Convention on Biological Diversity

UNDP

Aichi Biodiversity Target 11 Country Dossier: THAILAND

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TABLE OF CONTENTS

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, terrestrial coverage in Thailand is 96,035.2 km^2 (18.5%) and marine coverage is 13,411.5 km^2 (4.4%).
- **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:** Thailand contains 15 terrestrial ecoregions, 4 marine ecoregions, and 1 pelagic province: the mean coverage by reported PAs and OECMs is 23.8% (terrestrial), 4.9% (marine), and 0.0% (pelagic); 2 marine ecoregions and 1 pelagic province have no coverage by reported PAs and OECMs.
- **Opportunities for action:** there is opportunity for Thailand 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:** Thailand has 117 Key Biodiversity Areas (KBAs): the mean protected coverage of KBAs by reported PAs and OECMs is 69.6%, while 22 KBAs have no coverage by reported PAs and OECMs.

- **Opportunities for action:** there is opportunity for Thailand 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 Thailand, 37.7% of aboveground biomass carbon, 38.0% of belowground biomass carbon, 33.1% of soil organic carbon, 6.2% of carbon stored in marine sediments is covered by PAs and OECMs.

- **Opportunities for action:** for carbon, there is opportunity for Thailand 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 and 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 6.1%.

- **Opportunities for action:** there is opportunity for a targeted increase in connecting 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(s) for reported PAs in Thailand is: 92.2% under Government (88.6% Federal or national ministry or agency; 3.7% Government-delegated management).

- **Opportunities for action:** explore opportunities for governance types that have lower representation, for Thailand this could relate to shared governance, etc. Increase efforts to identify the governance types for the 7.8% of sites that do not have their governance type reported.

- There is also opportunity for Thailand 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:** 40.8% of terrestrial PAs and 0.0% 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 Thailand. Section I of the dossier presents data on the current status of Thailand'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 Thailand, in relation to each Target 11 element. The analyses present options for improving Thailand's area-based conservation network to achieve enhanced protection and benefits for livelihoods and climate change. Section II presents details on Thailand'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, 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.

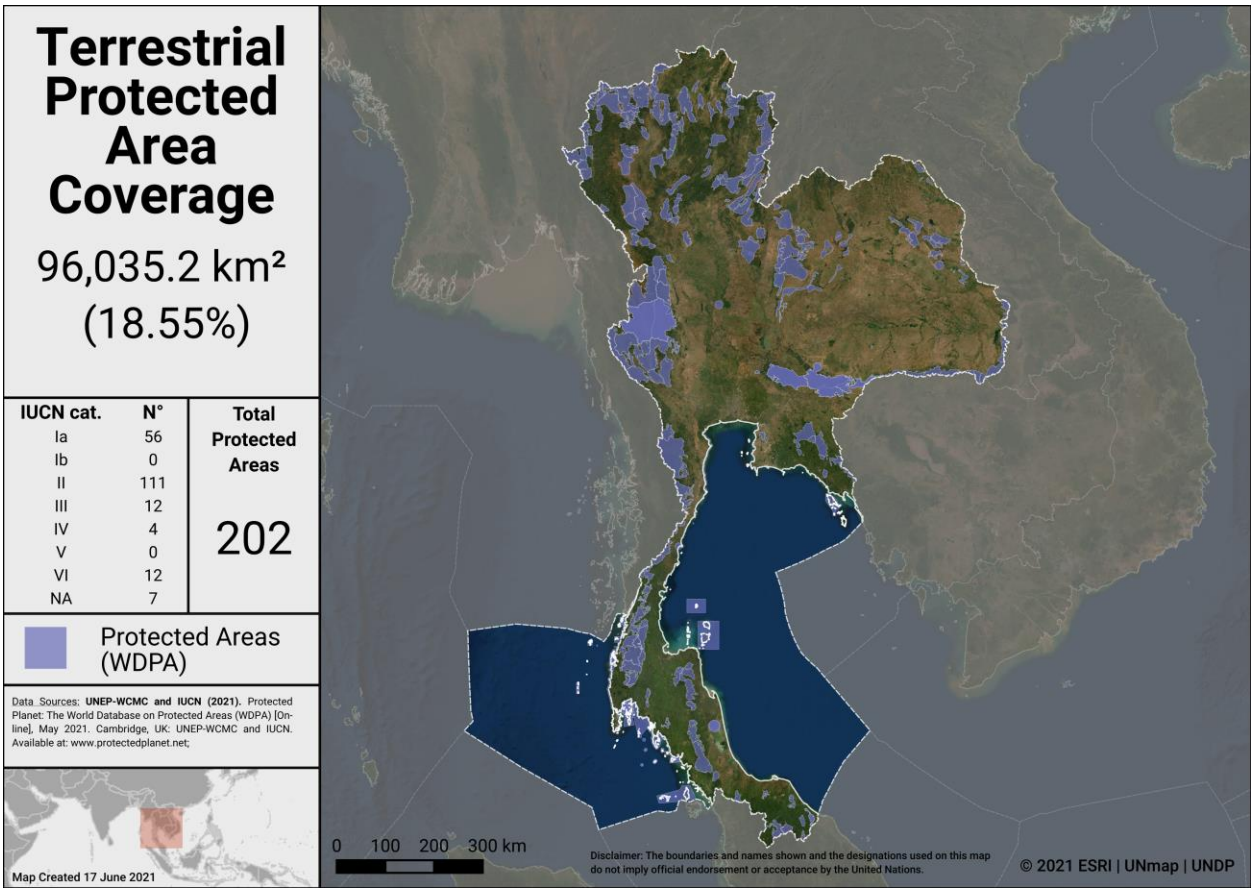
COVERAGE - TERRESTRIAL & MARINE

As of May 2021, Thailand has **245** protected areas reported in the World Database on Protected Areas (WDPA). 25 PAs that are proposed, and a further 4 UNESCO-MAB Biosphere Reserves, are not included in the following statistics (see details on UNWP-WCMCs methods for calculating PA and OECM coverage **here**).

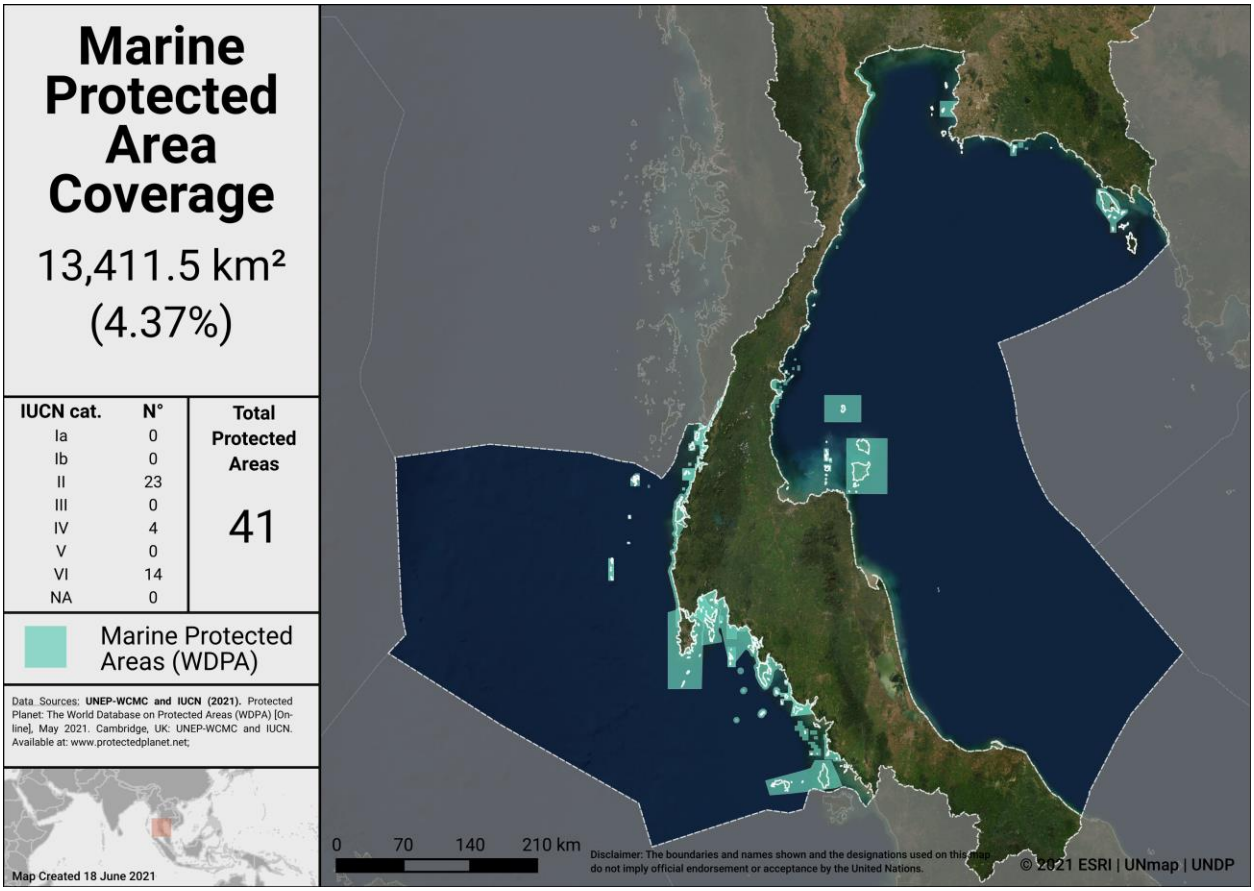
As of May 2021, Thailand has **0** OECMs reported in the world database on OECMs (WD-OECM).

Current coverage for Thailand:

- 18.5% terrestrial (202 protected areas, 96,035.2 km^2)
- 4.4% marine (41 protected areas, 13,411.5 km^2)



Terrestrial Protected Areas in Thailand



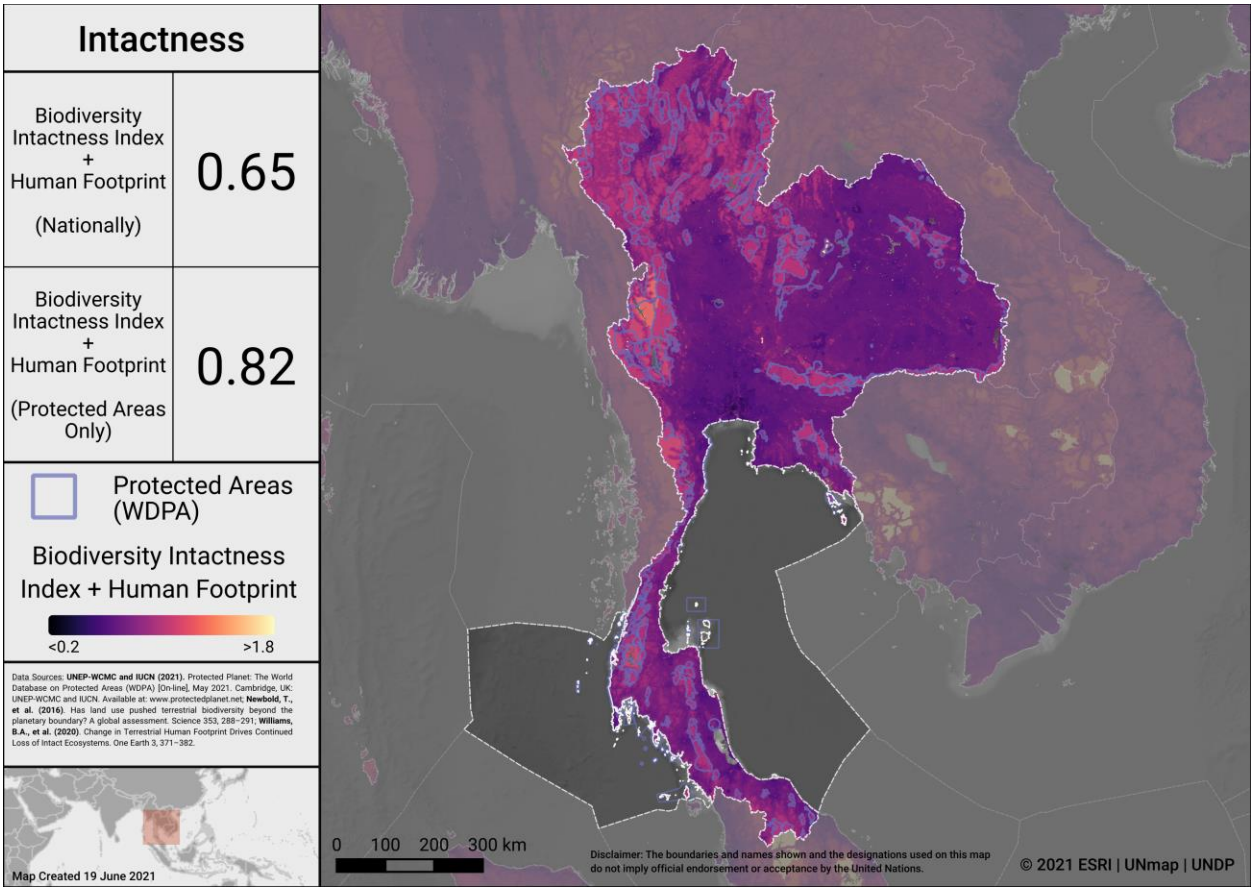
Marine Protected Areas in Thailand

Potential OECMs

There are currently no potential OECM examples for Thailand.

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 Thailand considers where to add new PAs and OECMs, the map below identifies areas in Thailand 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 Thailand

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).

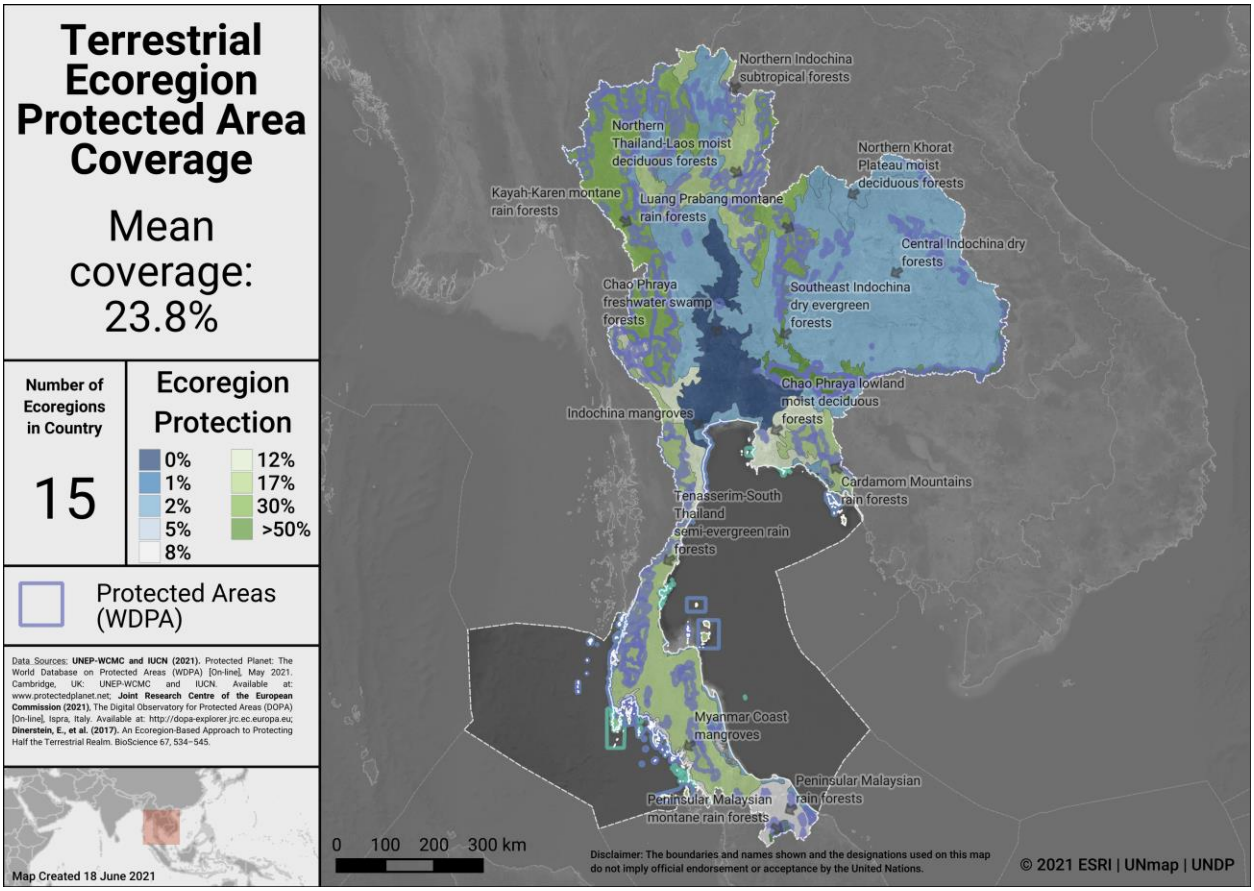
Thailand has 15 **terrestrial** ecoregions. Out of these:

- All 15 ecoregions have at least some coverage from PAs and OECMs.
- 8 ecoregions have at least 17% protected within the country.
- The average coverage of terrestrial ecoregions is 23.8%.

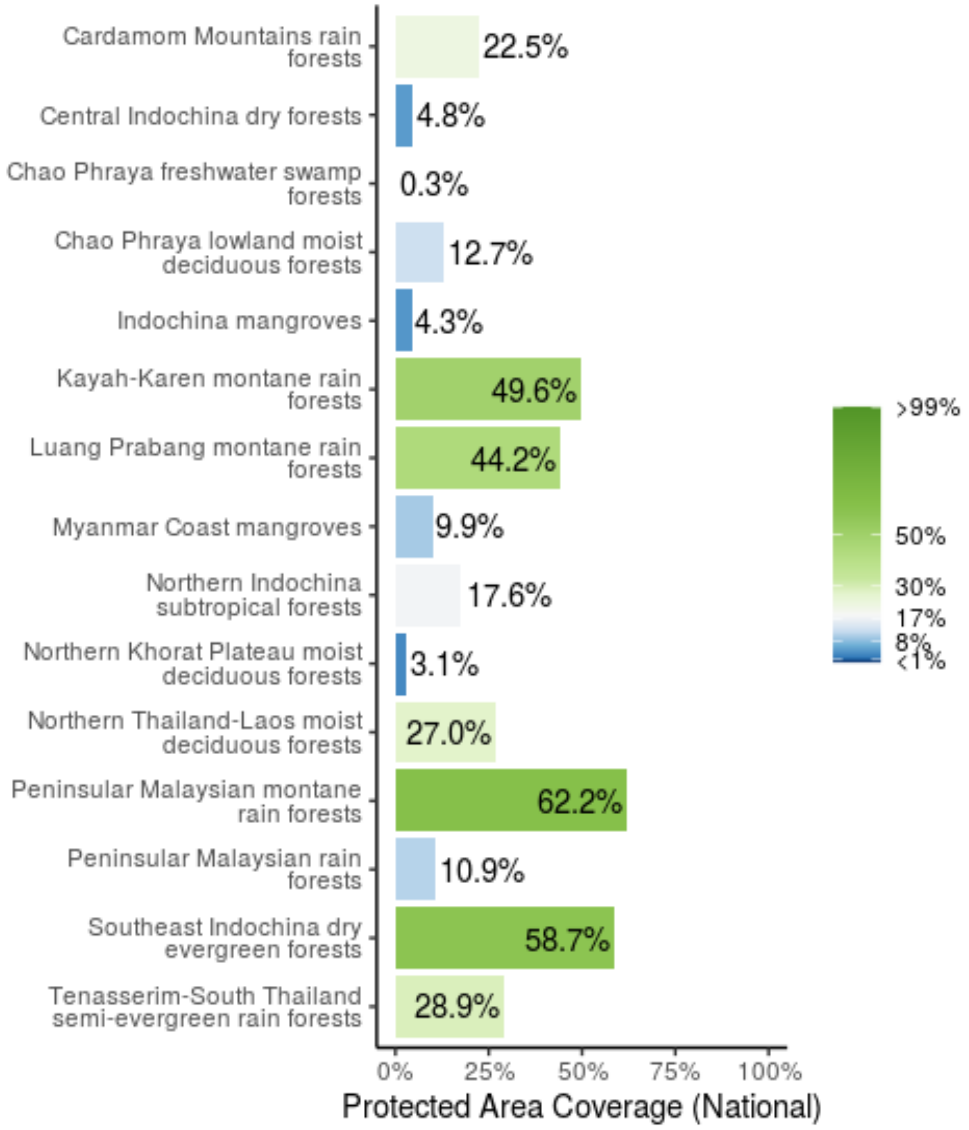
Thailand has 4 **marine** ecoregions and 1 **pelagic province**. Out of these:

- 2 marine ecoregions and 0 pelagic provinces have at least some coverage from reported PAs and OECMs.
- 1 marine ecoregion and 0 pelagic provinces have at least 10% protected within Thailand's exclusive economic zone (EEZ).
- The average coverage of marine ecoregions is 4.9% and the coverage of the 1 pelagic province is 0.0%.

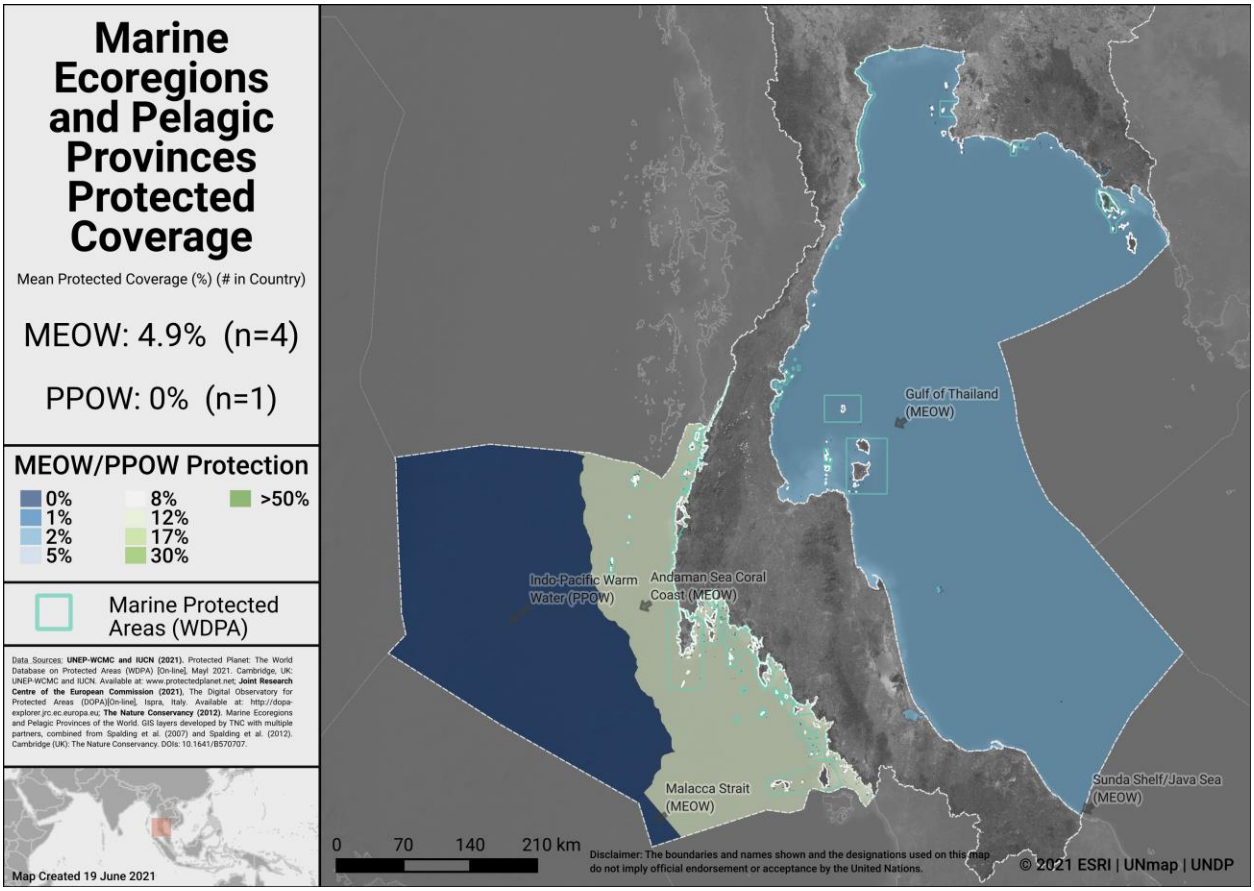
A full list of terrestrial ecoregions in Thailand is available in Annex I.



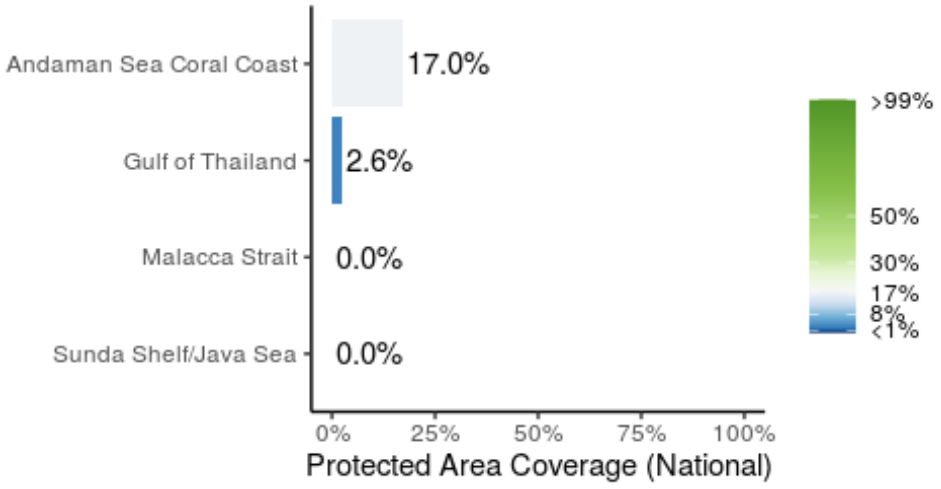
Terrestrial ecoregions in Thailand



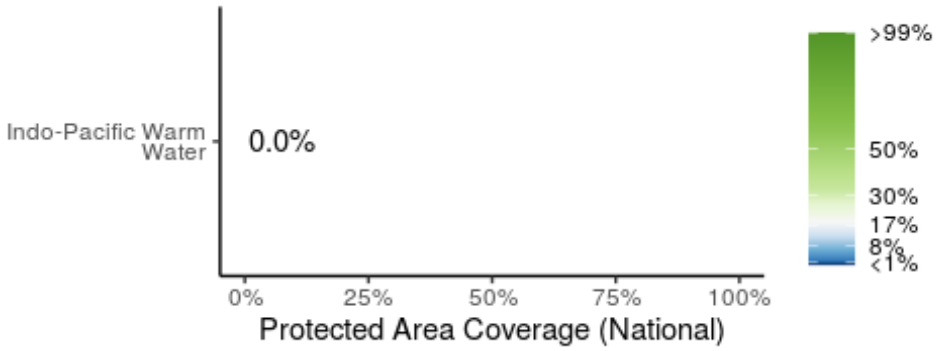
Terrestrial ecoregions of the World (TEOW) in Thailand



Marine ecoregions and pelagic provinces



Marine Ecoregions of the World (MEOW) in Thailand



Pelagic Provinces of the World (PPOW) in Thailand

Opportunities for action

There is opportunity for Thailand 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.

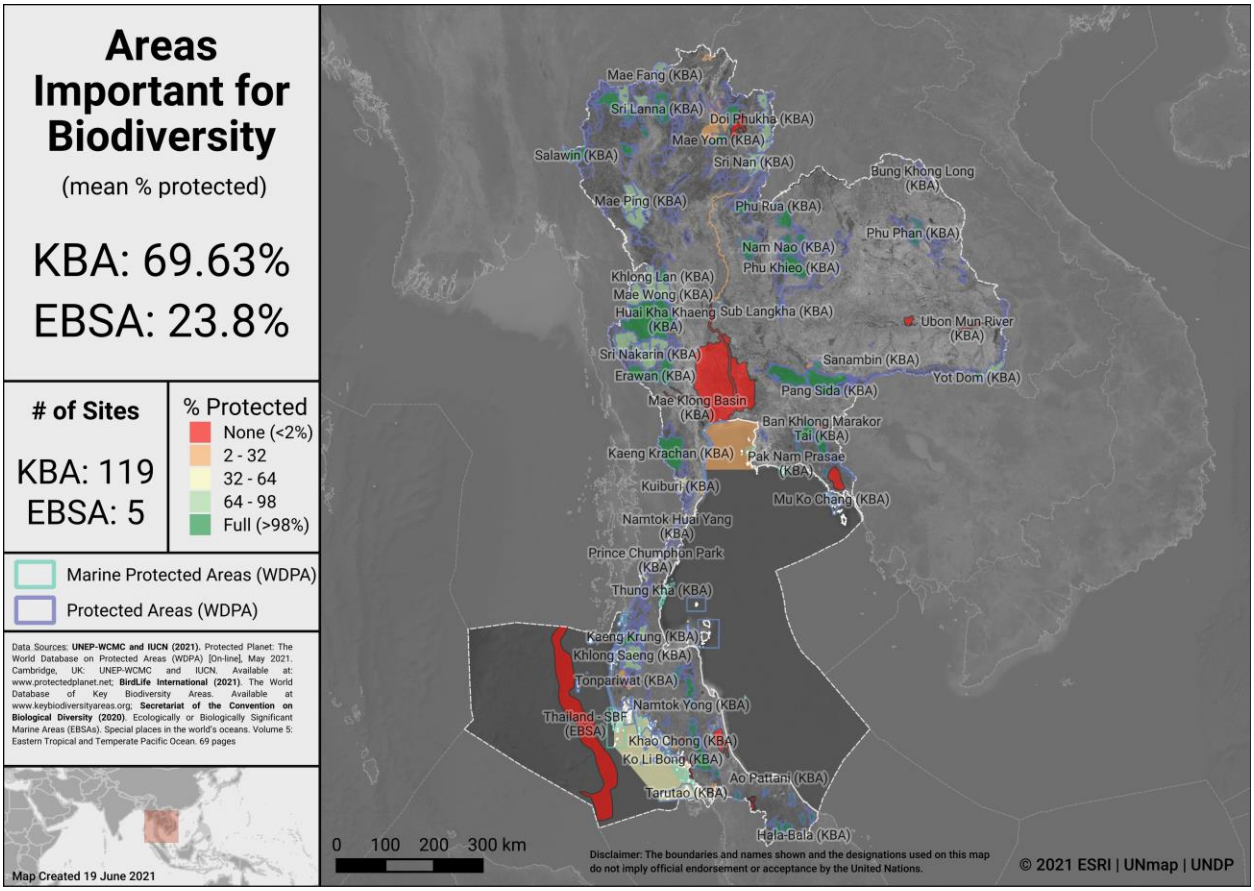
Thailand has 119 Key Biodiversity Areas (KBAs) [**117 KBAs** included in analysis]

- Mean percent coverage of all KBAs by PAs and OECMs in Thailand is **69.6%**.
- **55** KBAs have full (>98%) coverage by PAs and OECMs.
- **40** KBAs have partial coverage by PAs and OECMs.
- **22** KBAs have no (<2%) coverage by PAs and OECMs.
- *2 KBAs lack spatial data to allow PA and OECM coverage to be determined*

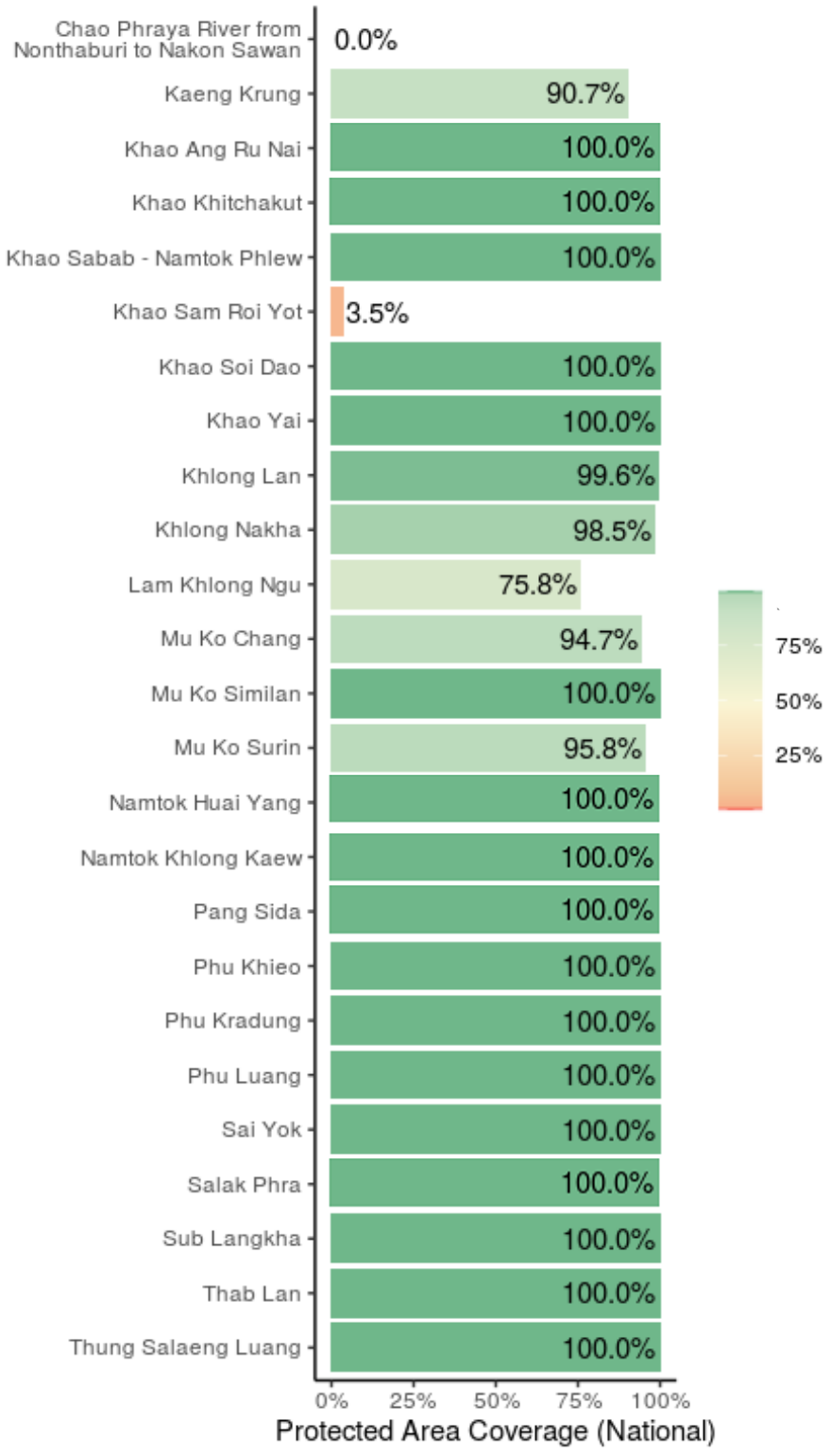
Ecologically or Biologically Significant Marine Areas (EBSAs)

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.

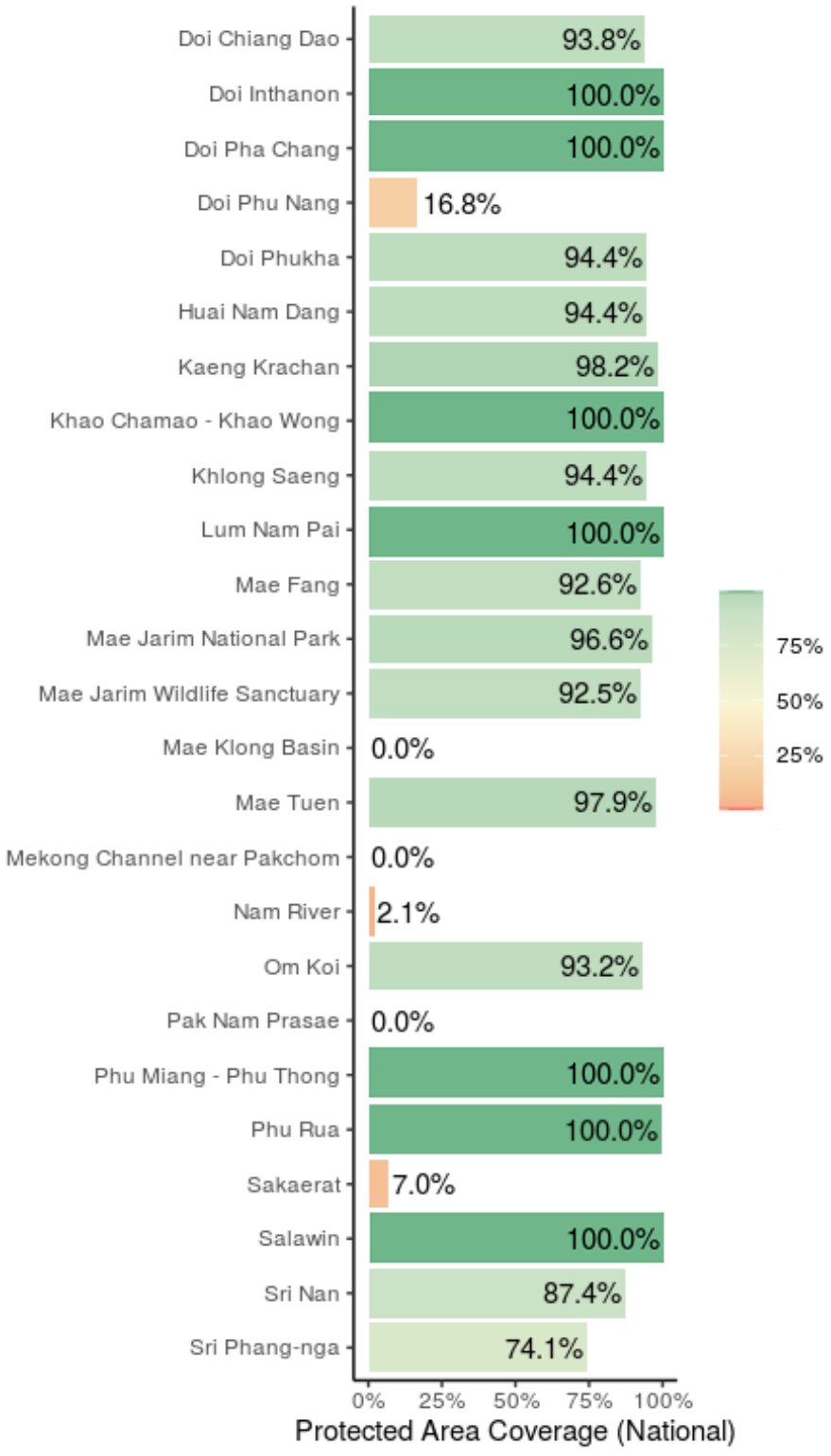
There are 5 EBSAs with some portion of their extent within Thailand's EEZ, of which 1 EBSA has no coverage from PAs and OECMs.



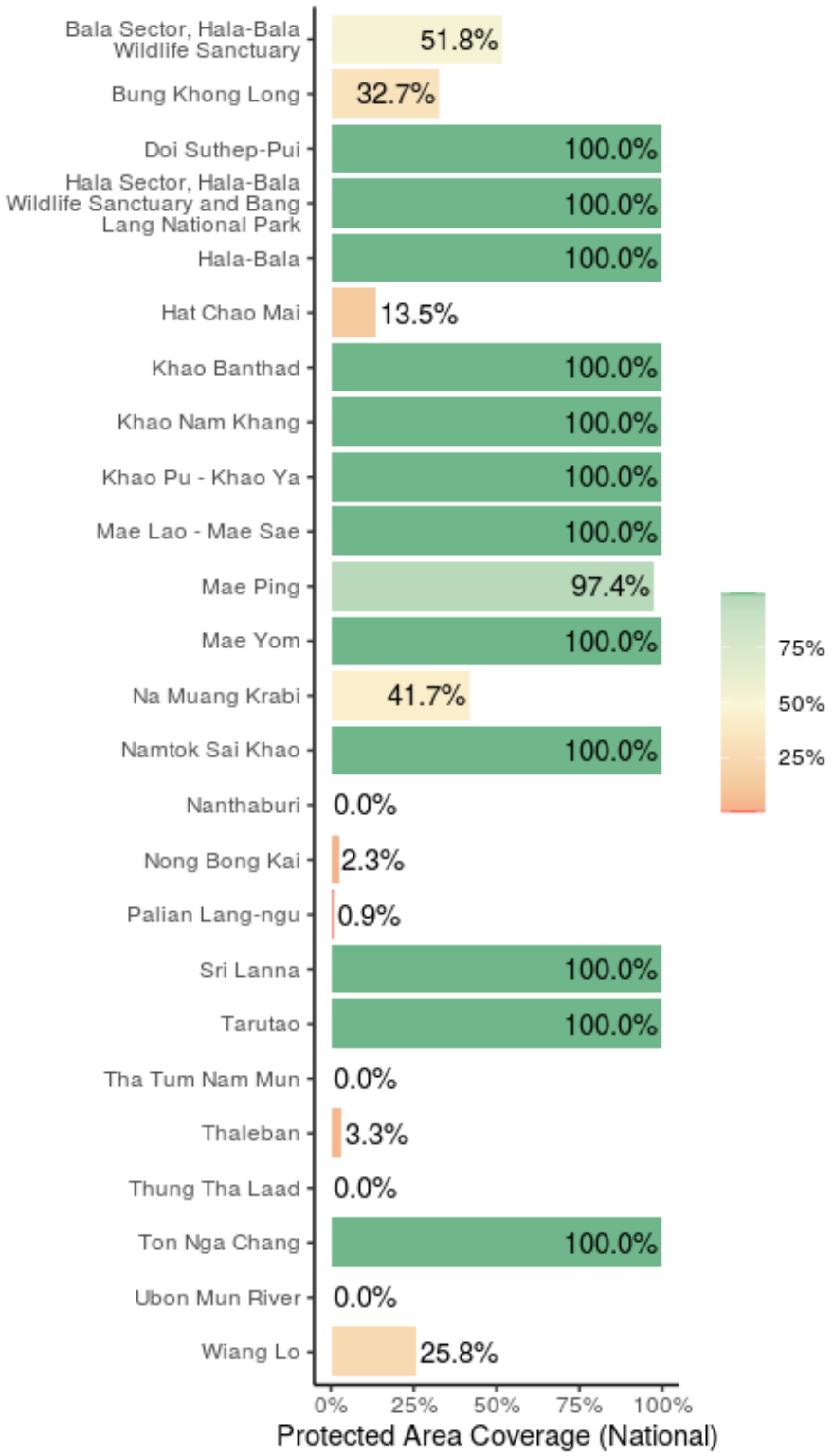
Areas Important for Biodiversity in Thailand



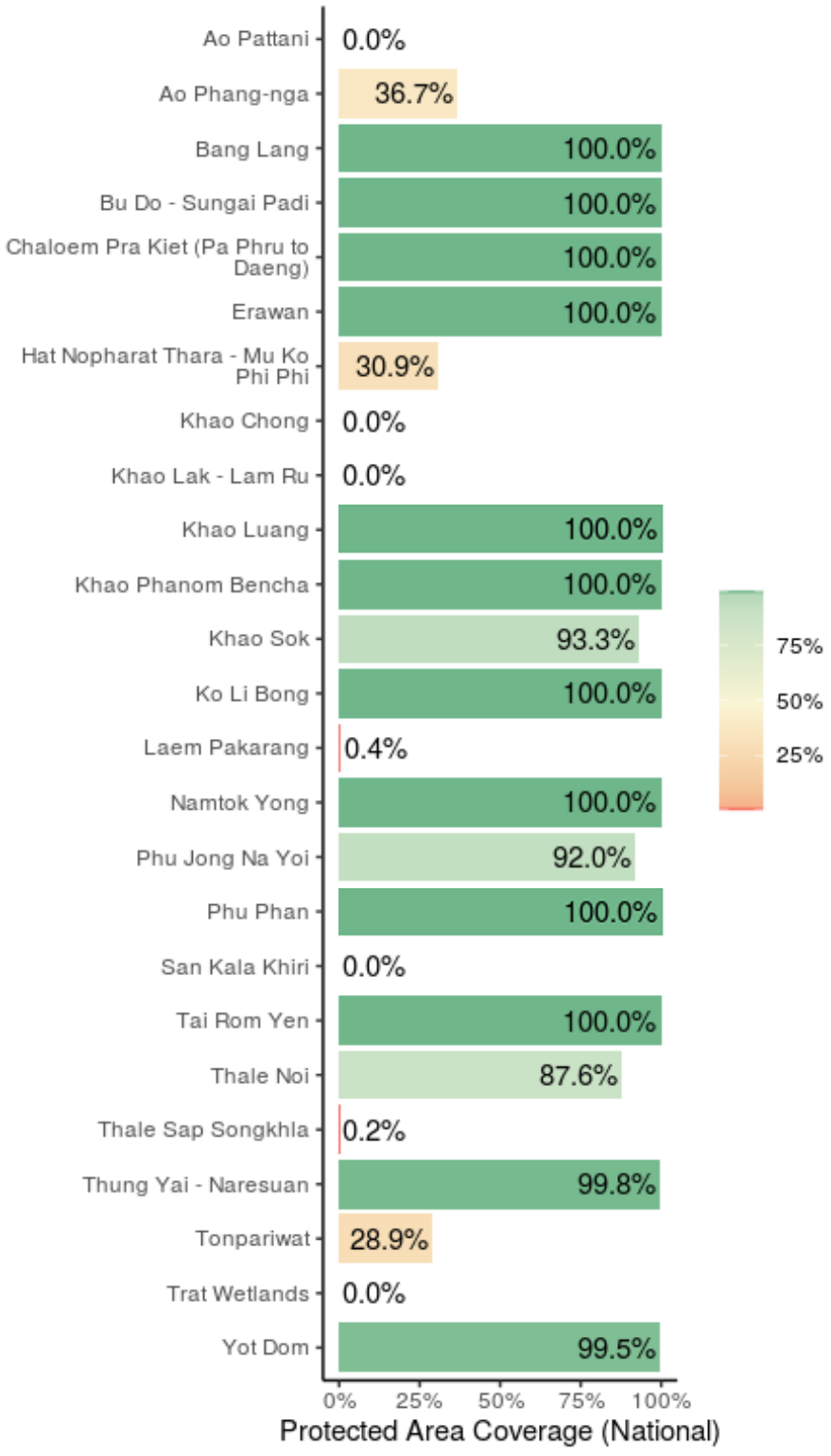
Key Biodiversity Area Coverage (KBA) in Thailand



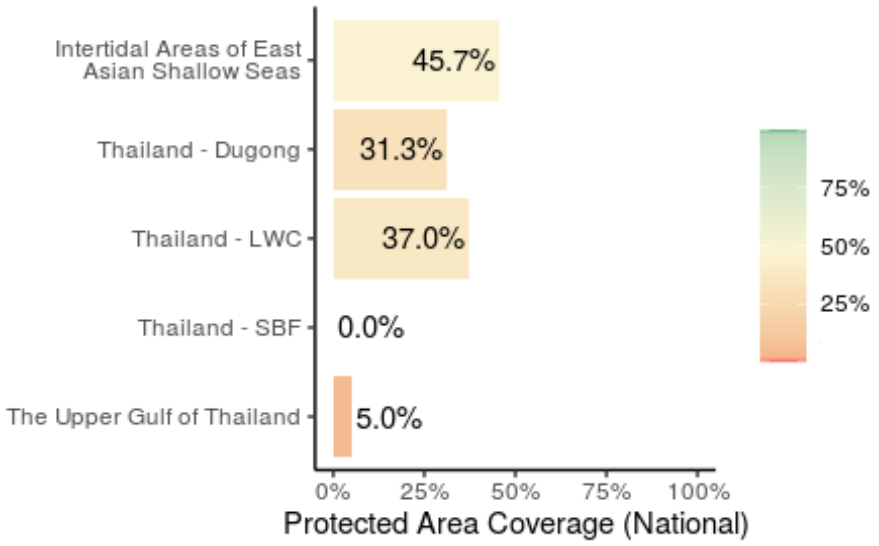
Key Biodiversity Area Coverage (KBA) in Thailand



Key Biodiversity Area Coverage (KBA) in Thailand



Key Biodiversity Area Coverage (KBA) in Thailand



Ecologically or Biologically Significant Marine Areas (EBSAs) in Thailand

Opportunities for action

There is opportunity for Thailand 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.

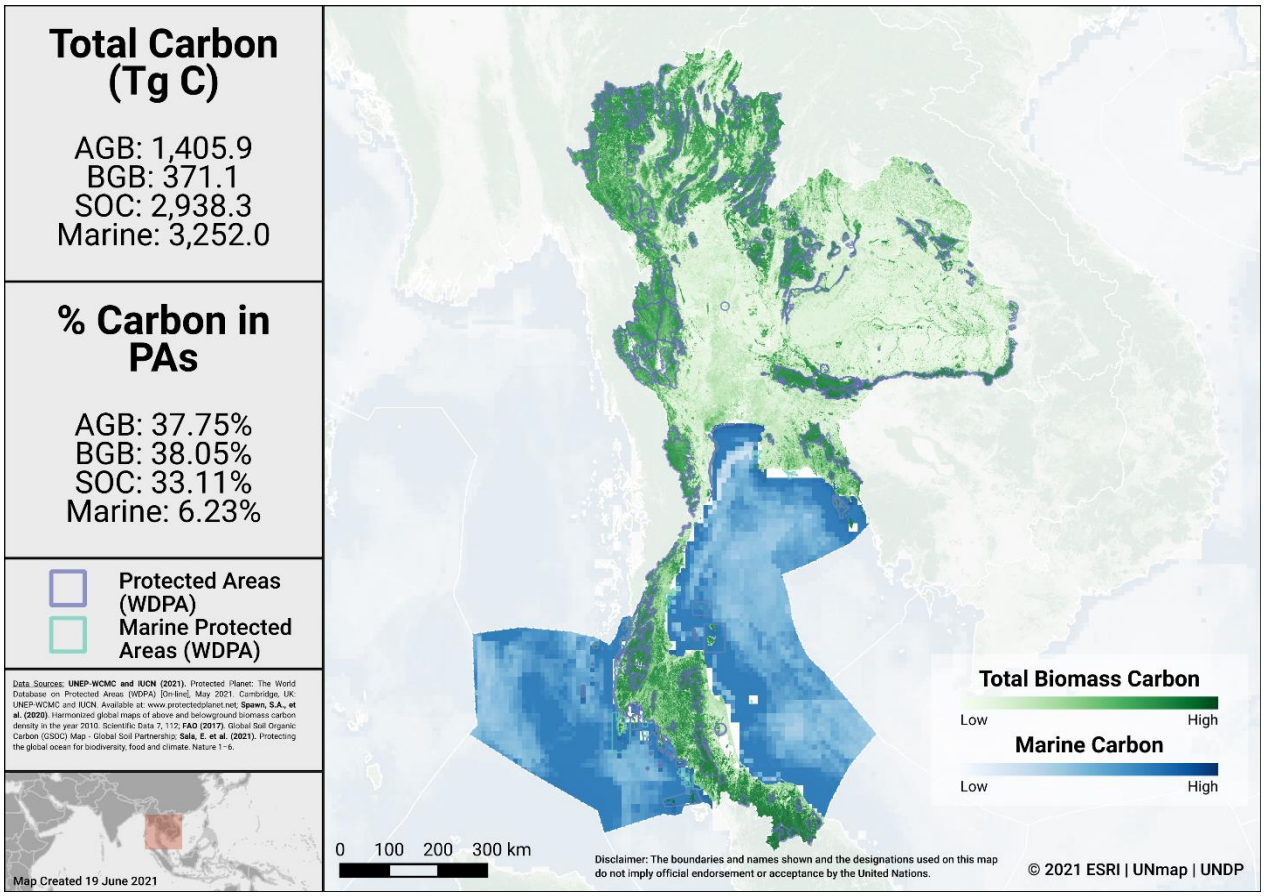
AREAS IMPORTANT FOR ECOSYSTEM SERVICES

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 Thailand and the percent of carbon in protected areas. The total carbon stocks is 1,405.9 Tg C from aboveground biomass (AGB), with 37.7% in protected areas; 371.1 Tg C from below ground biomass (BGB), with 38.0% in protected areas; 2,938.3 Tg C from soil organic carbon (SOC), with 33.1% in protected areas; and 3,252.0 Tg C from marine sediment carbon, with 6.2% in protected areas.



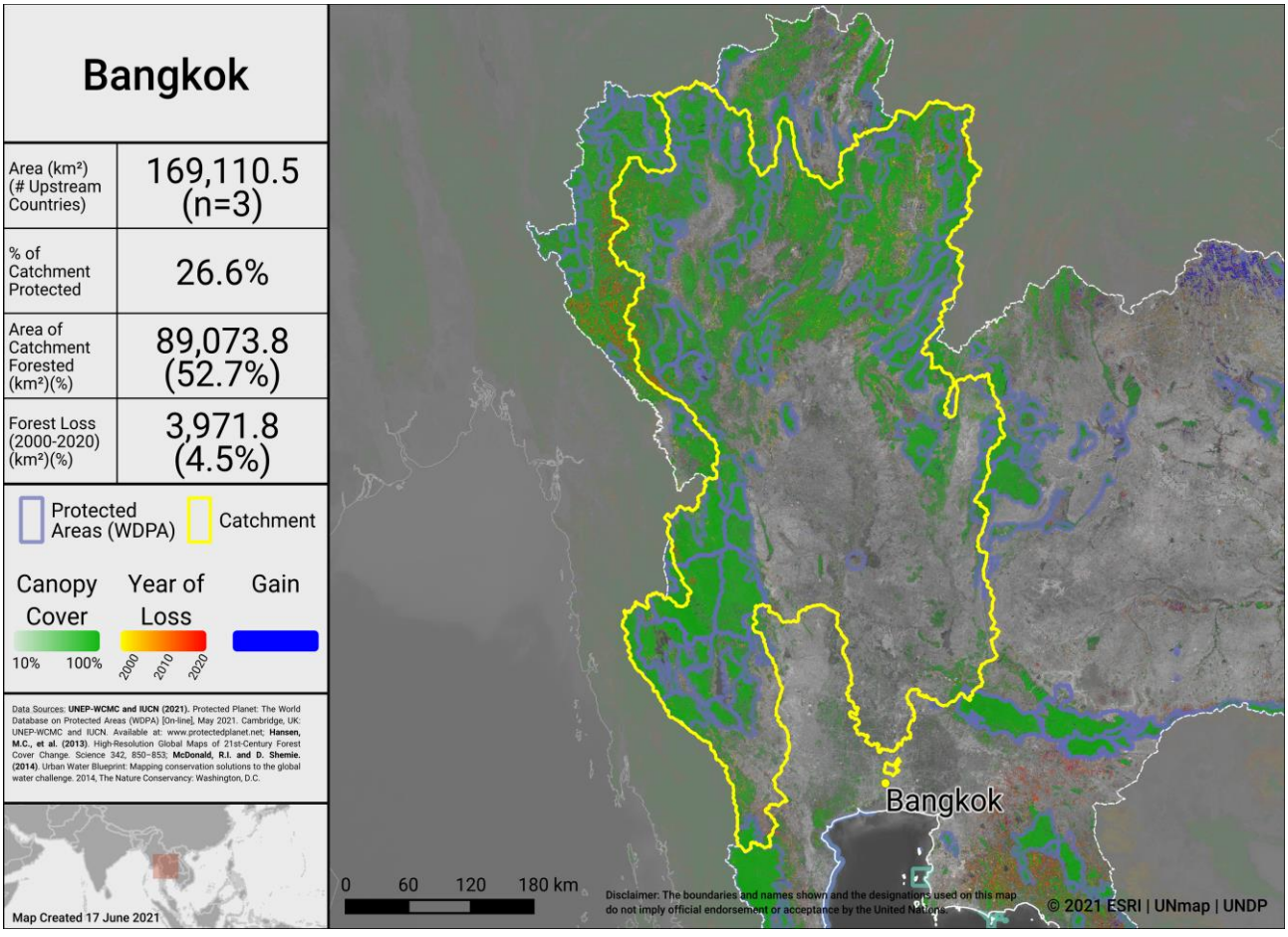
Carbon Stocks in Thailand

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



Water supply area for the city of Bangkok

Opportunities for action

For carbon, there is opportunity for Thailand 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 and 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 Thailand was 6.1%.

PARC-Connectedness Index

In 2019, as assessed using the PARC-Connectedness Index (values ranging from 0-1, indicating low to high connectivity), connectivity in Thailand is 0.40. This represents no significant change since 2010.

Corridor case studies

Below is a list of case studies on corridors and connectivity in Thailand:

Case study title	Type of study region	Greatest threat to connectivity	Approaches to conserving ecological corridors
Thailand's experience in ecologically connecting its protected areas	terrestrial, rural	deforestation and conversion of forests into plantations	• establishment of non-hunting areas and buffer zones • management of lands for connectivity
Grassroots reserves have strong benefit for river ecosystems in the Salween River Basin	freshwater, rural	overfishing	• ecological networks of small riverine reserves

Further details are available in Hilty et al 2020.

Opportunities for action

There is opportunity for the targeted designation of PAs or OECMs in strategic locations for connectivity 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 Thailand reported in the WDPA have the following governance types:

- 92.2% are governed by **governments**
  - 88.6% by federal or national ministry or agency
  - 0.0% by sub-national ministry or agency
  - 3.7% by government-delegated management
- 0.0% are under **shared** governance
- 0.0% are under **private** governance
- 0.0% are under **IPLC** governance
- 7.8% **do not** report a governance type

OECMs

As of May 2021, there are **0** OECMs in Thailand 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 Thailand:

- PPAs **are not** formally defined in PA legislation
  - However, some private wildlife sanctuaries, operate like PAs without any formal designation
- PPAs **are not** directly identified in Thailand's recent NBSAP.
  - However, it does highlight the importance of engaging private and civic sector actors
- PPAs **are not** included as part of the current PA network.

See additional info in country profile (http://nbsapforum.net/knowledge-base/resource/thailand-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 Thailand (see Kothari et al., 2012 and the ICCA Registry for further details).

Other Indigenous lands

There is currently no data available on lands managed and/or controlled by Indigenous Peoples in Thailand (see Garnett et al 2018 for details).

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. Thailand has the following Equator Prize winners that showcase examples of local, sustainable community action:

Organization	Year	Project Description
Boon Rueang Wetland Forest Conservation Group	2020	The Boon Rueang Wetland Forest Conservation Group formed in response to threats against the largest wetland forest in the Ing River Basin in Northern Thailand. The community has maintained stewardship over the 483 hectare forest through coordinated advocacy and dialogue with stakeholders, while pursuing a successful community forestry model under a landscape conservation paradigm. Education, mobilization, fundraising, and extensive research on the rich biodiversity and significant economic value of the wetland forest all have ensured the protection of an ecosystem critical to providing natural water reserves for agriculture and consumption, habitats for wildlife, acting as carbon storage and preserving the biodiversity of the Indo-Burma Region. Through thoughtful advocacy, the group achieved the reversal of an earlier administrative decision to use Boon Rueang wetland forest for industrial purposes. The wetland forest is now protected as a community inheritance for generations to come.

Organization	Year	Project Description
Community Mangrove Forest Conservation of Baan Bang La	2017	In 2004, Bang La was protected from the worst effects of a catastrophic tsunami by their 192-hectare mangrove forest. Recognizing the importance of this natural habitat for disaster risk reduction, Bang La community residents formed an association to advance the protection of mangroves through co-management, community dialogues, and education programs, enabling them to resist the expansion of urban middle-class housing developments into the publically-owned land. The community has secured a Memorandum of Understanding from the provincial government, which provides them with the rights to establish a community-managed mangrove forest conservation area. The community's sustainable management of this area has triggered the return of the protected Phuket Sea Otter, and places this endangered species at the center of awareness campaigns that engage women and youth in natural resource management. In order to enhance local well-being and livelihood options, the group has established a savings and microcredit scheme to support small-business opportunities and retain the traditional character of the community.

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, Thailand has 245 PAs reported in the WDPA; of these PAs, 39 (15.9%) have management effectiveness evaluations reported in the global database on protected area management effectiveness (GD-PAME).

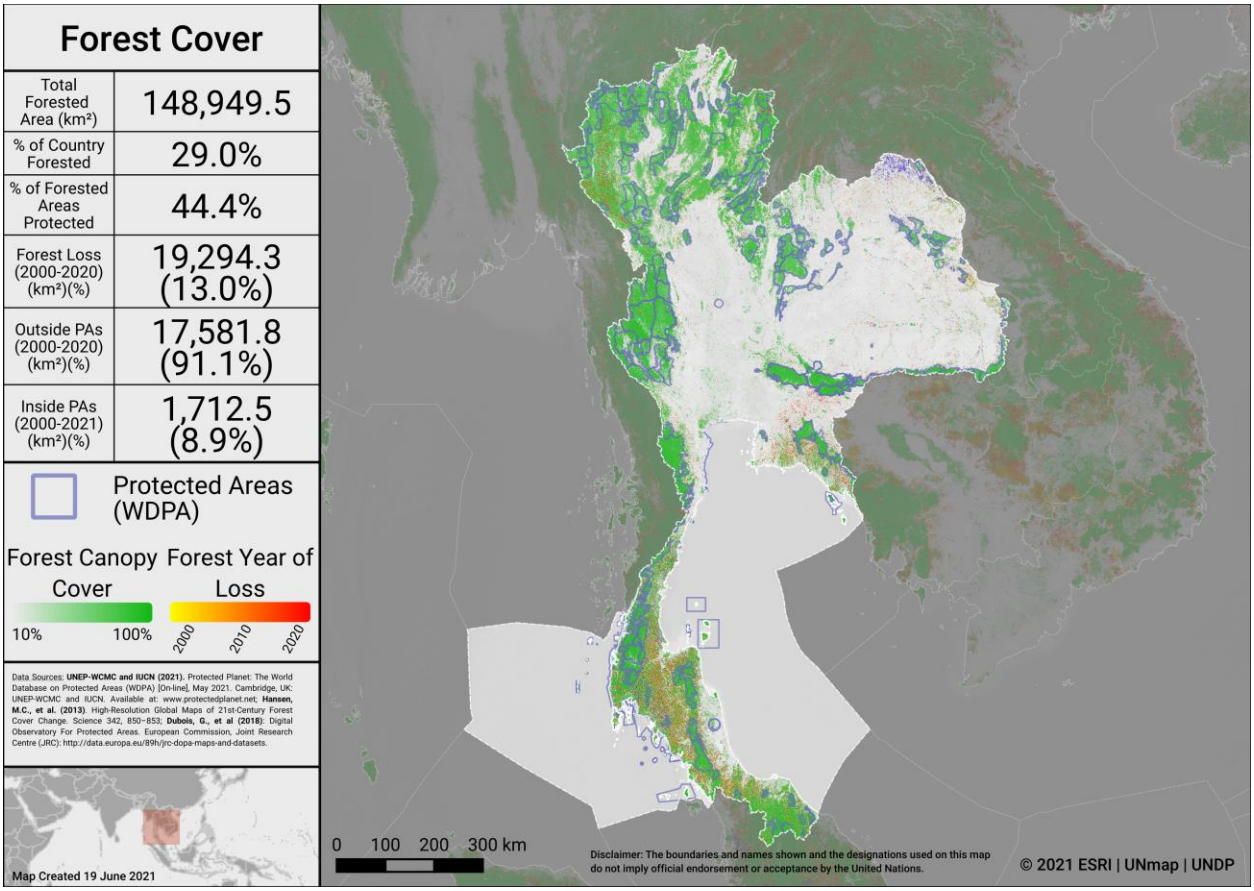
- 7.6% (39,158 km^2) of the terrestrial area of the country is covered by PAs with completed management effectiveness evaluations.
  - 40.8% of the area of terrestrial PAs have completed evaluations.
- 0.0% (0.0 km^2) of the marine area of the country is covered by PAs with completed management effectiveness evaluations.
  - 0.0% 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.

As of May 2021, there are 0 OECMs in Thailand 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 Thailand cover approximately 29.0% of the country, an area of 148,949.5 km^2. Approximately 44.4% (66,059.5 km^2) of this is within the protected area estate of Thailand. Over the period 2000-2020 loss of forest cover amounted to over 19,294.3 km^2, or 3.8% of the country (13.0% of forest area), of which 1,712.5 km^2 (8.9% of forest loss) occurred within protected areas. The map below shows how forest cover has changed in Thailand 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 Thailand

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

NATIONAL BIODIVERSITY STRATEGY AND ACTION PLANS (NBSAPs)

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

This NBSAP **did not** include a specific quantitative target for the coverage of **terrestrial or marine** PAs or OECMs.

Strategy 2 (Conserve and restore biodiversity); Measure 1 Conserve, restore and protect ecosystems, species and genetic diversity

- *1.1* Strengthen and increase efficiency in management of protected areas and conservation areas according to law.
- *1.2* Reduce habitat loss rate and restore degraded ecosystems so as to maintain their ecological services for climate change mitigation and combating desertification
- *1.5* Enhance and urge all relevant sectors to implement targets and guidelines on biodiversity conservation of flora and fauna in line with global targets and strategies.
- *1.6* Promote integrating management of ecosystems into the wider landscape and seascape in order to promote conservation and sustainable utilization and maintain ecosystem services

Strategy 2, Measure 3 Reduce threats to biodiversity and habitats

- *3.2* Control and protect marine and coastal resources, wetlands and vulnerable ecosystems that may be affected by community expansion, pollution, overfishing and climate change.

Strategy 4 (Develop biodiversity knowledge and database systems to be consistent with internationally recognized standards); Measure 2 Develop and improve biodiversity database systems to be consistent with international standards. 2

- 2.1 Study, survey, collect and improve database systems of biodiversity, protected areas and Thailand's Red Data so as to be fundamental information for stipulating policies and directions for biodiversity management.

*National Biodiversity Targets: **By 2016** Efficiency of protected areas and ecosystems management is increased so as to maintain capability of ecological services; **By 2021**, Protected area networks and ecological representatives are connected, and management measures for critical areas and important areas for biodiversity and ecosystem service are in place.*

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).

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)
4677	No	N/A	N/A	All except Equitably managed and Connectivity
5330	Yes	130	Terrestrial	All except Areas important for biodiversity and Connectivity
5512	No	N/A	N/A	Areas important for biodiversity; Effectively managed; Integration
5726	No	N/A	N/A	Effectively managed; Integration
9527	No	N/A	N/A	None

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:

#OceanAction18211: Thailand towards sustainable management of marine and coastal habitats, by Ministry of Natural Resources and Environment (Government).

- Area to be added: **0 km²** (already complete)
- Progress report: No progress report submitted (as of March 2021).
- Further details available at: https://oceanconference.un.org/commitments/?id=18211.

#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: **1,780.6 km².**
- Notes on area added: WCS MPA project will support the establishment of three new MPAs on the Andaman coast with a total area of 1,780.6 km2 - see further details at: https://mpafund.wcs.org/).
- Progress report: Yes (2019), status=On Track.
- Further details on the Ocean Action available at: https://oceanconference.un.org/commitments/?id=16178.

OTHER ACTIONS/COMMITMENTS

Commitments for PAs and OECMs from Other National Policies

Policy document	Ecosystem	Policy text
Nationally Determined Contribution	Forest ecosystems	Avoided forest conversion: 36.11 Mt CO2e/yr
Nationally Determined Contribution	Wetland ecosystems	Avoided peat impacts: 0.23 Mt CO2e/yr
Nationally Determined Contribution	Coastal ecosystems	Avoided mangrove impacts: 3.37 Mt CO2e/yr
Nationally Determined Contribution	Forest ecosystems	Safeguard biodiversity and restore ecological integrity in protected areas and important landscapes from the adverse impacts of climate change, with the emphasis on vulnerable ecosystems and red list species
Nationally Determined Contribution	Forest ecosystems	Promote nature-based and sustainable tourism while enhancing better understanding on risk and vulnerability of the tourism sector, especially in hotspot areas
Nationally Determined Contribution	Wetland ecosystems	Promote and strengthen Integrated Water Resources Management (IWRM) practices to achieve water security, effective water resource management to mitigate flood and drought
Nationally Determined Contribution	Coastal ecosystems	Develop participatory, integrated marine conservation and coastal rehabilitation plan to protect marine ecosystem and enhance climate proofing infrastructure to strengthen coastal protection against erosion
Nationally Determined Contribution	Grasslands & Agricultural systems	Promote sustainable agriculture and Good Agricultural Practice (GAP)
National Voluntary Review	Forest ecosystems	Promote biodiversity in conservation area, especially in national reserved forests, wildlife sanctuary and non-hunting areas.
National Tourism Development Plan	Forest ecosystems	Promote environmental sustainability and preserve fragile attractions

Policy document	Ecosystem	Policy text
Action Plan for Adaptation and Mitigation against Climate Change	Wetland ecosystems	Reinforcing river banks; planting vegetation, shrubbery, vetiver grass, and mangroves; constructing seashore embankments to protect riverside and seashore communities' could be included considering rivers is one of the inland wetlands ecosystems.
Climate Change Master Plan	Wetland ecosystems	Sustainable wetland protection and preservation by supporting the designation of internationally important wetlands, such as the Ramsar Sites, with co-management by related stakeholders
National economic and social development plan	Coastal ecosystems	Protect marine resources and prevent coastal erosion. Develop coastal areas while taking into consideration environmental impacts and long-term sustainability
National Tourism Development Plan	Coastal ecosystems	Protect and restore the fragile beaches and environmental attractions using both strict limitation on the number of tourists allowed and the education of preservative behavior to tourist
Climate Change Master Plan	Coastal ecosystems	Marine and coastal ecosystems such as estuaries, coral reefs, seagrasses, and mangrove forest are threatened by human activities and need protection and restoration
National economic and social development plan	Grasslands & Agricultural systems	Encourage farmers to produce their own organic fertilizers, and use organic materials and products instead of chemicals
Strategic Framework for Food Management	Grasslands & Agricultural systems	Promote Good Agricultural Practices (GAP), use group certification to increase the number of farms with GAP standard, and provide support for healthy agricultural practices, such as Biodynamic Agriculture, Organic Agriculture and the Integrated Pest Management System.
Master Plan for Integrated Biodiversity Management	Wetland ecosystems	Control and protect marine and coastal resources, wetlands and vulnerable ecosystems that may be affected by community expansion, pollution, overfishing and climate change'

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	12,109.9	27.5	2.3	2,728.7	22.5
Central Indochina dry forests	211,120.5	66.2	41.0	10,134.3	4.8
Chao Phraya freshwater swamp forests	38,858.3	100.0	7.5	126.6	0.3
Chao Phraya lowland moist deciduous forests	20,337.1	100.0	3.9	2,587.3	12.7
Indochina mangroves	8,346.0	31.2	1.6	360.3	4.3
Kayah-Karen montane rain forests	64,175.0	53.9	12.5	31,858.8	49.6
Luang Prabang montane rain forests	19,247.9	26.9	3.7	8,499.7	44.2
Myanmar Coast mangroves	3,702.4	17.4	0.7	365.0	9.9
Northern Indochina subtropical forests	4,401.2	1.0	0.9	775.7	17.6
Northern Khorat Plateau moist deciduous forests	11,235.0	66.9	2.2	350.9	3.1
Northern Thailand-Laos moist deciduous forests	30,435.7	72.4	5.9	8,217.6	27.0
Peninsular Malaysian montane rain forests	723.2	4.2	0.1	450.0	62.2

Ecoregion Name	Area (km^2)	% of Global Ecoregion in Country	% of Country in Ecoregion	Area Protected (km^2)	% Protected in Country
Peninsular Malaysian rain forests	9,907.4	7.9	1.9	1,079.1	10.9
Southeast Indochina dry evergreen forests	15,030.4	12.1	2.9	8,821.2	58.7
Tenasserim-South Thailand semi-evergreen rain forests	64,319.1	66.4	12.5	18,554.8	28.8

ANNEX II

ADDITIONAL DETAILS ON PPAs

- In 1994, ~40% of land was privately owned (remainder was under some form of public control)
- Although PPAs are Not formally defined in PA legislation, some private wildlife sanctuaries operate like PAs without any formal designation
- PPAs were not directly referenced in the county's recent NBSAP, though it does highlight the importance of engaging private and civic sector actors in implementation.

Case studies/best practices:

- *Nam Kham Nature Reserve*: **16 ha**, located in the northernmost part of Thailand near the Mekong River and the large Chiang Seen Lake and Nong Lom Wetland Area. It is a privately-owned wetland reserve that was acquired and protected by Dr. Rungsrit Kanjanavanit, and managed by Lanna Bird and Nature Conservation Club, with advice from the RSPB.
- *Koh Talu*: Approximately **160 ha**, is a small, forested island surrounded by coral reefs in Bang Saphan Noi District, Prachaubkhirikhan. Part of the island is privately owned land, where the Koh Talu Island Resort is located. This resort supports a number of conservation activities and has been instrumental in coral restoration initiatives, turtle hatchling program and environmental education and conservation.

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

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