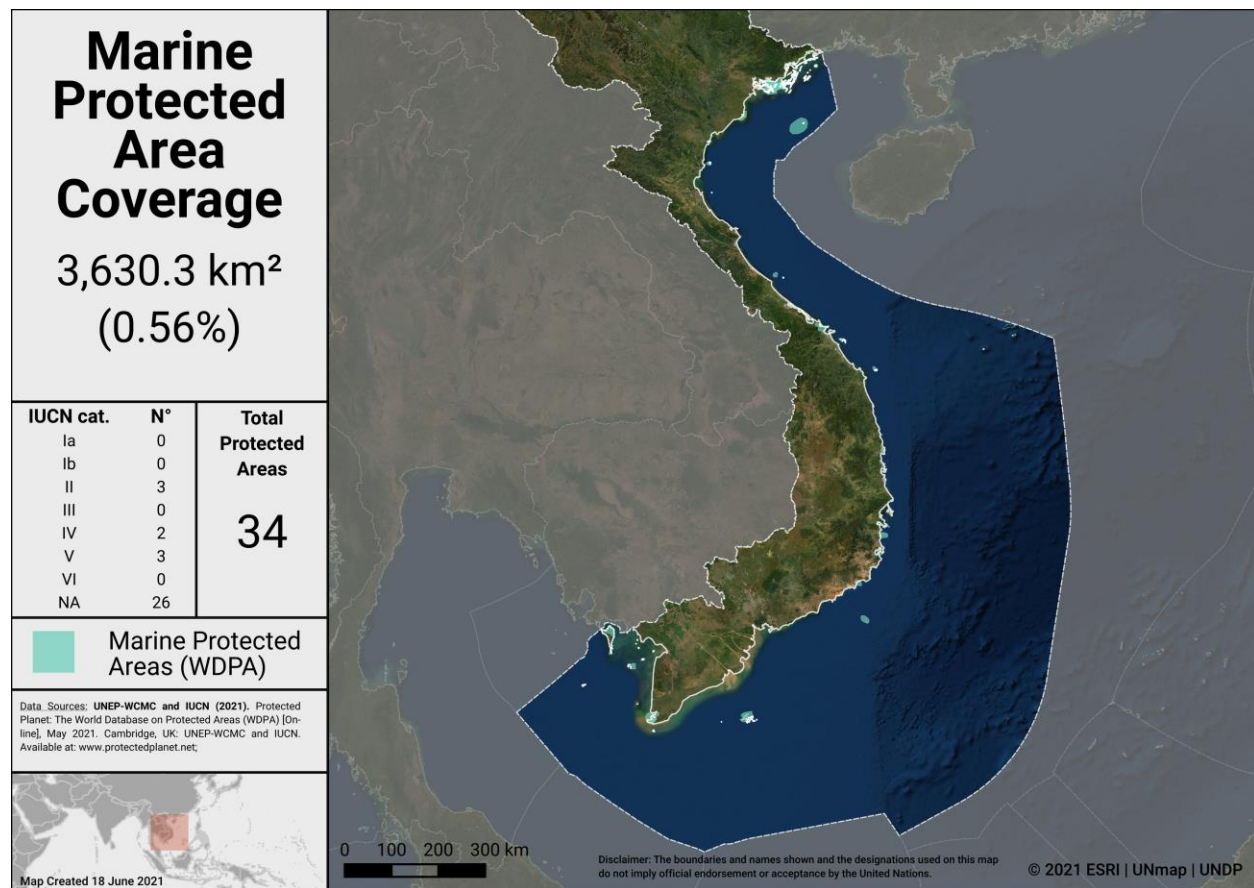
As of May 2021, Viet Nam has **0** OECMs reported in the world database on OECMs (WD-OECM).

Current coverage for Viet Nam:

- 7.6% terrestrial (157 protected areas, 24,994.3 km²)
- 0.6% marine (34 protected areas, 3,630.3 km²)



Terrestrial Protected Areas in Viet Nam



Marine Protected Areas in Viet Nam

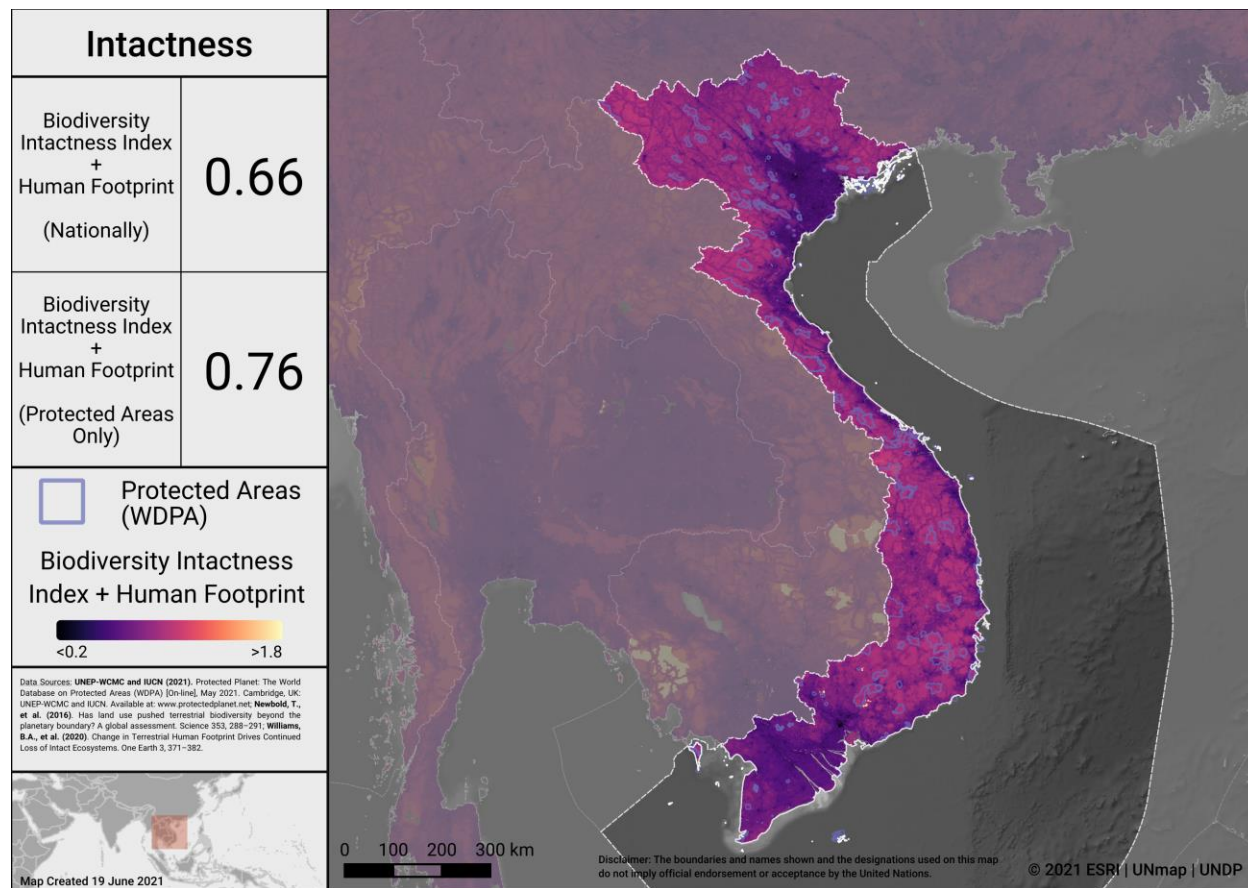
Potential OECMs

There are currently no potential OECM examples for Viet Nam.

Opportunities for action

Opportunities for the near-term include updating the WDPA with any unreported PAs, and the recognizing and reporting OECMs to the WD-OECM. In the future, as Viet Nam considers where to add new PAs and OECMs, the map below identifies areas in Viet Nam 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.

13 | Aichi Biodiversity Target 11 Country Dossier: VIET NAM



Intactness in Viet Nam

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).

Viet Nam has 15 **terrestrial** ecoregions. Out of these:

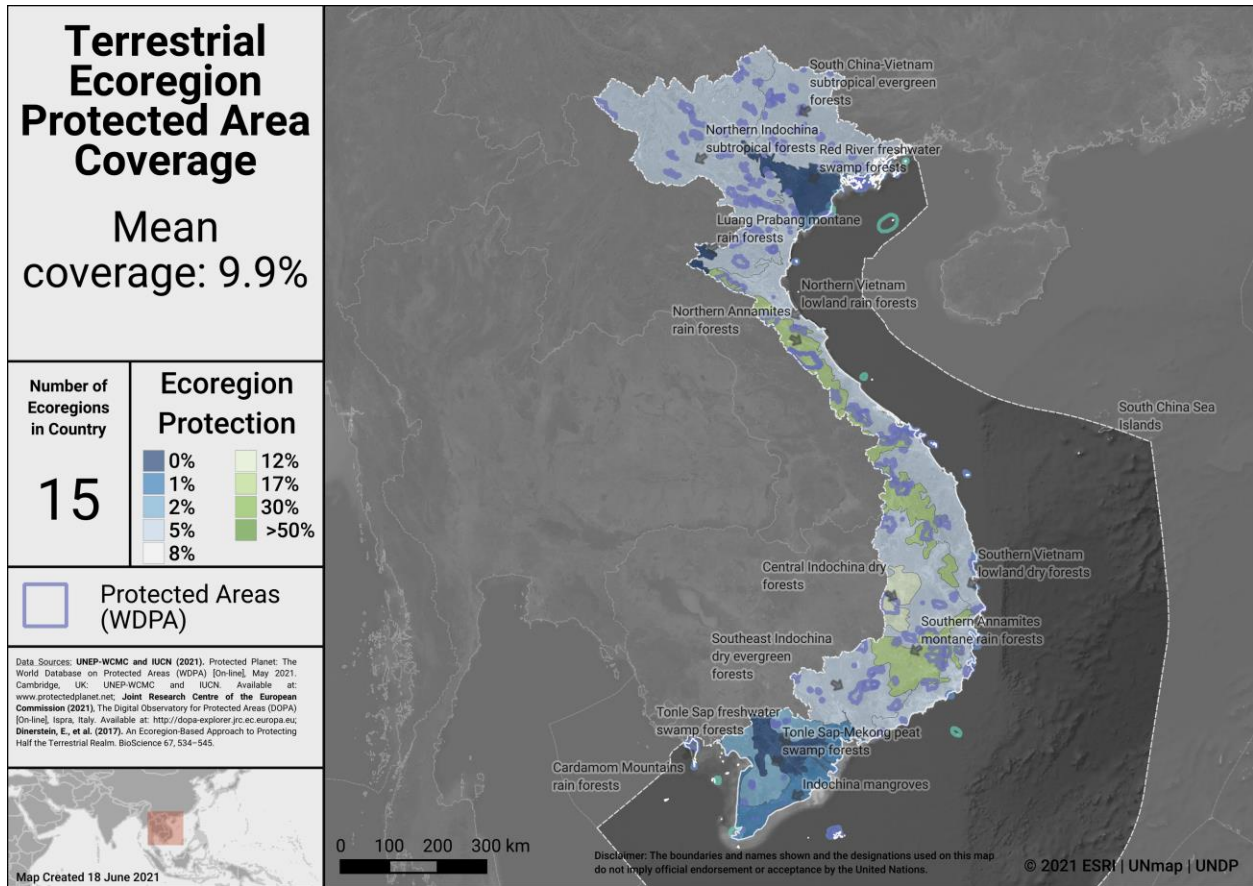
- 12 ecoregions have at least some coverage from PAs and OECMs.
- 3 ecoregions have at least 17% protected within the country.
- The average coverage of terrestrial ecoregions is 9.9%.

Viet Nam has 5 **marine** ecoregions and 1 **pelagic province**. Out of these:

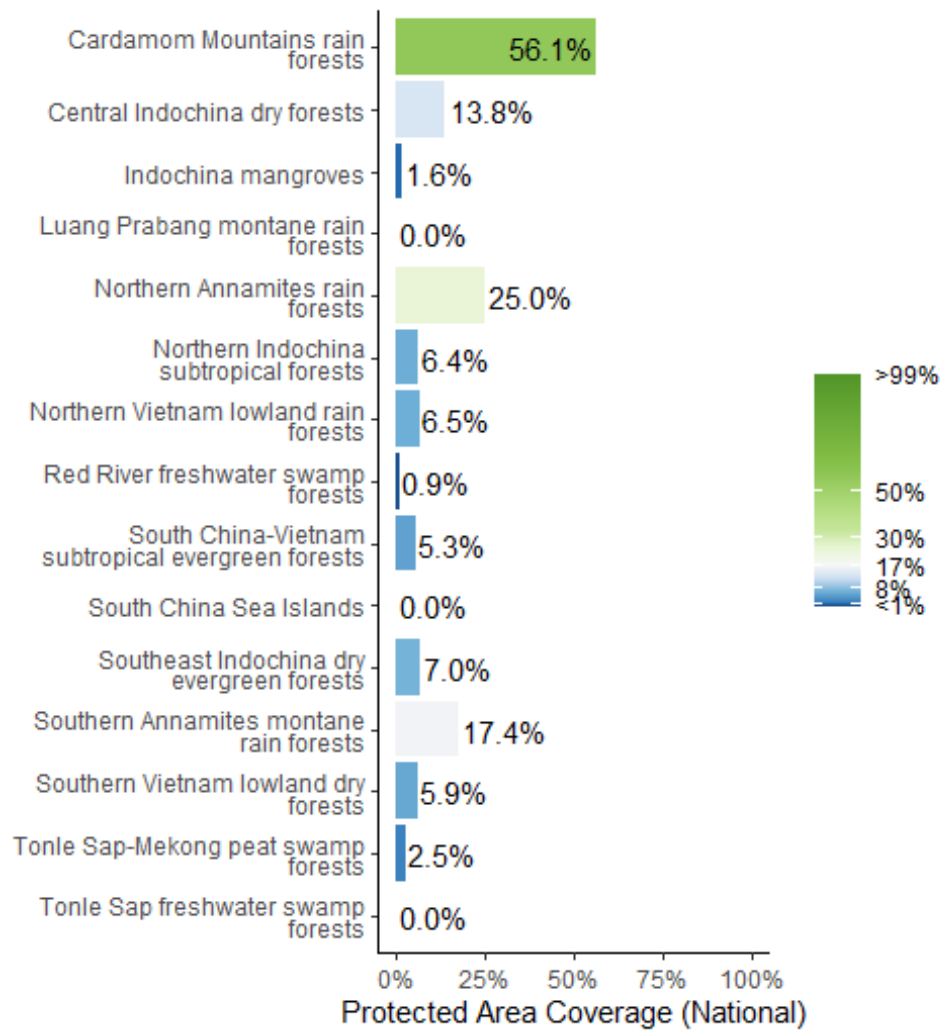
- 3 marine ecoregions and 0 pelagic provinces have at least some coverage from reported PAs and OECMs.
- 0 marine ecoregions and 0 pelagic provinces have at least 10% protected within Viet Nam's exclusive economic zone (EEZ).
- The average coverage of marine ecoregions is 0.7% and the coverage of the 1 pelagic province is 0.0%.

A full list of terrestrial ecoregions in Viet Nam is available in Annex I.





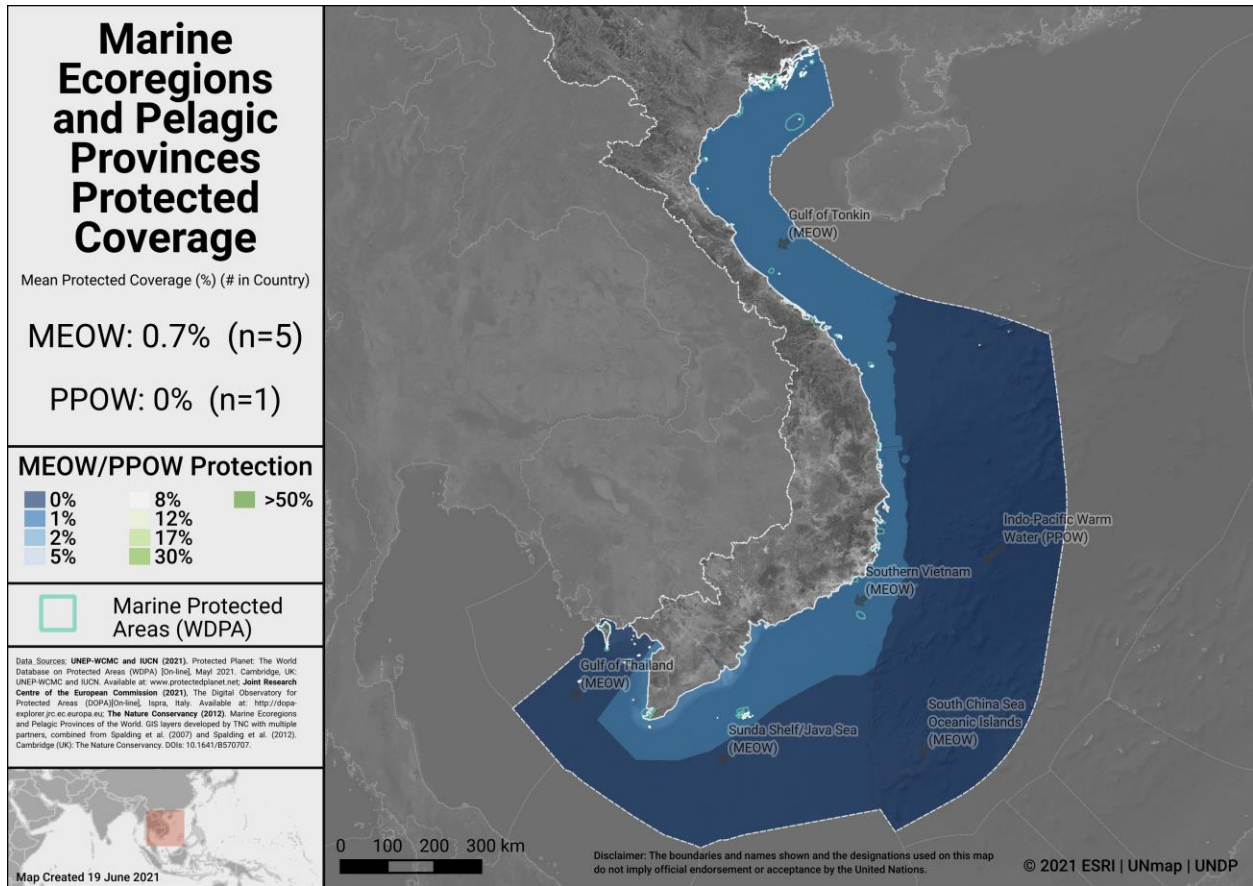
Terrestrial ecoregions in Viet Nam



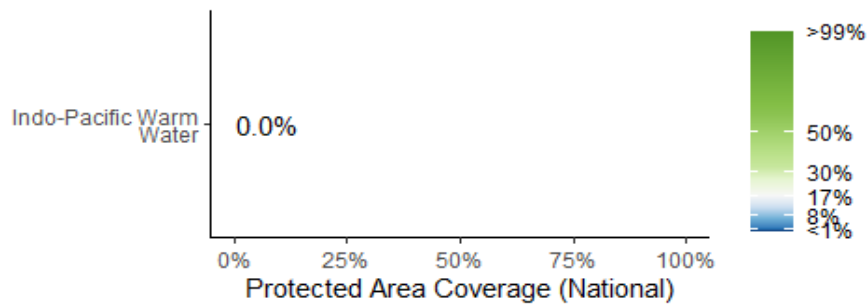
Terrestrial ecoregions of the World (TEOW) in Viet Nam



17 | Aichi Biodiversity Target 11 Country Dossier: VIET NAM



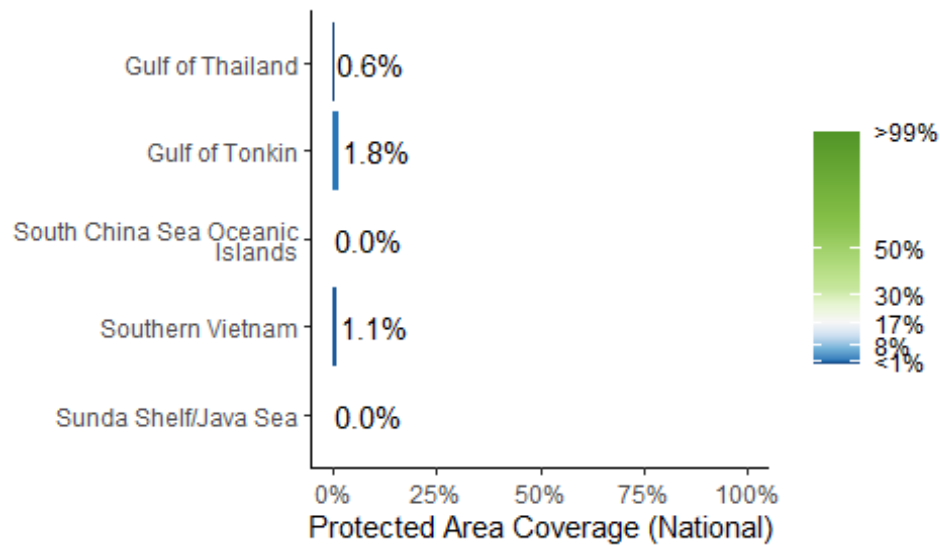
Marine ecoregions and pelagic provinces



Pelagic Provinces of the World (PPOW) in Viet Nam



18 | Aichi Biodiversity Target 11 Country Dossier: VIET NAM



Marine Ecoregions of the World (MEOW) in Viet Nam

Opportunities for action

There is opportunity for Viet Nam 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.

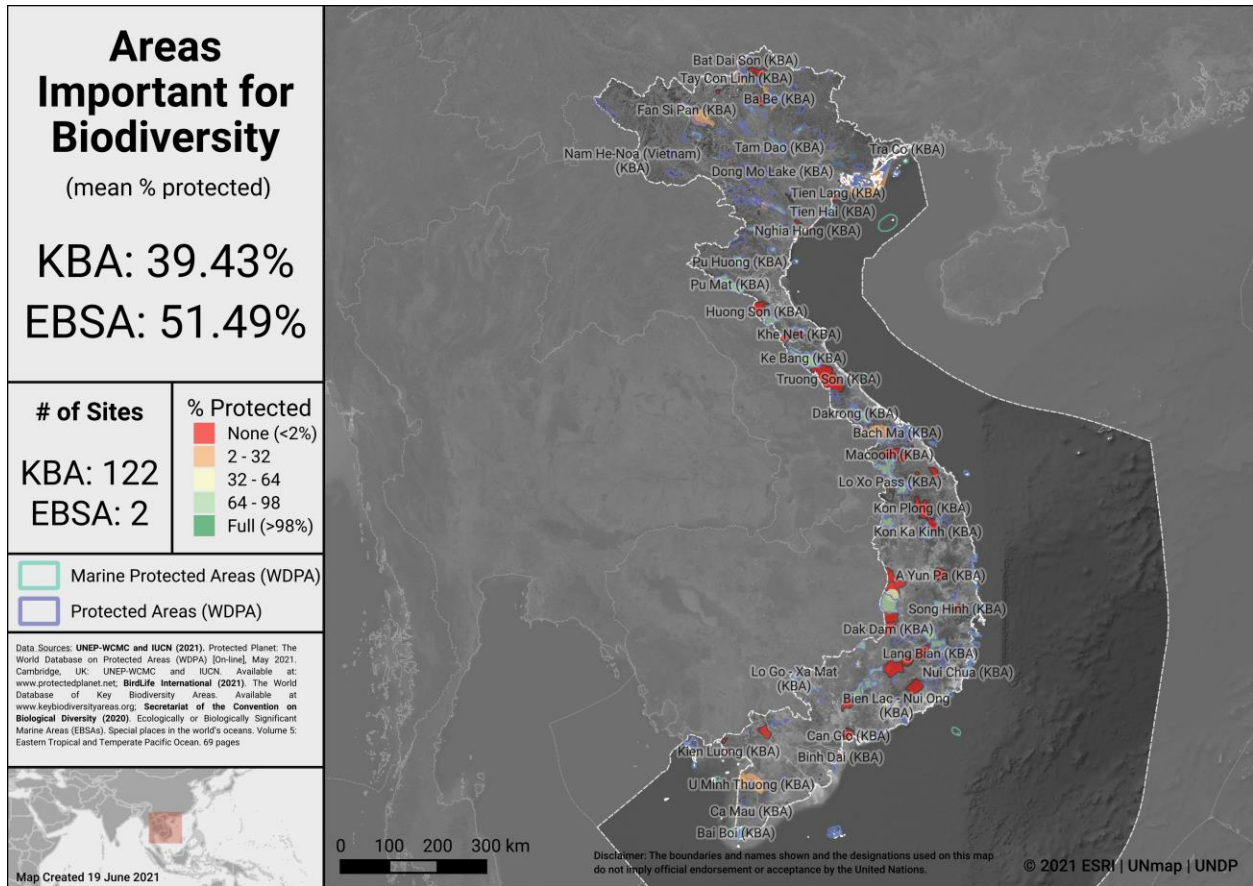
Viet Nam has 122 Key Biodiversity Areas (KBAs) [only **117** included in analysis].

- Mean percent coverage of all KBAs by PAs and OECMs in Viet Nam is **39.4%**.
- **4** KBAs have full (>98%) coverage by PAs and OECMs.
- **60** KBAs have partial coverage by PAs and OECMs.
- **53** KBAs have no (<2%) coverage by PAs and OECMs.
- *5 KBAs lack spatial data to allow PA and OECM coverage to be determined*

Ecologically or Biologically Significant Marine Areas (EBSAs)

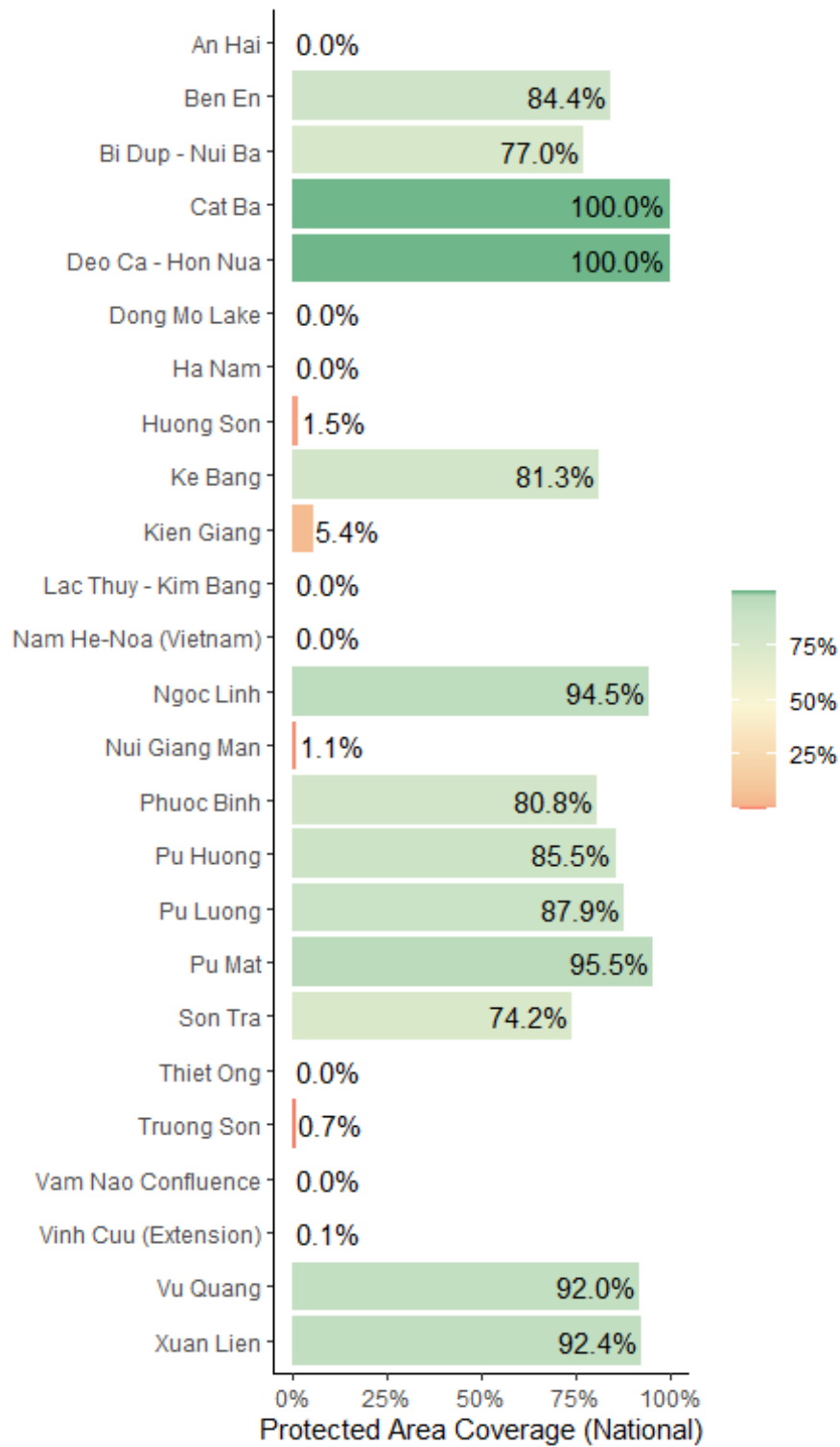
Other important areas for biodiversity may also include Ecologically or Biologically Significant Marine Areas (EBSAs), which were identified following the scientific criteria adopted at COP-9 (Decision IX/20; see more at: <https://www.cbd.int/ebsa/>). Sites that meet the EBSA criteria may require enhanced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

There are 2 EBSAs with some portion of their extent within Viet Nam's EEZ, both of which have >25% coverage from PAs and OECMs.



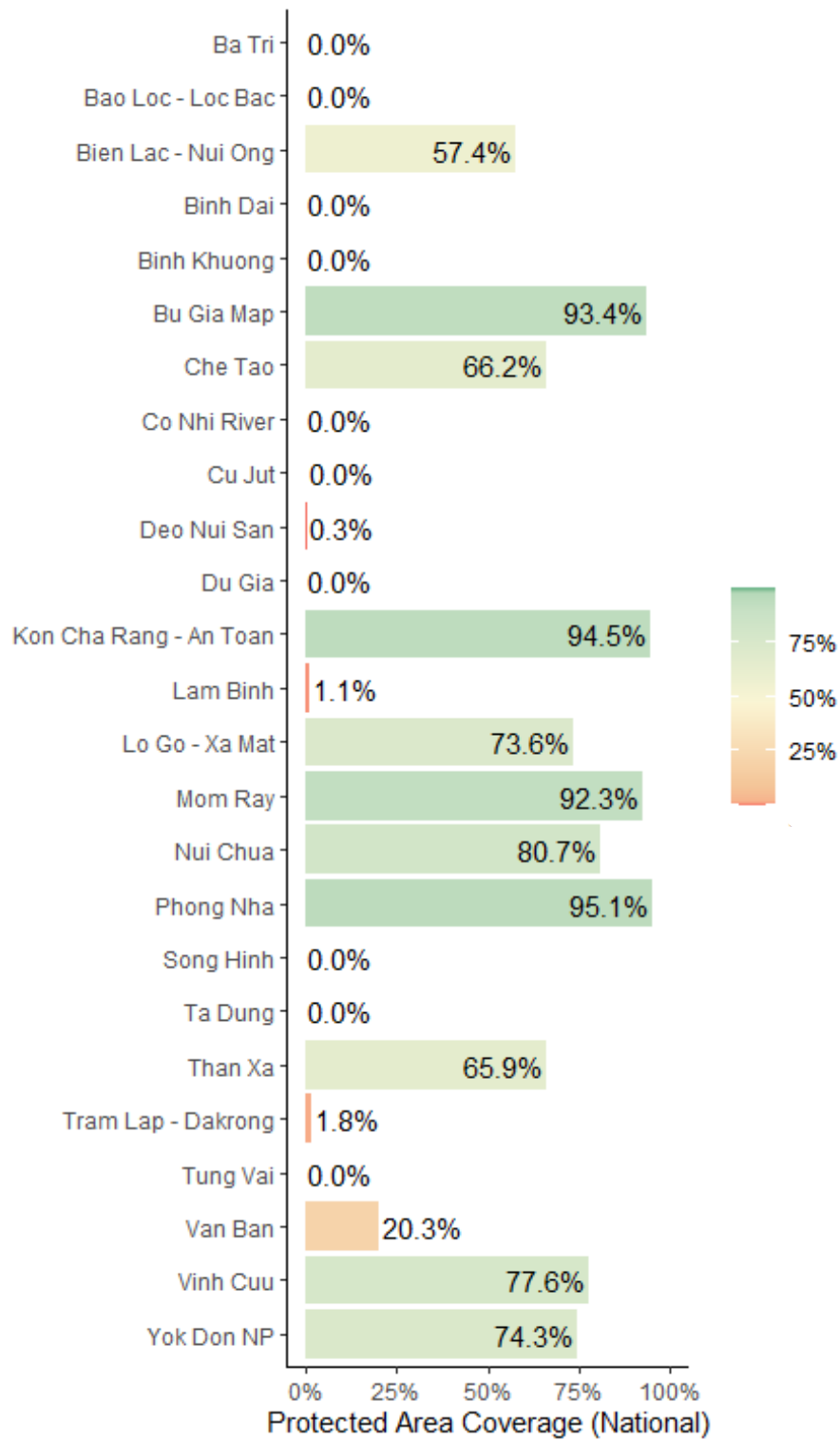
Areas Important for Biodiversity in Viet Nam

21 | Aichi Biodiversity Target 11 Country Dossier: VIET NAM

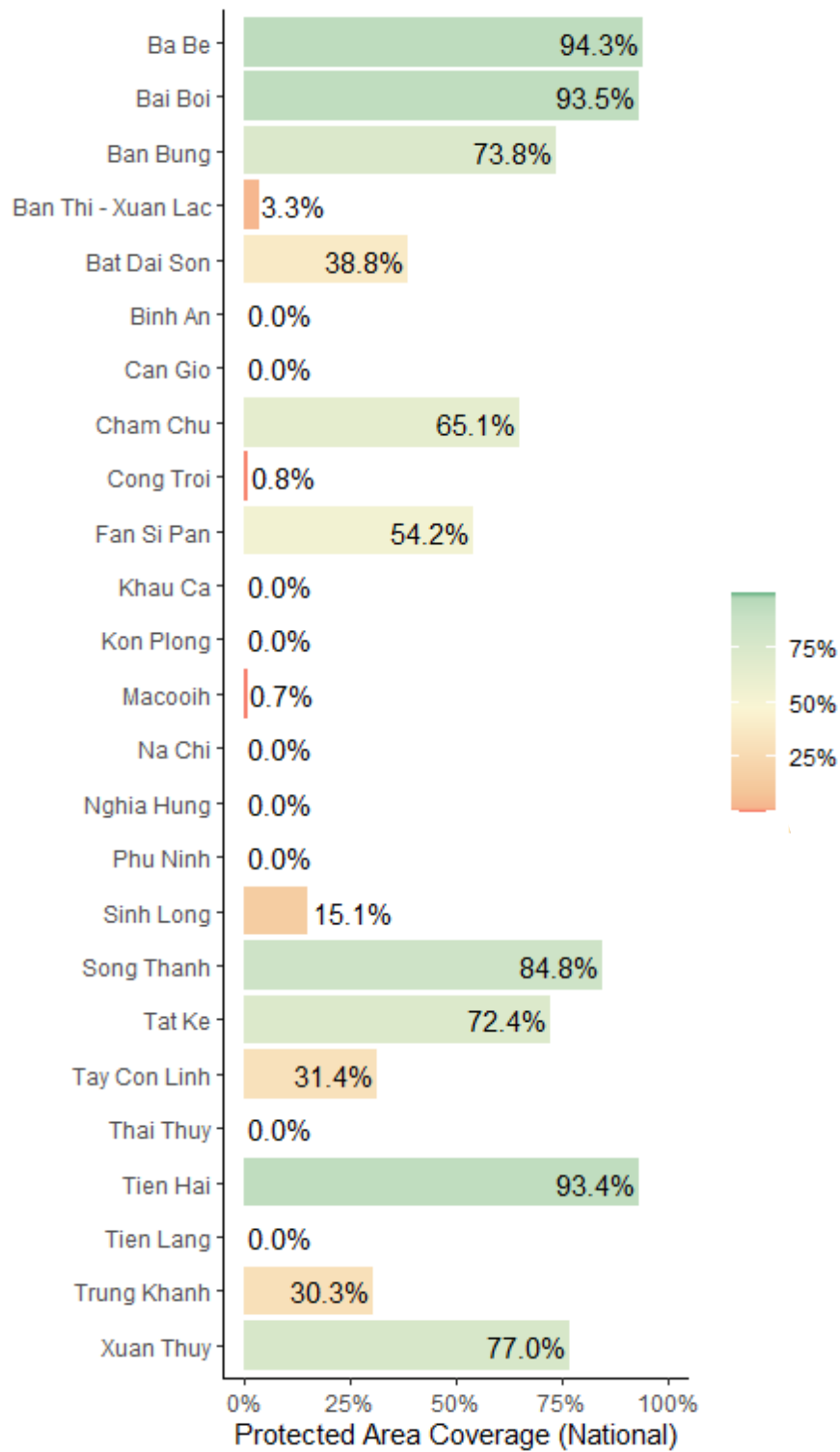


Key Biodiversity Area Coverage (KBA) in Viet Nam

22 | Aichi Biodiversity Target 11 Country Dossier: VIET NAM



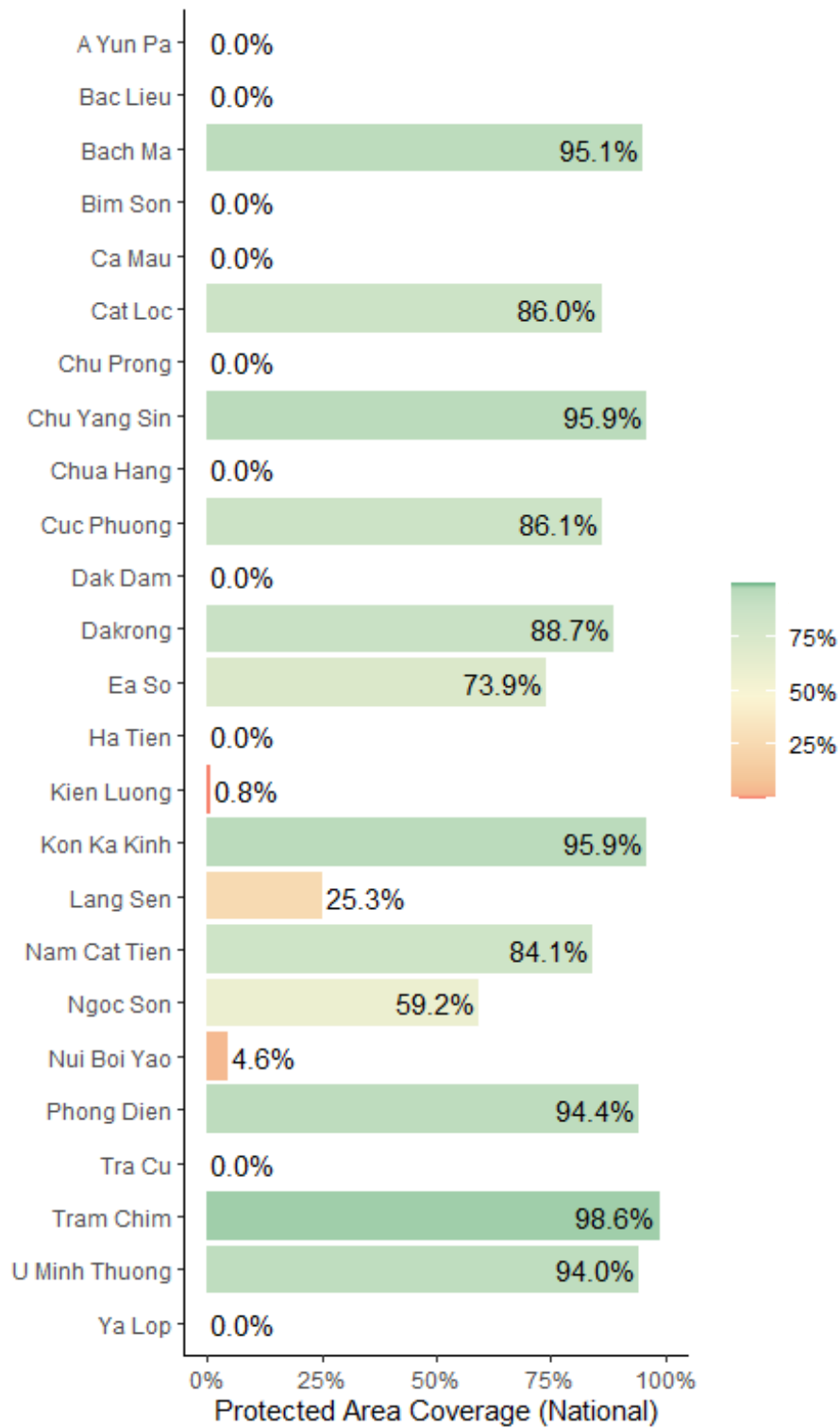
Key Biodiversity Area Coverage (KBA) in Viet Nam



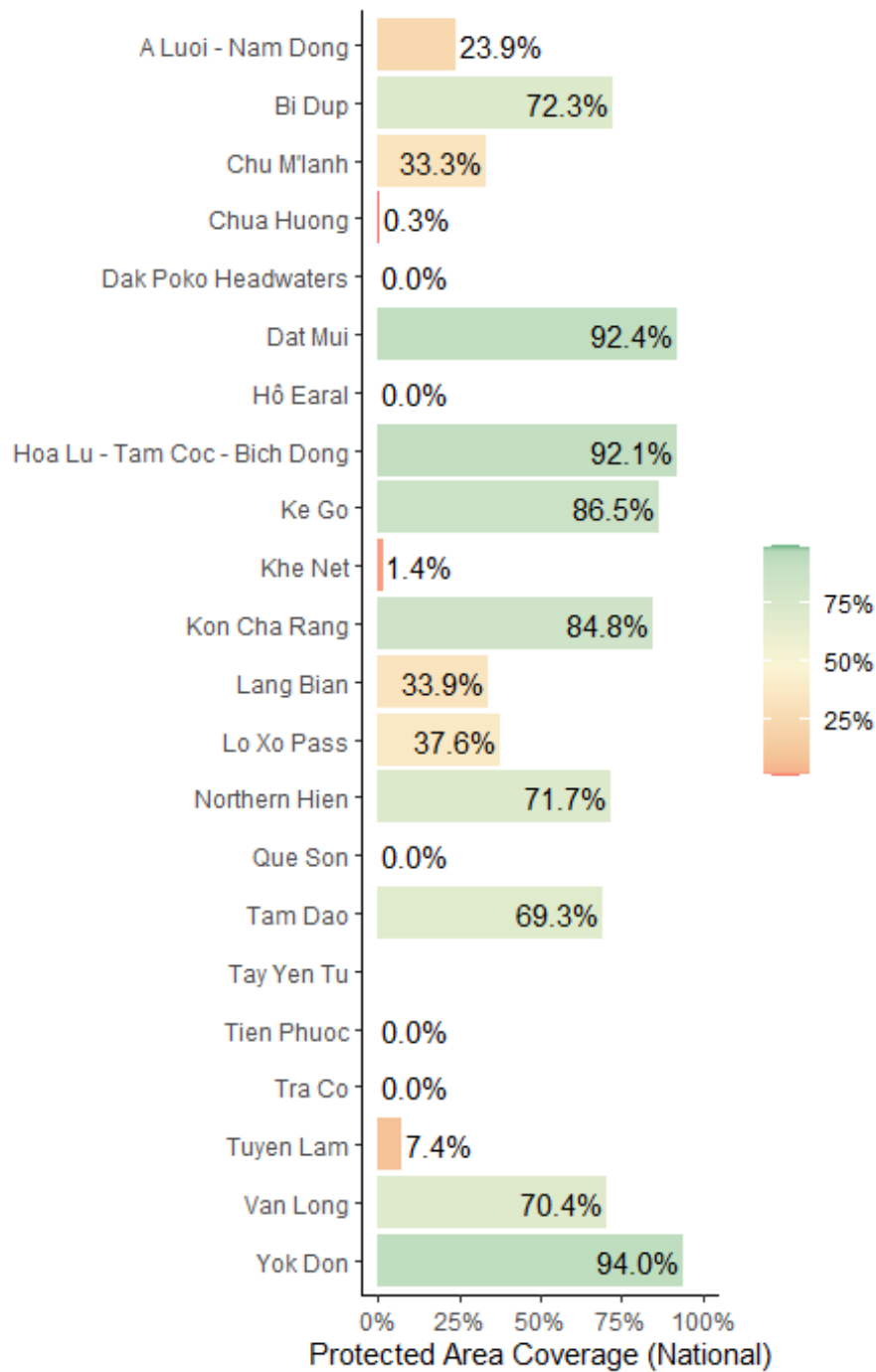
Key Biodiversity Area Coverage (KBA) in Viet Nam



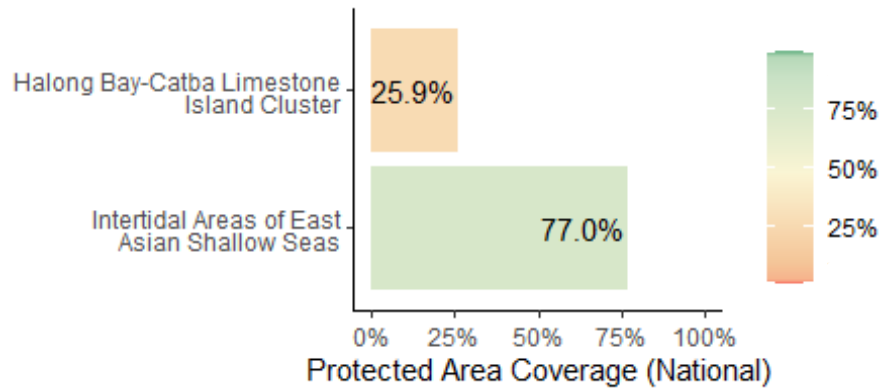
24 | Aichi Biodiversity Target 11 Country Dossier: VIET NAM



Key Biodiversity Area Coverage (KBA) in Viet Nam



Key Biodiversity Area Coverage (KBA) in Viet Nam



Ecologically or Biologically Significant Marine Areas (EBSAs) in Viet Nam

Opportunities for action

There is opportunity for Viet Nam 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.

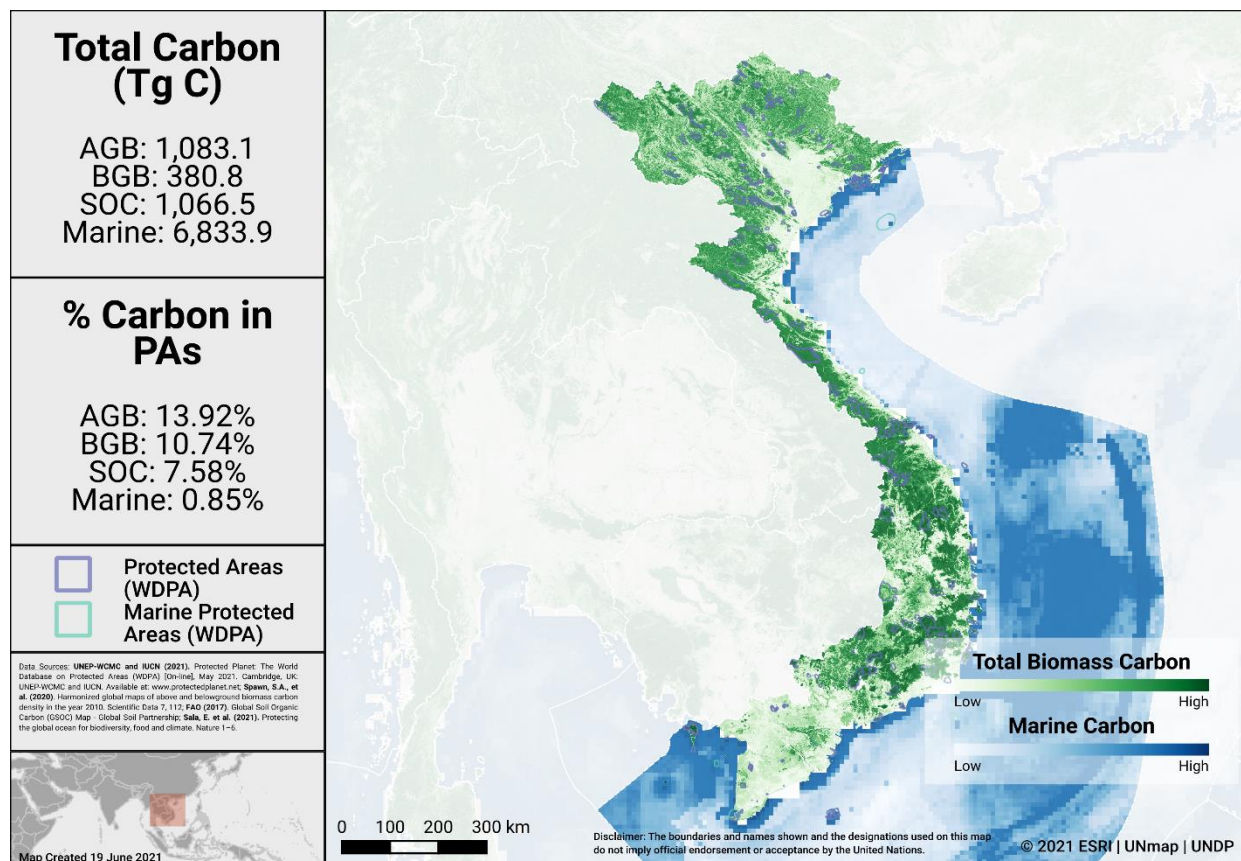
AREAS IMPORTANT FOR ECOSYSTEM SERVICES

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 below presents the total carbon stocks in Viet Nam and the percent of carbon in protected areas. The total carbon stocks is 1,083.1 Tg C from aboveground biomass (AGB), with 13.9% in protected areas; 380.8 Tg C from below ground biomass (BGB), with 10.7% in protected areas; 1,066.5 Tg C from soil organic carbon (SOC), with 7.6% in protected areas; and 6,833.9 Tg C from marine sediment carbon, with 0.9% in protected areas.



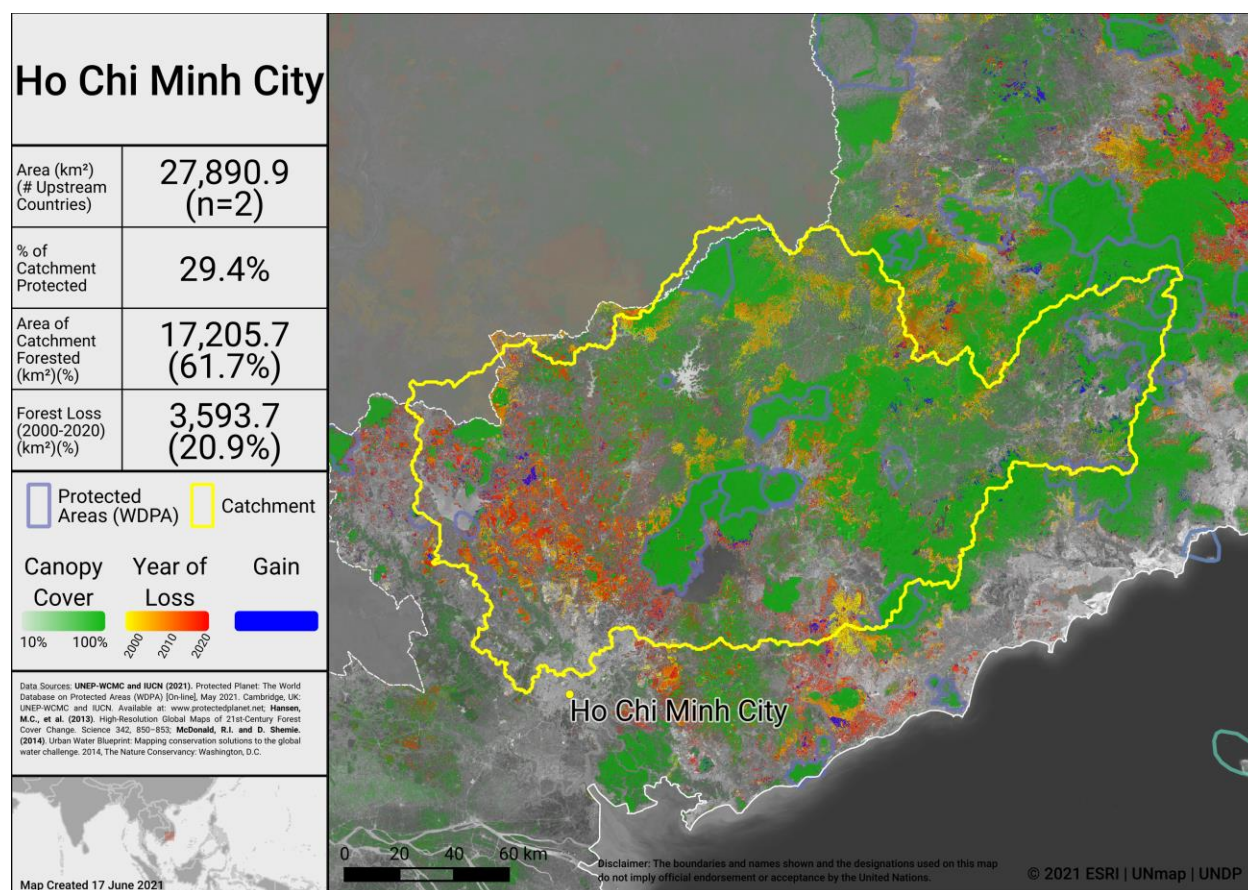
Carbon Stocks in Viet Nam

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 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 Viet Nam may similarly depend on protected forest areas within and around water catchments. The map below shows the percentage forest cover and the forest loss from 2000-2020 in the most heavily populated water catchment of Viet Nam. Intact catchments can support more consistent water supply and improved water quality.



Water supply area for the city of Ho Chi Minh City

Opportunities for action

For carbon, there is opportunity for Viet Nam 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).

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 Viet Nam was 1.7%.

PARC-Connectedness Index

In 2019, as assessed using the PARC-Connectedness Index (values ranging from 0-1, indicating low to high connectivity), connectivity in Viet Nam is 0.40. This represents a slight decrease from 0.41 in 2010.

Corridor case studies

There are currently no corridor case studies available for Viet Nam (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 in PA or OECM cover 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, PAs in Viet Nam reported in the WPDA have the following governance types:

- 76.6% are governed by **governments**
 - 4.3% by federal or national ministry or agency
 - 8.1% by sub-national ministry or agency
 - 64.1% by government-delegated management
- 0.0% are under **shared** governance
- 0.0% are under **private** governance
- 0.0% are under **IPLC** governance
 - 0.0% by Indigenous Peoples
 - 0.0% by local communities
- 23.4% **do not** report a governance type

OECMs

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

Privately Protected Areas (PPAs)

From Gloss et al. (2019), a UNDP study on PPA data for Viet Nam:

- PPAs **are not** formally defined in PA legislation (however, there are opportunities for private entities to manage forests for conservation on state property forests (e.g., *khoan quan ly bao ve rung*).
- PPAs **are not** directly identified in Viet Nam's recent NBSAP.
- PPAs **are not** included as part of the current PA network.

See additional info in country profile (<http://nbsapforum.net/knowledge-base/resource/vietnam-country-profile-international-outlook-privately-protected-areas>) and presented in Annex II.

Information on territories and areas conserved by Indigenous Peoples and local communities (ICCAs) reported from CBD technical series case studies:

There is currently no data available on ICCAs for Viet Nam (see Kothari et al., 2012 and the [ICCA Registry](#) for further details).



Other Indigenous lands

Lands managed and/or controlled by Indigenous Peoples cover an area of 165,651.0 km², of which 149,966.0 km² falls outside of formal protected areas. Indigenous lands with a human footprint less than 4 (considered as 'natural landscapes') cover an area of 19,857.0 km² (for details on analysis see Garnett et al., 2018).

For Viet Nam, 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).

Boundaries of the lands Indigenous Peoples manage or have tenure rights over come from: Indigenous Knowledge and Peoples (IKAP). Map of ethnic groups in MMSEA. http://pacling.anu.edu.au/materials/SEAMLES/map_ethnicgroup.jpg (2005).

Opportunities for action

Explore opportunities for governance types that have lower representation, for Viet Nam this could relate to governance by Indigenous Peoples and/or local communities (IPLC), and shared governance. Increase efforts to identify the governance types for the 23.4% of sites that do not have their governance type reported.

There is also opportunity for Viet Nam 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. Viet Nam has the following Equator Prize winners that showcase examples of local, sustainable community action:



Organization	Year	Project Description
Làng tre Phú An (Bamboo Village of Phu An)	2010	<p>The village of Phu An, located north of Saigon, was heavily bombed during the Viet Nam War. Làng tre Phú An (Bamboo Village of Phu An) has created an Eco-Museum of Bamboo and Botanical Conservatory with the aim of conserving biodiversity, protecting the region's bamboo forests, and helping to "transform the iron triangle into a green triangle." The initiative carries out conservation activities to protect and restore Viet Nam's bamboo, including endangered species from across the country. More than 350 varieties of bamboo are stored in its museum and botanical conservatory.</p> <p>This pioneering project has brought tangible economic rewards to the Phu An community, whose members are trained in the production of artisanal bamboo handicrafts. A total of 3,000 families have benefitted from the Bamboo Village, and out-migration from the area to urban centres has reduced significantly.</p>

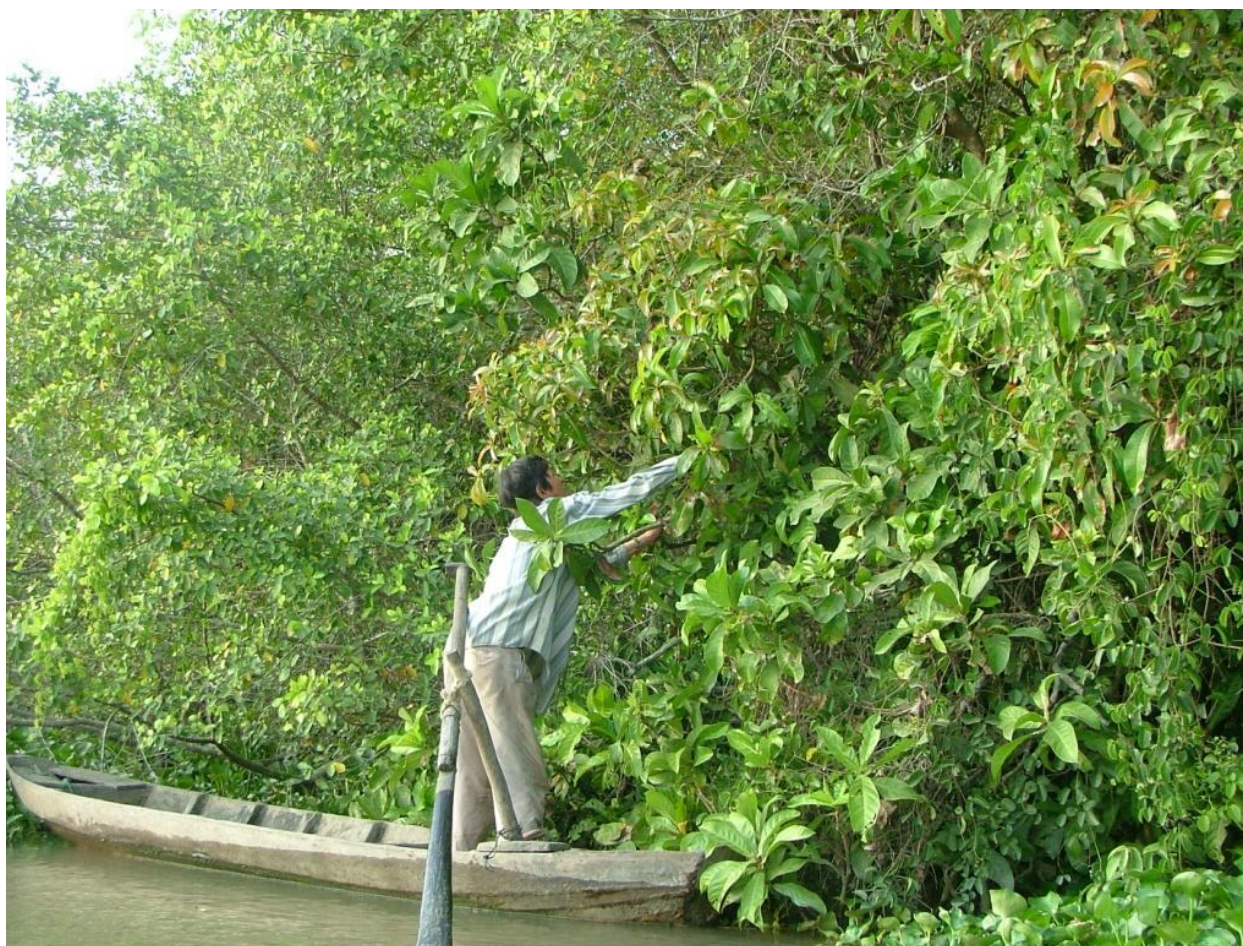


Photo from Equator Prize Project: Làng tre Phú An (Bamboo Village of Phu An)

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 May 2021, Viet Nam has 209 PAs reported in the WDPA; of these PAs, 48 (23.0%) have management effectiveness evaluations reported in the global database on protected area management effectiveness (GD-PAME).

- 4.1% (13,486 km²) of the terrestrial area of the country is covered by PAs with completed management effectiveness evaluations.
 - 54.0% of the area of terrestrial PAs have completed evaluations.
- 0.1% (716 km²) of the marine area of the country is covered by PAs with completed management effectiveness evaluations.
 - 19.7% of the area of marine PAs have completed evaluations.

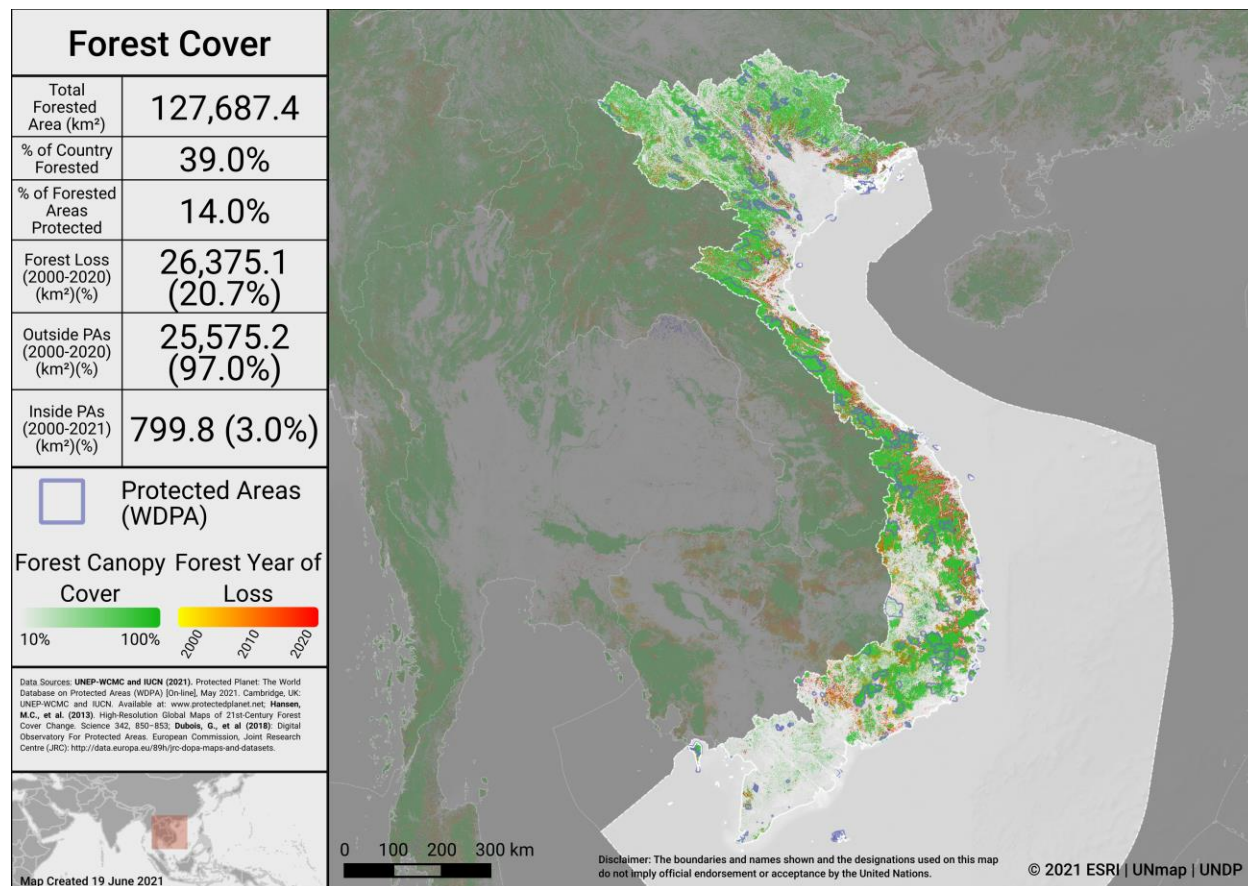
The 60% target for completed management effectiveness assessments (per COP Decision X/31) **has not** been met for terrestrial PAs and **has not** been met for marine PAs.

As of May 2021, there are 0 OECMs in Viet Nam reported in the WD-OECM and no information available on the management effectiveness of potential OECMs.

Changes in forest cover in protected areas and OECMs

Forested areas in Viet Nam cover approximately 39.0% of the country, an area of 127,687.4 km². Approximately 14.0% (17,864.4 km²) of this is within the protected area estate of Viet Nam. Over the period 2000-2020 loss of forest cover amounted to over 26,375.1 km², or 8.1% of the country (20.7% of forested area), of which 799.8 km² (3.0% of forest loss) occurred within protected areas. The map below shows how forest cover has changed in Viet Nam 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 Viet Nam

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 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 East Asia and Southeast Asia on achieving Aichi Biodiversity Targets 11 and 12 took place 15 - 18 September 2015 in Yanji, Jilin Province, China. 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/>

Summary from the workshop:

Priority actions and identified opportunities, if completed as proposed, will increase coverage of terrestrial areas by 4,406km². Bringing with them benefits for the other qualifying elements of Aichi Biodiversity Target 11. The following actions were identified:

Terrestrial coverage: Planned 46 PAs will be established, Area of PAs will be increased to 29,400.0 km² by 2020 (under Decision No.45/QD-TTg dated 08 January 2014 of the Prime Minister approving the National Biodiversity Conservation Master Plan to 2020, vision to 2030) [an increase of ~7,930 km² some of which has already been added]

Marine coverage: ensuring that the area of marine protected areas account for 0.24% of the sea area [completed: already surpassed (as of 2019)].

Ecological representation: forest coverage reaches 45%, primary forest remains at 0.57 million hectares coupled with effective protection plans; mangrove forests, seagrass beds, and coral reefs are maintained at the current levels; 15% of degraded critical ecosystems are restored; the number of internationally recognized protected areas are increased to 10 Ramsar wetlands, 10 biosphere reserves, and 10 ASEAN heritage parks.

Areas Important for biodiversity and ecosystem services: No actions were identified for this element of Target 11.

Connectivity: Biodiversity Corridors (4 Planned corridors by 2020).

Management effectiveness: No actions were identified for this element of Target 11.

Governance and Equity: Strengthen the involvement of community in biodiversity management, highlighting the involvement of and benefits to the communities living in buffer zones.

Integration: Biosphere Reserves to be recognized.

OECMs: Set up corridors.



NATIONAL BIODIVERSITY STRATEGY AND ACTION PLANS (NBSAPs)

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

To improve the quality and increase the area of protected ecosystems, ensuring that the area of terrestrial protected areas accounts for 9% of the total territorial area, marine protected areas account for 0.24% of the sea area, forest coverage reaches 45%, primary forest remains at 0.57 million hectares, coupled with effective protection plans; that mangrove forests, seagrass beds, and coral reefs are maintained at the current levels; that 15% of degraded critical ecosystems are restored; and the number of internationally recognized protected areas are increased to 10 Ramsar wetlands, 10 biosphere reserves, and 10 ASEAN heritage parks

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

- As of May 2021 (based on the WDPA/WD-OECM) has the target been met: **NO**
- Accounting for other projects, actions and commitments, if this target is met, coverage in the country will increase by **~224 km²**.

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

- As of May 2021 (based on the WDPA/WD-OECM) has the target been met: **YES**

Actions from the NBSAP will also address other elements of Aichi Biodiversity Target 11:

NBSAP Action #	Action (original language from NBSAP)
3.1.1.a.1	Identify critical ecosystems and prepare plans for expanding the system of protected areas
3.1.1.a.14	Conduct investigations and assess the values and ecosystem services of natural protected areas
3.1.1.a.2	Continue to implement the plan to establish marine and wetland protected areas
3.1.1.a.3	Establish biodiversity corridors connecting natural habitats of endangered, rare, and precious species prioritized for protection; establish 03 transboundary tiger conservation sites with Laos and Cambodia (Pu Mat National Park in Nghe An province; Sop Cop Protected Area in Son La province; and Yok Don National Park in Dak Lak province); and establish, in cooperation with Laos and Cambodia, a transboundary conservation site of Virachay, Dong Am Phan and Chu Mon Ray.

NBSAP Action #	Action (original language from NBSAP)
3.1.1.a.5	Conduct research on institutional structures to propose a model for one single management authority for protected areas, highlighting the involvement of and benefits to the communities living in the buffer zones
3.1.1.a.6	Improve the management system for protected areas, ensuring they are all established with a Management Board
3.1.1.a.13	Prepare and implement management and financial plans, monitoring and regulations for the management of natural protected areas, with the target to have these in place for all protected areas by 2015; ensuring that by 2020 the area of terrestrial protected areas accounts for 9% of the total territorial area; marine protected areas account for 0.24% of the sea area, and forest coverage reaches 45%
3.1.1.b.1	Investigate, review and map ecological regions, identifying areas of high biodiversity value, degraded areas, and sensitive areas
3.1.1.b.10	Implement measures to protect and restore coral reefs and seagrass ecosystems of appropriate scale and scope; implement the management solutions at central and provincial levels to protect and recover at least 15% of key ecosystems that are being degraded
3.1.1.b.13	Prepare and implement a plan to nominate protected areas for international awards, including wetlands of international importance (Ramsar site), biosphere reserves, and ASEAN heritage parks. Develop and issue guidelines for the management of internationally recognized protected areas; and implement policies to support capacity building for effective management of these areas; making best effort to have 10 Ramsar sites, 10 biosphere reserves, and 10 ASEAN heritage parks by 2020.
3.1.1.b.3	Conduct research, collect statistical data to assess the situation, and develop a data bank and maps of natural wetlands, seagrass beds, coral reefs and other typical natural ecosystems
3.1.1.b.8	Prepare and implement the national plan for conservation and sustainable use of wetlands with priority given to critical river basins; priority for key rivers such as Vu Gia – Thu Bon river, Ba river- Con river, Dong Nai river and Cuu Long river
3.1.3.a.2	Improve the policies and institutions to implement payments for the environmental services of forests at a national scale; and pilot a policy for payment for environmental services applicable to marine ecosystems and wetlands; ensuring that by 2020, there will be at least 15 protected areas applying benefit sharing mechanism

NBSAP Action #	Action (original language from NBSAP)
3.1.3.a.7	Replicate a model for the management of protected areas involving community participation, and implement mechanisms to share benefits in an equitable way amongst involved parties; Apply and implement effectively co-management mechanism in most protected areas, ensuring the community involvement in the management of and sharing benefits from protected areas through policies to encourage community involvement in protected area patrolling and monitoring; implement and control strictly the mechanism of allocating land of protected areas; jointly implement mechanism of payment for ecosystem service and forest environment service leasing
3.2.4	Plan on strengthening management capacity for system of natural protected areas
3.3.1.b.2	Promote information, education, and communication regularly and extensively to all organizations, individuals and communities about the importance of conservation and sustainable use of biodiversity; enhance the social responsibility of the business sector in conservation and sustainable use of biodiversity; Research and apply measures to encourage enterprise involvement in biodiversity conservation and sustainable development.
3.3.2.d.2	Conduct research to establish a biodiversity monitoring network; implement biodiversity monitoring at protected areas; set up databases and establish a mechanism for reporting and information sharing between central authorities and protected areas; development of biodiversity indicator set and technical guidelines on biodiversity monitoring conformity with international standards; implementing projects piloting biodiversity monitoring for three typical ecosystems: forest, wetland and marine.



APPROVED GEF-5, GEF-6, & GCF 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)
4760	Yes	65	Terrestrial	Ecologically representative; Areas important for biodiversity; Effectively managed; Integration
9361	Yes	0	Terrestrial	All except Ecologically representative and Ecosystem services
4659	Yes	1,250	Marine	All except Connectivity
5005	No	N/A	N/A	All except Ecologically representative and Equitably managed

Based on spatial data available for GEF project 1030, 1031, 4760 and 9361, benefits will arise for several elements of Target 11:

Coverage of Terrestrial and Marine Ecoregions:

- 6 Terrestrial Ecoregions will have improved coverage. These Ecoregions are: Indochina mangroves; Northern Annamites rain forests; Northern Indochina subtropical forests; Southeast Indochina dry evergreen forests; Northern Vietnam lowland rain forests; Red River freshwater swamp forests.
 - The average increase in coverage of Terrestrial Ecoregions will be 1.53%.
- 1 Marine Ecoregions will have improved coverage (Gulf of Tonkin).
 - The increase in coverage of Marine Ecoregions will be 0.06%.

Coverage of KBAs:

- Coverage will improve for 9 KBAs.



Approved Green Climate Fund (GCF) Protected Area-related biodiversity projects

The Green Climate Fund's investments listed as approved projects as of May 2021 were considered. The GCF supports paradigm shifts in both climate change mitigation and adaptation that may impact quality of PAs or contribute to better integration within the wider land- and seascapes around PAs. Only projects with result areas for either or both *Forest and Land Use and Ecosystems and Ecosystem Services result areas* were included.

GCF ID	Project theme	Result area	Target 11 element
FP013	Cross-cutting	Forest and land use	Effectively managed; Ecosystem services; Equitably managed

OTHER ACTIONS/COMMITMENTS

Leaders' Pledge for Nature

Viet Nam **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.



ANNEX I

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
Cardamom Mountains rain forests	569.5	1.3	0.2	319.4	56.1
Central Indochina dry forests	6,781.4	2.1	2.1	937.5	13.8
Indochina mangroves	17,314.4	64.7	5.3	269.4	1.6
Luang Prabang montane rain forests	1,371.2	1.9	0.4	0.0	0.0
Northern Annamites rain forests	11,844.8	25.2	3.6	2,960.7	25.0
Northern Indochina subtropical forests	77,411.4	17.8	23.6	4,963.4	6.4
Northern Vietnam lowland rain forests	22,448.7	99.7	6.9	1,471.0	6.6
Red River freshwater swamp forests	10,724.1	100.0	3.3	95.3	0.9
South China Sea Islands	0.2	0.6	0.0	0.0	0.0
South China-Vietnam subtropical evergreen forests	37,911.3	16.9	11.6	2,021.4	5.3
Southeast Indochina dry evergreen forests	50,257.6	40.6	15.3	3,527.6	7.0
Southern Annamites montane rain forests	31,191.7	67.3	9.5	5,441.6	17.4
Southern Vietnam lowland dry forests	34,904.9	100.0	10.7	2,057.3	5.9



43 | Aichi Biodiversity Target 11 Country Dossier: VIET NAM

Ecoregion Name	Area (km²)	% of Global Ecoregion in Country	% of Country in Ecoregion	Area Protected (km²)	% Protected in Country
Tonle Sap freshwater swamp forests	10,116.8	39.0	3.1	0.0	0.0
Tonle Sap-Mekong peat swamp forests	14,508.9	49.6	4.4	362.6	2.5



ANNEX II

ADDITIONAL DETAILS ON PPAs

- ~76% of forestland under state ownership and control; and ~24% under the control (but not ownership) of private entities or individuals
- Although PPAs are Not formally defined in PA legislation, there are opportunities for private entities to manage forests for conservation on state property forests (*khoan quan ly bao ve rung*). The Army, various state-owned companies, municipal and provincial People's Committees, and individuals and households may manage protection forests (general guidelines exist for forest leases, and depending on the terms of the contract, it is possible that conservation leases may fall into the category of a PPA)
- PPAs were not directly identified in the county's recent NBSAP, though it does highlights ecotourism ventures (which are allowed in Special Use Forests, as long as they comply with relevant forest laws and decrees) as a key strategy.

Case studies/best practices:

- *Whale Island Resort* is essentially a marine protected area managed by a hotel within the conserved area.
- The first (and only) forest lease for conservation in Vietnam was signed in 2015 (768 ha), which falls within a larger protection forest
- Forest Protection Contracts for Buffer Zone Households program provides a payment for ecosystem services that directly incentivizes afforestation and protection.

See additional info in country profile (<http://nbsapforum.net/knowledge-base/resource/vietnam-country-profile-international-outlook-privately-protected-areas>).



REFERENCES

- Atwood, TB, Witt, A, Mayorga, J, Hammill, E, & Sala, E. (2020). Global patterns in marine sediment carbon stocks. *Frontiers in Marine Science*.
<https://doi.org/10.3389/fmars.2020.00165>
- BirdLife International (2021). World Database of Key Biodiversity Areas. Available at:
<http://www.keybiodiversityareas.org>
- CBD (2010). Decision adopted by the Conference of the Parties to the Convention on Biological Diversity at its tenth meeting. Decision X/2. Strategic plan for biodiversity 2011–2020. Retrieved from <https://www.cbd.int/doc/decisions/cop-10/cop-10-dec02-en.pdf>.
- CSIRO (2019). Protected area connectedness index (PARCconnectedness).
<https://www.bipindicators.net/indicators/protected-area-connectedness-index-parcconnectedness>
- Dinerstein, E., et al. (2017). An ecoregion-based approach to protecting half the terrestrial realm. *BioScience* 67(6), 534-545.
- Donald et al., 2019, The prevalence, characteristics and effectiveness of Aichi Target 11's "other effective area-based conservation measures"(OECMs) in Key Biodiversity Areas. *Conservation Letters*, 12(5).
- EC-JRC (2021). DOPA Indicator factsheets: <http://dopa.jrc.ec.europa.eu/en/factsheets>
- FAO (2017). Global Soil Organic Carbon (GSOC) Map - Global Soil Partnership [WWW Document]. URL <http://www.fao.org/global-soil-partnership/pillars-action/4-information-and-data/global-soil-organic-carbon-gsoc-map/en/>.
- Franks, P and Booker, F (2018). Governance Assessment for Protected and Conserved Areas (GAPA): Early experience of a multi-stakeholder methodology for enhancing equity and effectiveness. IIED Working Paper, IIED, London. <https://pubs.iied.org/17632IIED>
- Franks, P. et al. (2018). Social Assessment for Protected and Conserved Areas (SAPA). Methodology manual for SAPA facilitators. Second edition. IIED, London.
<https://pubs.iied.org/14659iied>
- Garnett et al. (2018). A spatial overview of the global importance of Indigenous lands for conservation. *Nature Sustainability*, 1(7), 369.
- Global Environment Facility (GEF-5 and GEF-6); all projects can be found online at:
<https://www.thegef.org/projects>
- Gloss, L. et al. (2019). International Outlook for Privately Protected Areas: Summary Report. International Land Conservation Network (a project of the Lincoln Institute of Land Policy) and United Nations Development Programme. Summary report, and individual country profiles, available at: <https://nbsapforum.net/knowledge-base/resource/international-outlook-privately-protected-areas-summary-report>

Hansen, M.C., Potapov, P.V., Moore, R., Hancher, M., Turubanova, S.A., Tyukavina, A., Thau, D., Stehman, S.V., Goetz, S.J., Loveland, T.R., Kommareddy, A., Egorov, A., Chini, L., Justice, C.O., Townshend, J.R.G., (2013). High-Resolution Global Maps of 21st-Century Forest Cover Change. *Science* 342, 850–853. <https://doi.org/10.1126/science.1244693>

Hilty, J et al. (2020). Guidelines for conserving connectivity through ecological networks and corridors. Best Practice Protected Area Guidelines Series No. 30. Gland, Switzerland: IUCN. <https://portals.iucn.org/library/sites/library/files/documents/PAG-030-En.pdf>

IIED 2020. Site-level assessment of governance and equity (SAGE) <https://www.iied.org/site-level-assessment-governance-equity-sage>.

IUCN (2016). A Global Standard for the Identification of Key Biodiversity Areas, Version 1.0. First edition. Gland, Switzerland: IUCN. <https://portals.iucn.org/library/sites/library/files/documents/2016-048.pdf>

IUCN-WCPA (2017). IUCN-WCPA Task Force on OECMs collation of case studies submitted 2016-2017. <https://www.iucn.org/commissions/world-commission-protected-areas/our-work/oecms/oecm-reports>

Joint Research Centre of the European Commission (JRC) (2021), The Digital Observatory for Protected Areas (DOPA) Explorer 4.1 [On-line], [Apr/2021], Ispra, Italy. Available at: <http://dopa-explorer.jrc.ec.europa.eu>

Kothari, A., et al. (Eds) (2012). Recognising and Supporting Territories and Areas Conserved By Indigenous Peoples And Local Communities: Global Overview and National Case Studies. Secretariat of the CBD, ICCA Consortium, Kalpavriksh, and Natural Justice, Montreal, Canada. Technical Series no. 64.

Lausche, B., Laur, A., Collins, M. (2021). *Marine Connectivity Conservation 'Rules of Thumb' for MPA and MPA Network Design*. Version 1.0. IUCN WCPA Connectivity Conservation Specialist Group's Marine Connectivity Working Group.

McDonald, R.I., Weber, K., Padowski, J., Flörke, M., Schneider, C., Green, P.A., Gleeson, T., Eckman, S., Lehner, B., Balk, D., Boucher, T., Grill, G., Montgomery, M., (2014). Water on an urban planet: Urbanization and the reach of urban water infrastructure. *Global Environmental Change* 27, 96–105. <https://doi.org/10.1016/j.gloenvcha.2014.04.022>

National Biodiversity Strategy and Action Plan (NBSAPs); most recent NBSAP is available at: <https://www.cbd.int/nbsap/search/>

Newbold, T., Hudson, L.N., Arnell, A.P., Contu, S., Palma, A.D., Ferrier, S., Hill, S.L.L., Hoskins, A.J., Lysenko, I., Phillips, H.R.P., Burton, V.J., Chng, C.W.T., Emerson, S., Gao, D., Pask-Hale, G., Hutton, J., Jung, M., Sanchez-Ortiz, K., Simmons, B.I., Whitmee, S., Zhang, H., Scharlemann, J.P.W., Purvis, A., (2016). Has land use pushed terrestrial biodiversity beyond the planetary boundary? A global assessment. *Science* 353, 288–291. <https://doi.org/10.1126/science.aaf2201>

Sala, E. et al. (2021). Protecting the global ocean for biodiversity, food and climate. *Nature*, 592(7854), 397-402.

Saura, S. et al. (2018). Protected area connectivity: Shortfalls in global targets and country-level priorities. *Biological Conservation*, 219, 53-67.

Saura, S. et al (2017). Protected areas in the world's ecoregions: How well connected are they? *Ecological Indicators*, 76, 144-158.

Spalding, M.D., et al. (2012). Pelagic provinces of the world: a biogeographic classification of the world's surface pelagic waters. *Ocean & Coastal Management* 60, 19–30.

Spalding, M.D., et al. (2007). Marine ecoregions of the world: a bioregionalization of coastal and shelf areas. *BioScience* 57(7): 573–583.

Spawn, S.A., Sullivan, C.C., Lark, T.J., Gibbs, H.K., (2020). Harmonized global maps of above and belowground biomass carbon density in the year 2010. *Scientific Data* 7, 112.
<https://doi.org/10.1038/s41597-020-0444-4>

Stolton, S. et al. (2014). *The Futures of Privately Protected Areas*. Gland, Switzerland: IUCN.

UNEP-WCMC and IUCN (2021) *Protected Planet Report 2020*. UNEP-WCMC and IUCN: Cambridge UK; Gland, Switzerland.

UNEP-WCMC and IUCN (2021), *Protected Planet: The Global Database on Protected Area Management Effectiveness (GD-PAME)* [On-line], [May/2021] , Cambridge, UK: UNEP-WCMC and IUCN. Available at: www.protectedplanet.net.

UNEP-WCMC and IUCN (2021), *Protected Planet: The World Database on Protected Areas (WDPA)* [On-line], [May/2021] , Cambridge, UK: UNEP-WCMC and IUCN. Available at: www.protectedplanet.net.

UNEP-WCMC and IUCN (2021), *Protected Planet: The World Database on Other Effective Area-based Conservation Measures (WD-OECM)* [On-line], [May/2021] , Cambridge, UK: UNEP-WCMC and IUCN. Available at: www.protectedplanet.net.

UN Ocean Conference Voluntary Commitments, available at:
<https://oceanconference.un.org/commitments/>

Williams, B.A., Venter, O., Allan, J.R., Atkinson, S.C., Rehbein, J.A., Ward, M., Marco, M.D., Grantham, H.S., Ervin, J., Goetz, S.J., Hansen, A.J., Jantz, P., Pillay, R., Rodríguez-Buriticá, S., Supples, C., Virnig, A.L.S., Watson, J.E.M., (2020). Change in Terrestrial Human Footprint Drives Continued Loss of Intact Ecosystems. *One Earth* 3, 371–382.
<https://doi.org/10.1016/j.oneear.2020.08.009>



48 | Aichi Biodiversity Target 11 Country Dossier: VIET NAM

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