



Convention on
Biological Diversity



Aichi Biodiversity Target 11 Country Dossier: MADAGASCAR

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GLOSSARY

AZEs	Alliance for Zero Extinction sites
CEPF	Critical Ecosystem Partnership Fund
EBSA	Ecologically or Biologically Significant Marine Area
EEZ	Exclusive Economic Zone
GCF	Green Climate Fund
GD-PAME	Global Database on Protected Area Management Effectiveness
GEF	Global Environment Facility
IBA	Important Bird and Biodiversity Area
ICCAs	Indigenous and Community Conserved Area Area (may also be referred to as territories and areas conserved by Indigenous peoples and local communities or “territories of life”)
IPLC	Indigenous Peoples and Local Communities
KBA	Key Biodiversity Area
MEOW	Marine Ecosystems of the World
MPA	Marine Protected Area
NBSAP	National Biodiversity Strategy and Action Plan
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



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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 (per the WDPA), terrestrial coverage in Madagascar is 44,521.1 km² (7.5%) and marine coverage is 11,018 km² (0.9%); Madagascar's National reporting indicates 101 terrestrial PAs covering 4,895,651 ha (8.39%), 9 marine PAs covering 643,755 ha (1.09%), and 13 mixed PAs (marine and coastal) covering 1,559,833 ha (2.65%).
- **Opportunities for action:** opportunities for the near-term include updating the WDPA with any unreported PAs (including ant recently established 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:** Madagascar contains 7 terrestrial ecoregions, 2 marine ecoregions, and 1 pelagic province (all of which have at least some coverage from PAs and OECMs): the mean coverage by reported PAs and OECMs is 10.8% (terrestrial), 4.2% (marine), and <0.1% (pelagic).



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- **Opportunities for action:** there is opportunity for Madagascar to increase protection in terrestrial and marine ecoregions and pelagic provinces that have lower levels of coverage by PAs or OECMs.

Areas Important for Biodiversity

- **Status:** Madagascar has 237 Key Biodiversity Areas (KBAs): the mean protected coverage of KBAs by reported PAs and OECMs is 26.1%, while 132 KBAs have no coverage by reported PAs and OECMs.
- **Opportunities for action:** there is opportunity for Madagascar 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 Madagascar, 14.9% of aboveground biomass carbon, 11.9% of belowground biomass carbon, 8.6% of soil organic carbon, 0.6% of carbon stored in marine sediments is covered by PAs and OECMs.
- **Opportunities for action:** for carbon, there is opportunity for Madagascar 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 1.9%. Madagascar's National Strategy for the Restoration of Forest Landscapes and Green Infrastructures (SNRPF), as well as marine spatial planning in the country, take into account Protected Areas.
- **Opportunities for action:** there is opportunity for a general increase of PAs or OECMs and to focus on PA and OECM management for enhancing and maintaining connectivity. Improving connectivity increases the effectiveness of PAs and OECMs and reduces the impacts of fragmentation.
- As well, a range of suggested steps for enhancing and supporting integration are included in the voluntary guidance on the integration of PAs and OECMs into the wider land- and seascapes and mainstreaming across sectors to contribute, inter alia, to the SDGs (Annex I of COP Decision 14/8).



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Governance Diversity

- **Status:** 39% of PAs under Governance by the State, the remainder under shared governance, with 1 PA under private governance (based on data in the WDPA, the most common governance type(s) for reported PAs in Madagascar is: 47.4% under IPLCs (local communities)).
- **Opportunities for action:** increase efforts to report and update the governance types for PAs reported in the WDPA. Explore opportunities for governance types that have lower representation.
- There is also opportunity for Madagascar 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:** 85.2% of terrestrial PAs and 37.5% 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** 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 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 Madagascar. Section I of the dossier presents data on the current status of Madagascar’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 Madagascar, in relation to each Target 11 element. The analyses present options for improving Madagascar’s area-based conservation network to achieve enhanced protection and benefits for livelihoods and climate change. Section II presents details on Madagascar’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



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

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

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

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

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



SECTION I: CURRENT STATUS

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



COVERAGE - TERRESTRIAL & MARINE

As of May 2021, Madagascar has 171 protected areas reported in the World Database on Protected Areas (WDPA). 73 proposed PAs, and a further 3 UNESCO-MAB Biosphere Reserves, are not included in the following statistics (see details on UNWP-WCMC's methods for calculating PA and OECM coverage [here](#)).

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

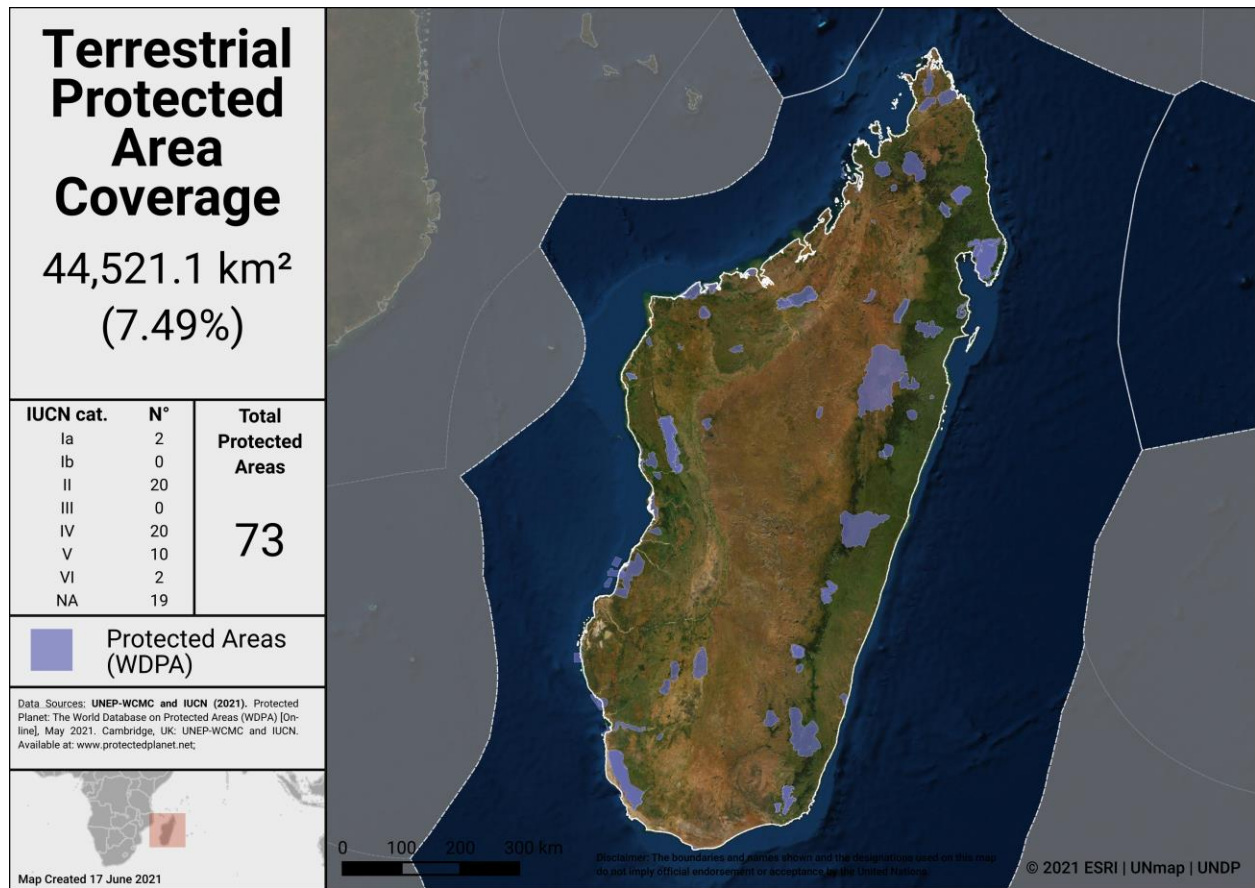
Current coverage for Madagascar (per the WDPA):

- 7.5% terrestrial (73 protected areas, 44,521.1 km²)
- 0.9% marine (36 protected areas, 11,018 km²)

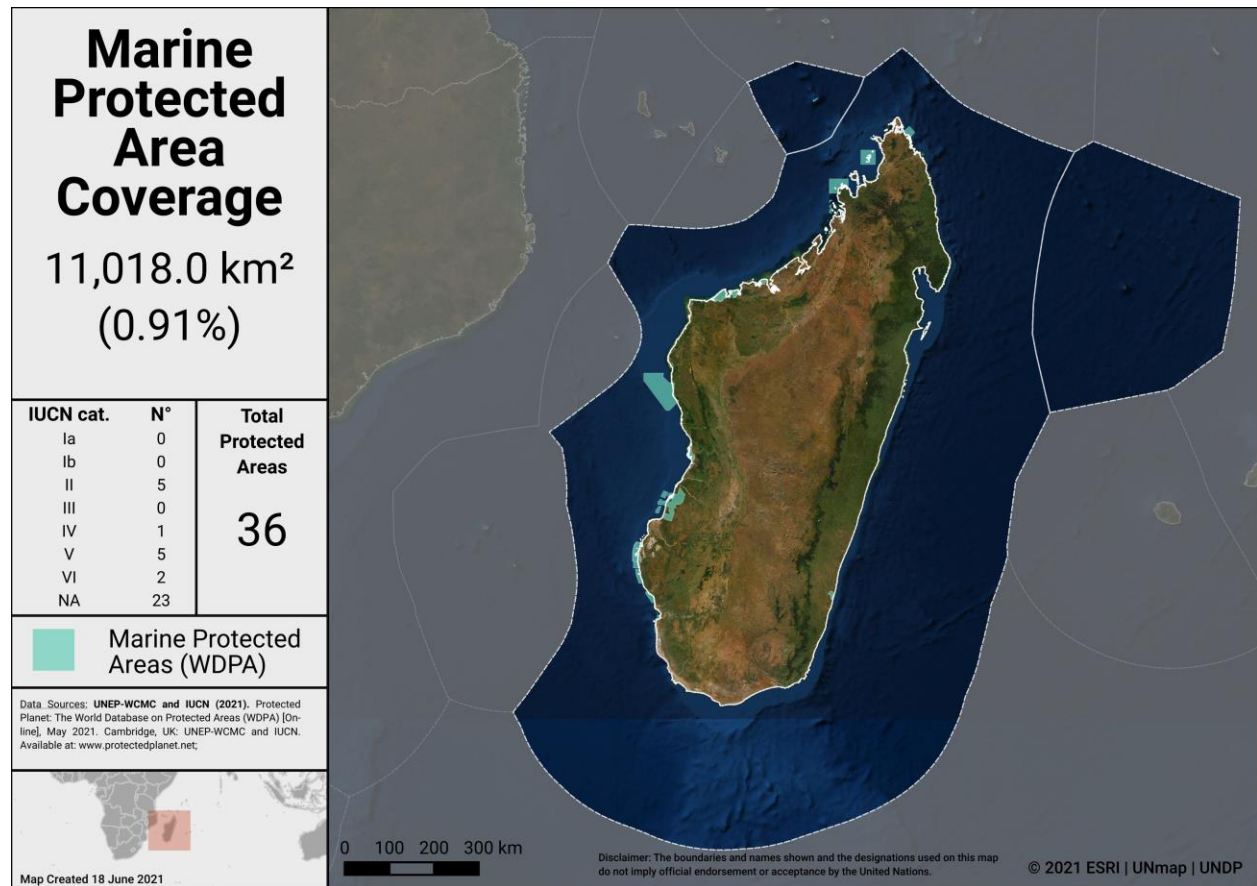
Madagascar's National reporting indicates 101 terrestrial PAs covering 4,895,651 ha (8.39%), 9 marine PAs covering 643,755 ha (1.09%), and 13 Mixed PAs (marine and coastal) covering 1,559,833 ha (2.65%)

New terrestrial and marine PAs have been established (and may not yet be reflected in the WDPA). This may impact elements in the following sections.





Terrestrial Protected Areas in Madagascar



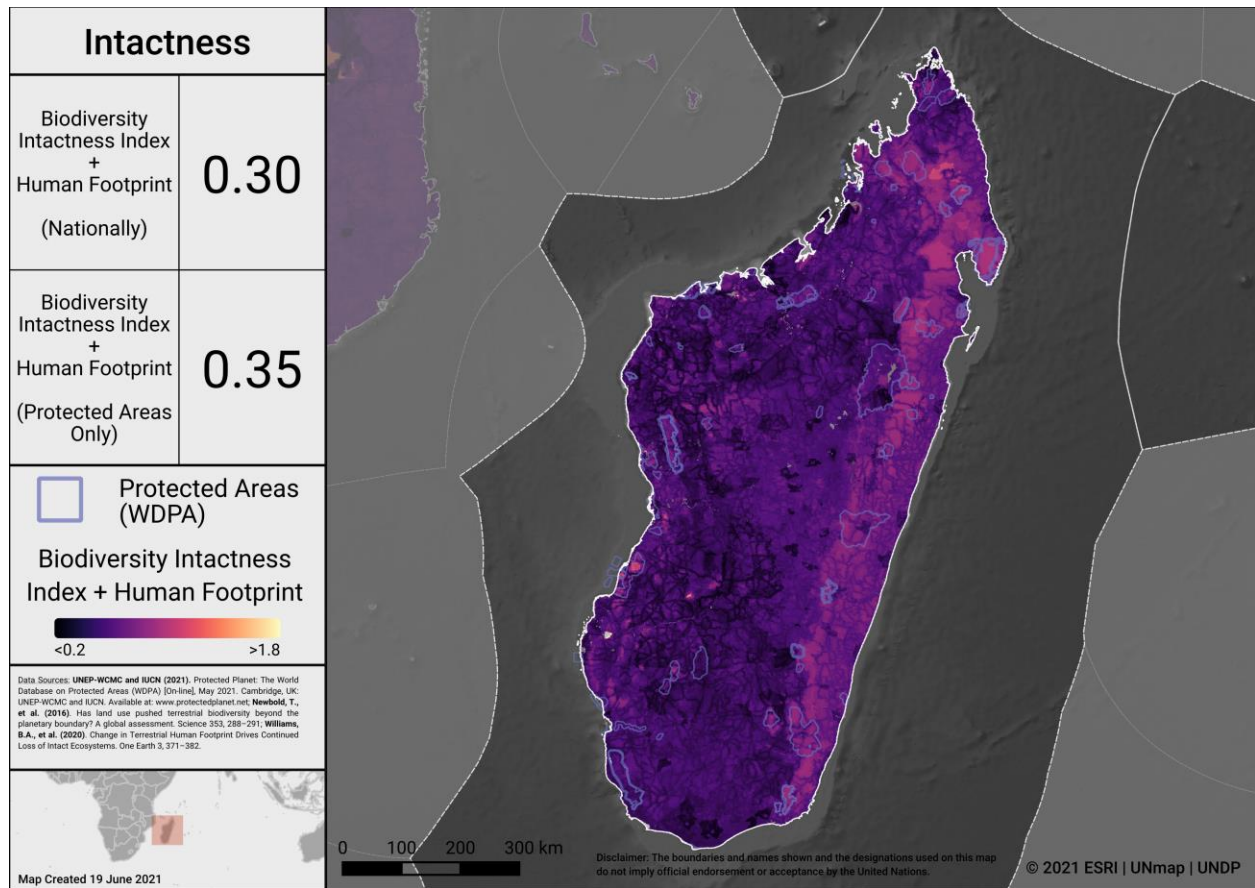
Marine Protected Areas in Madagascar

Potential OECMs

The potential OECMs that exist in Madagascar are Key Biodiversity Areas (KBA), including Alliance for Zero extinction (AZE) sites, and Important Bird and Biodiversity Areas (IBA); see section [below](#) regarding current coverage. So far, Madagascar does not yet have a framework for these OECMs, though many studies are in progress (especially regarding AZEs and KBAs); other conservation measures are also managed by the communities.

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

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).

Madagascar has 7 **terrestrial** ecoregions. Out of these:

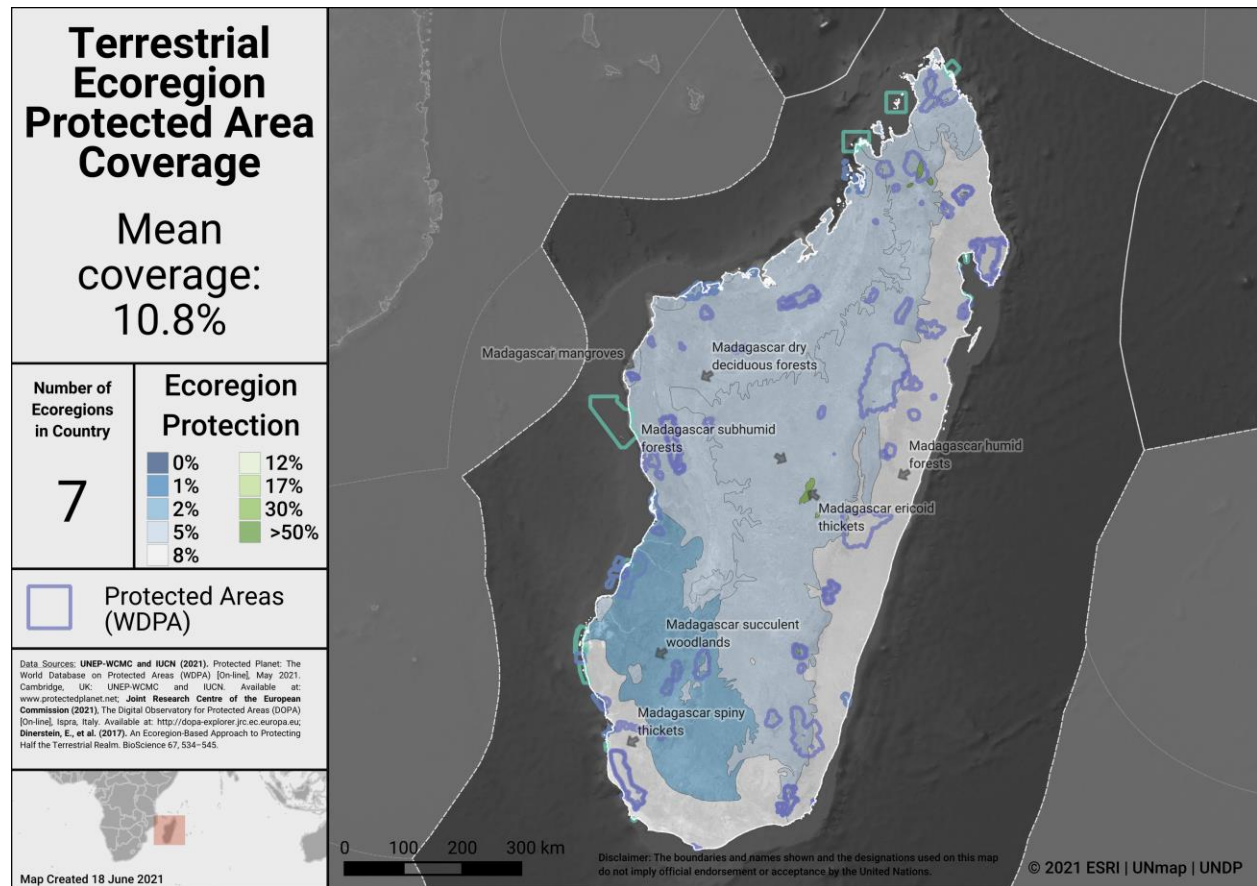
- All 7 ecoregions have at least some coverage from PAs and OECMs.
- 1 ecoregion has at least 17% protected within the country.
- The average coverage of terrestrial ecoregions is 10.8%.

Madagascar has 2 **marine** ecoregions and 1 **pelagic province**. Out of these:

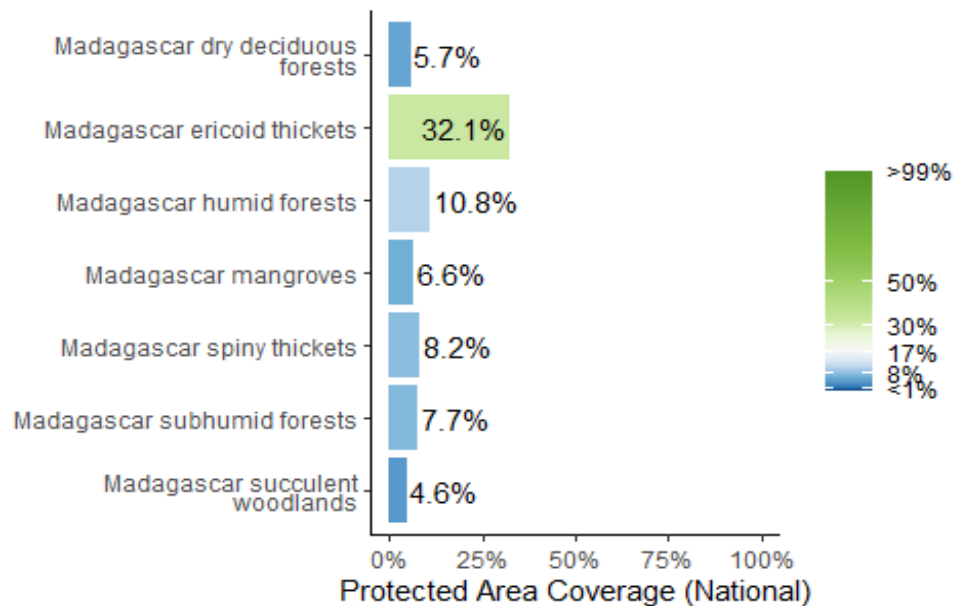
- All 2 marine ecoregions and 1 pelagic province have at least some coverage from reported PAs and OECMs.
- 0 marine ecoregions and 0 pelagic provinces have at least 10% protected within Madagascar's exclusive economic zone (EEZ).
- The average coverage of marine ecoregions is 4.2% and the coverage of the 1 pelagic province is <0.1%.

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



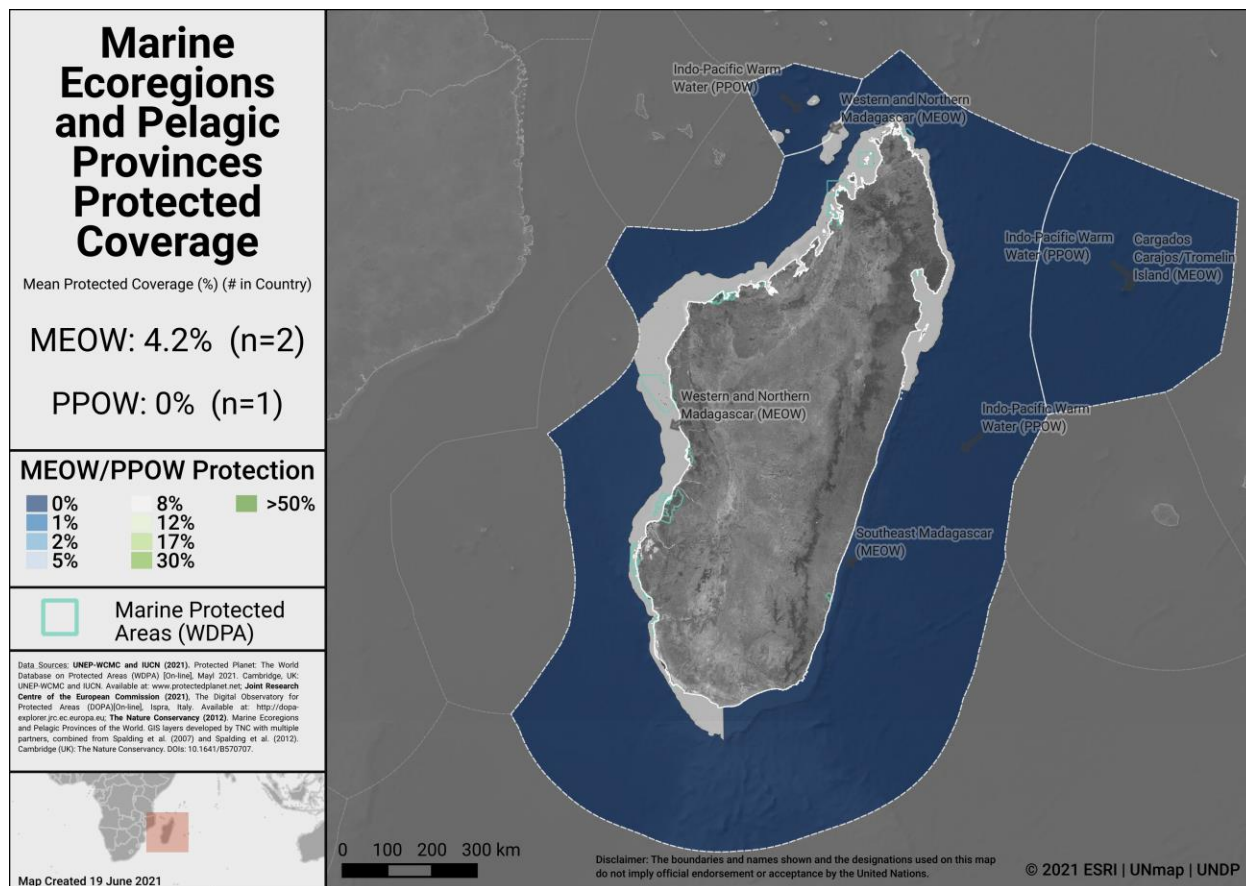


Terrestrial ecoregions in Madagascar

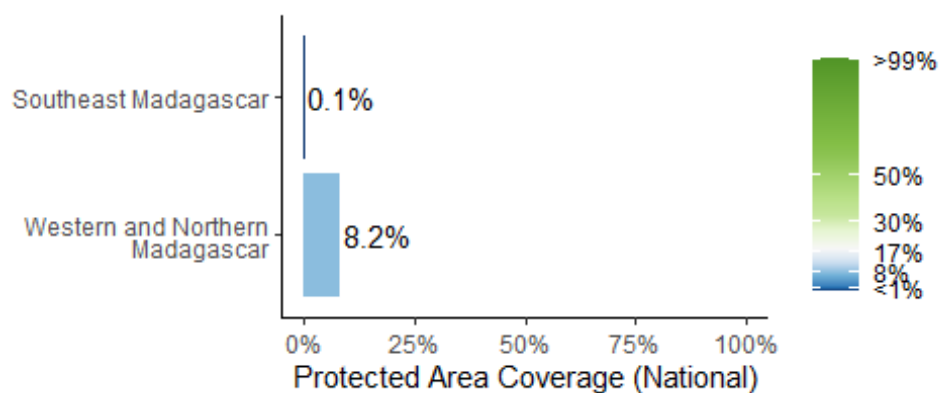


Terrestrial ecoregions of the World (TEOW) in Madagascar



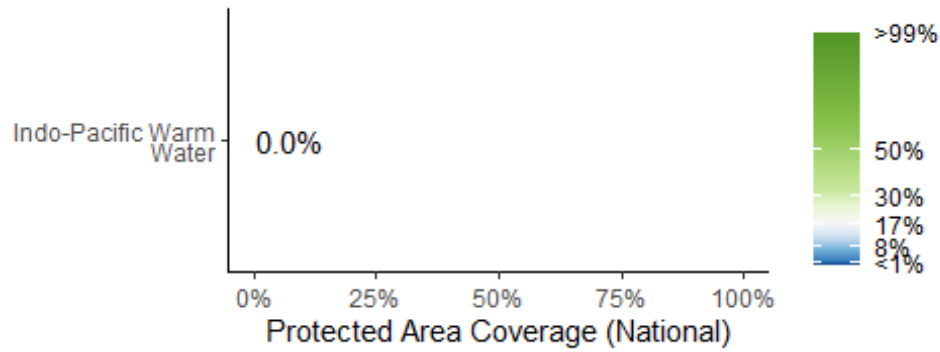


Marine ecoregions and pelagic provinces



Marine Ecoregions of the World (MEOW) in Madagascar





Pelagic Provinces of the World (PPOW) in Madagascar

Opportunities for action

There is opportunity for Madagascar to increase protection in terrestrial and marine ecoregions and pelagic provinces that have lower levels of coverage by PAs or OECMs.

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.

Madagascar has **237** Key Biodiversity Areas (KBAs).

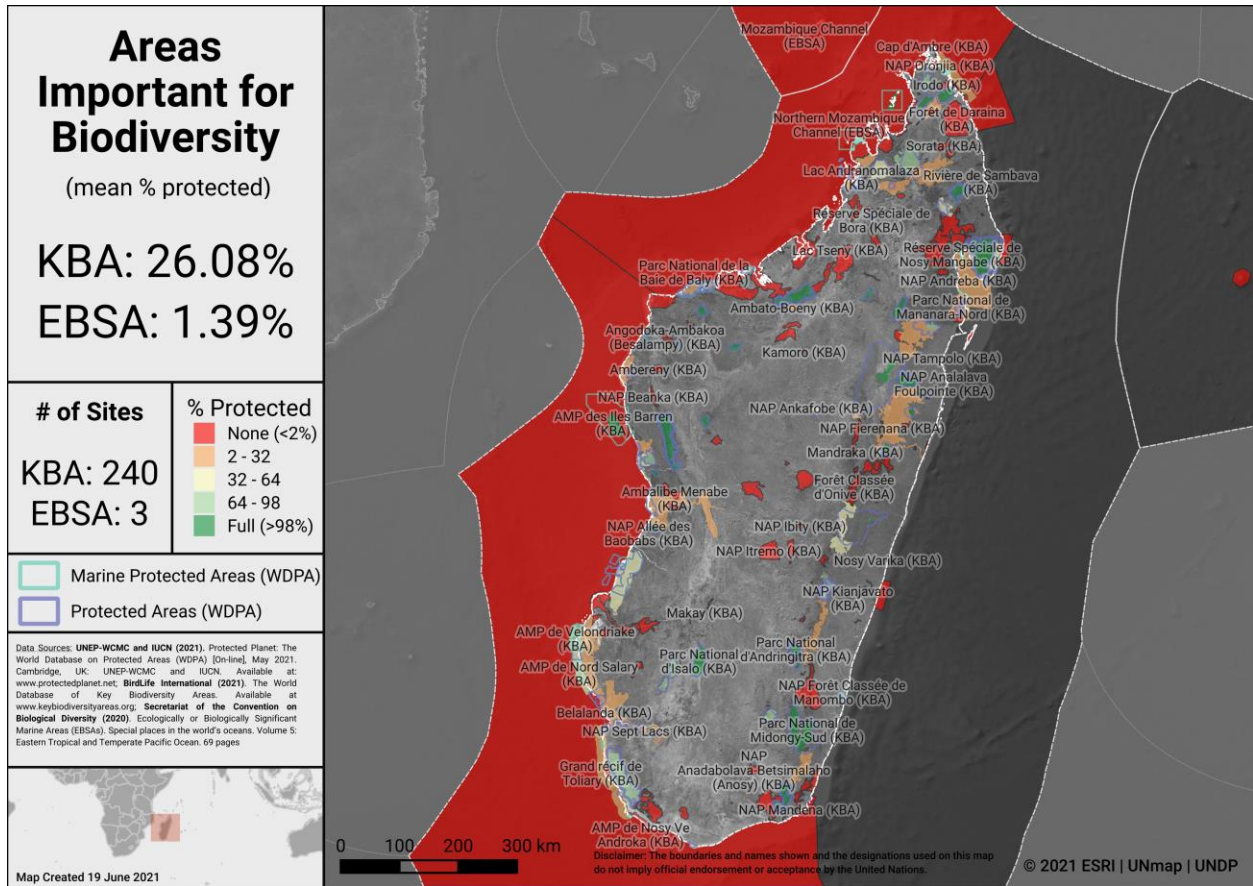
- Mean percent coverage of all KBAs by PAs and OECMs in Madagascar is **26.1%**.
- **36** KBAs have full (>98%) coverage by PAs and OECMs.
- **69** KBAs have partial coverage by PAs and OECMs.
- **132** KBAs have no (<2%) coverage by PAs and OECMs.

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 3 EBSAs with some portion of their extent within Madagascar's EEZ, all of which have at least some coverage from PAs and OECMs (2 are <2%).

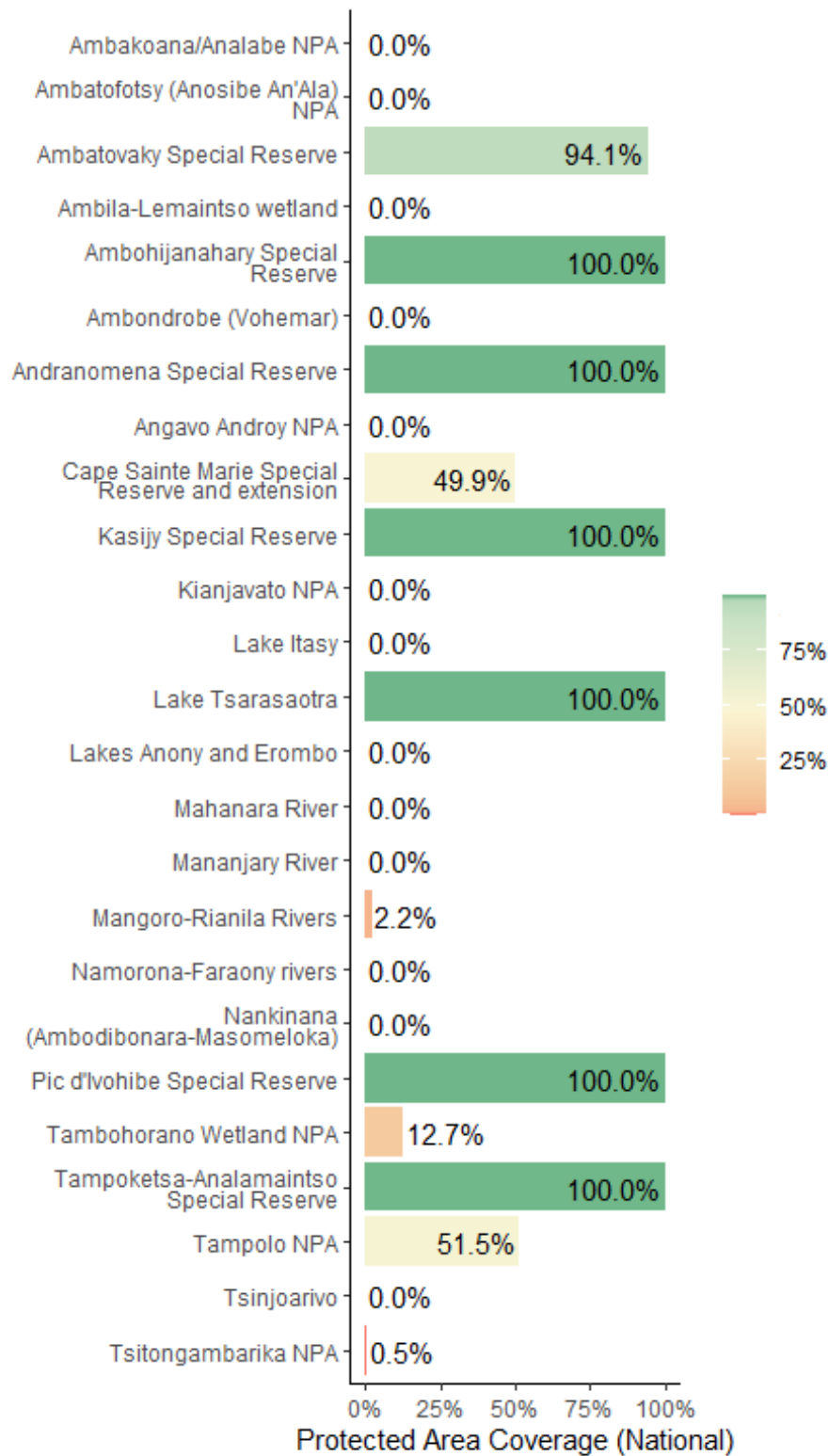
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Areas Important for Biodiversity in Madagascar

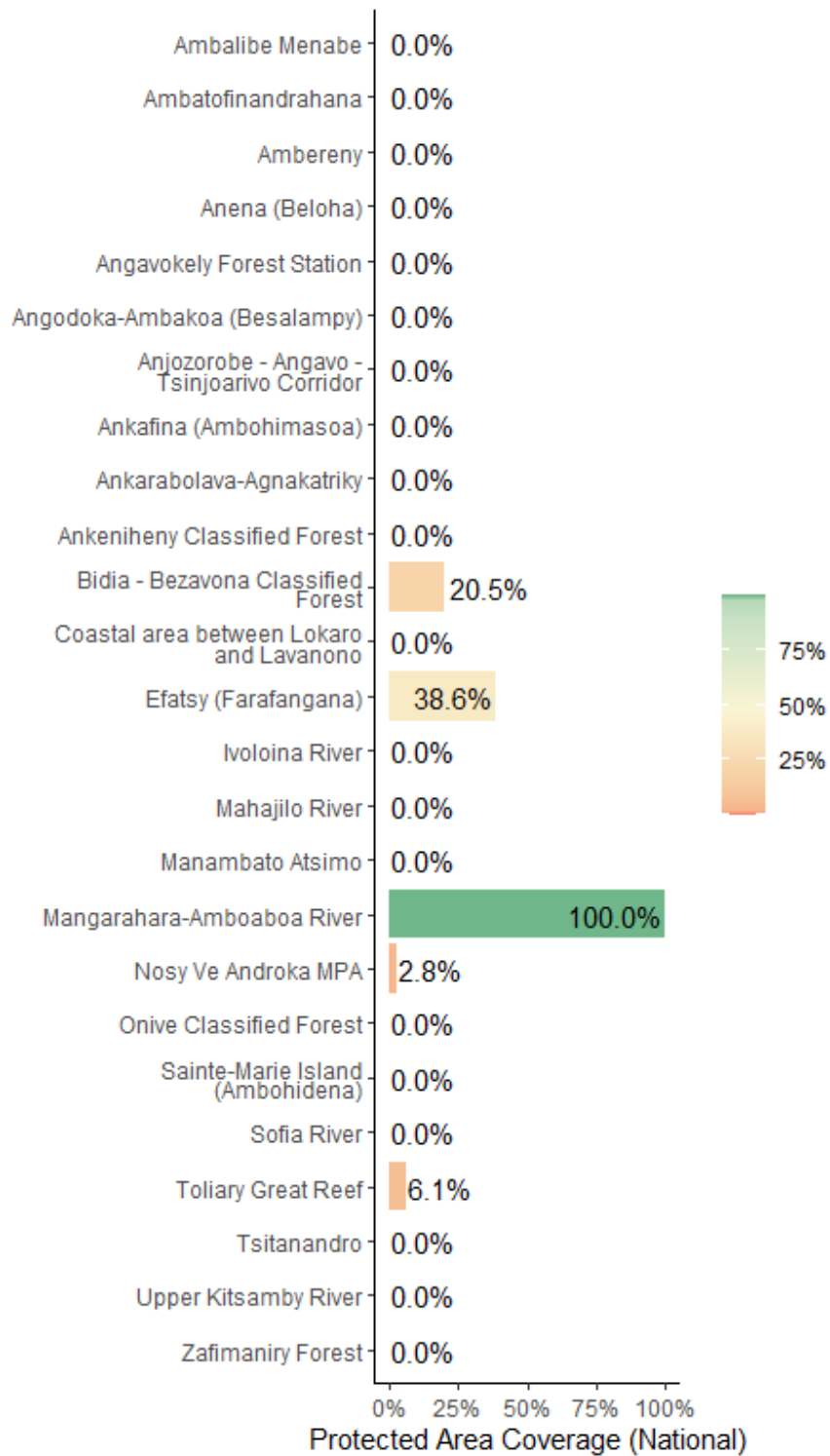


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Key Biodiversity Area Coverage (KBA) in Madagascar

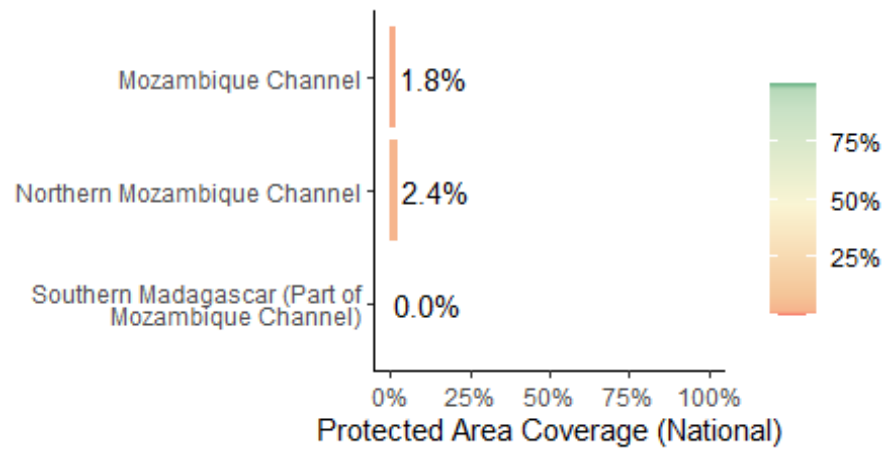
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Key Biodiversity Area Coverage (KBA) in Madagascar

Remaining KBA graphs in **Annex I**





Ecologically or Biologically Significant Marine Areas (EBSAs) in Madagascar

Opportunities for action

There is opportunity for Madagascar 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.



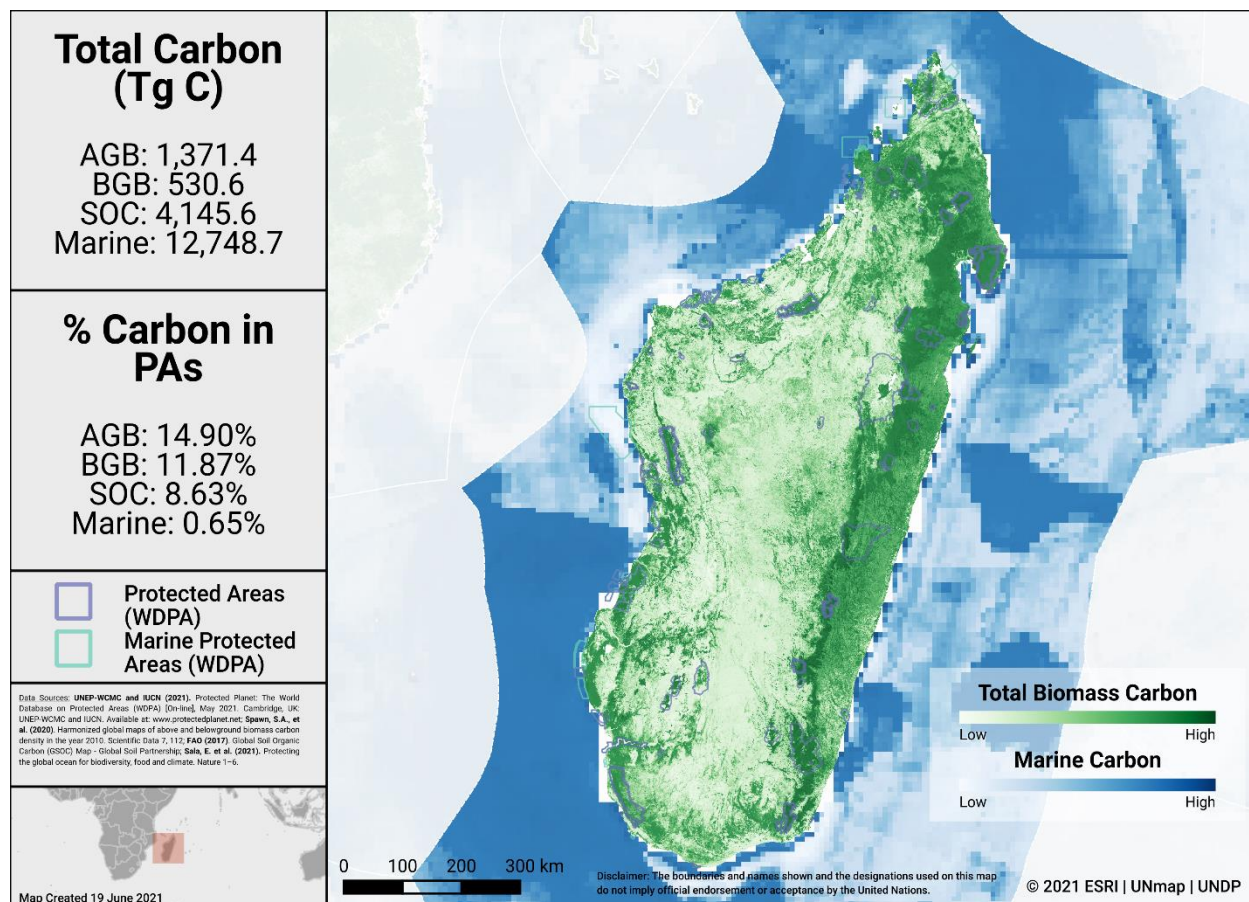
AREAS IMPORTANT FOR ECOSYSTEM SERVICES

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 Madagascar and the percent of carbon in protected areas. The total carbon stocks is 1,371.4 Tg C from aboveground biomass (AGB), with 14.9% in protected areas; 530.6 Tg C from below ground biomass (BGB), with 11.9% in protected areas; 4,145.6 Tg C from soil organic carbon (SOC), with 8.6% in protected areas; and 12,748.7 Tg C from marine sediment carbon, with 0.6% in protected areas.



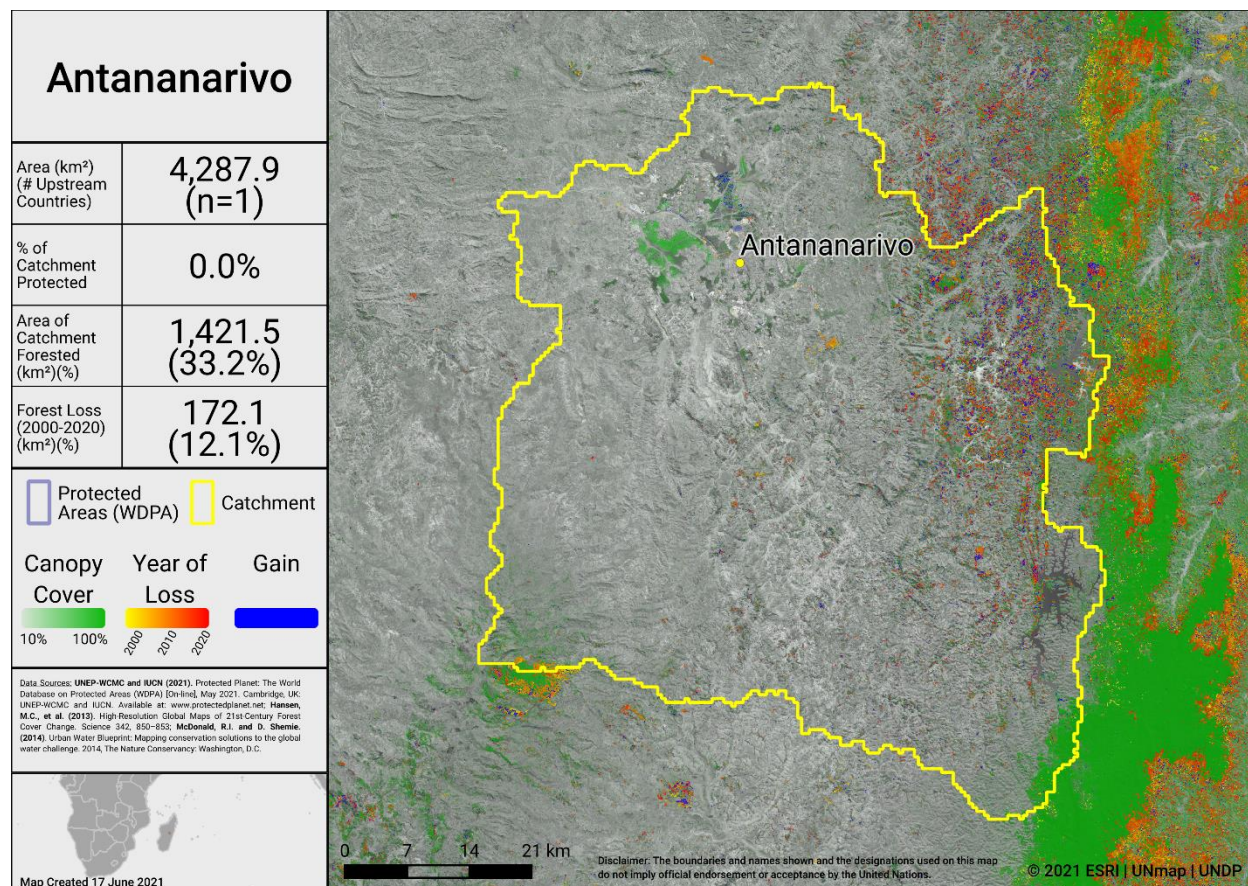
Carbon Stocks in Madagascar

Water

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

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

Drinking water supplies for cities in Madagascar 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 Madagascar. Intact catchments can support more consistent water supply and improved water quality.



Water catchment in Antananarivo

Opportunities for action

For carbon, there is opportunity for Madagascar 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 Madagascar was 1.9%.

PARC-Connectedness Index

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

Corridor case studies

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

Integration into the wider landscape and seascape

Madagascar's National Strategy for the Restoration of Forest Landscapes and Green Infrastructures (SNRPF), as well as marine spatial planning in the country, take into account Protected Areas.

Opportunities for action

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

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



GOVERNANCE DIVERSITY

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

Several recently established PAs in Madagascar may not yet be reflected in the WDPA. Currently Madagascar reports 123 PA established; governance types are:

- 39% under Governance by the State: Madagascar National Parks + Ministry of the Environment and Sustainable Development (unassigned)
- The remainder under shared governance: delegation of management with technical and financial partners (national and international NGOs)
- 1 PA has private governance

As of May 2021, PAs in Madagascar reported in the WDPA have the following governance types (which will need to be updated):

- 1.8% are governed by **governments**
 - 0.6% by federal or national ministry or agency
 - 0.0% by sub-national ministry or agency
 - 1.2% by government-delegated management
- 1.2% are under **shared** governance (by collaborative governance)
- 1.2% are under **private** governance (by non-profit organisations)
- 47.4% are under **IPLC** governance
 - 0.0% by Indigenous Peoples
 - 47.4% by local communities
- 48.5% **do not** report a governance type
 - (Many of which are proposed or international designations)
 - 22% are established sites with national designations

OECMs

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

Privately Protected Areas (PPAs)

There is currently 1 PA with private governance in Madagascar: Sakara, Region Anosy.

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

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

- 1,000 local management contracts



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- These cover 5,000km².
- 16 locally managed marine areas (LMMAs)
 - These cover 3,940 km².
- Potential from the GELOSE (*Gestion Locale Sécurisée*) law, which sets the framework for a decentralization of resources management to local communities.

Another example of an ICCA in Madagascar includes the *Adidy Maitso Association*, in the Ambatondrazaka district of the Alaotra Mangoro region, which protects part of the eastern rainforest of Madagascar (Didy forest) that is very rich in endemic biodiversity. See further case study details in the [ICCA Registry](#).

Other Indigenous lands

There is currently no data available on the total area of lands managed and/or controlled by Indigenous Peoples in Madagascar (for details on analysis see Garnett et al., 2018).

Opportunities for action

Increase efforts to report and update the governance types for PAs reported in the WDPA. Explore opportunities for governance types that have lower representation.

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



Organization	Year	Project Description
Fikambanan'ny Terak'i Manambolo (FITEMA, Association of Manambolo Natives)	2002	<p>Fikambanan'ny Terak'i Manambolo (FITEMA, Association of Manambolo Natives) has used the reintroduction of an Indigenous land use system to help conserve forests and wetlands in the 7,500-hectare Manambolo Valley – a forest corridor which joins the Andringitra and Ranomafana National Parks – while improving food security for local communities. The valley's forests are home to a high number of endemic species and also provide critical ecosystem services to around 200,000 residents of five neighbouring districts, including timber and non-timber forest products, water regulation, and watershed protection.</p> <p>The organization works on forest restoration through the establishment of nurseries with local tree species, including the native <i>Ravenea madagascariensis</i> palm. The group has also constructed irrigation infrastructure and is guided in its work by a commitment to the full participation of its target communities.</p>
Le Village d'Andavadoaka (Village of Andavadoaka)	2006	<p>In response to declining local octopus populations, community leaders in the coastal village of Andavadoaka sought to regulate harvesting practices. With guidance from Blue Ventures, a UK-based NGO, the village authorities created a trial "no-take zone" in 2004 where octopus hunting was banned for a period of seven months. Enforcement was rooted in the tradition of Dina, or local codes of conduct, which are common throughout Madagascar.</p> <p>The results were increases in the mean weight of octopus caught by around 50%, prompting many neighbouring villages to ask Andavadoaka for support in creating no-take zones in their own near-shore waters. An inter-village organization was created to assist these villages, and ultimately 23 villages came together in 2006 to form the Velondriake Locally Managed Marine Area, containing both temporary and permanent no-take zones in which fish, mangroves, and other marine organisms are conserved.</p>



Organization	Year	Project Description
Union Soamitambatra	2015	<p>Union Soamitambatra is using a traditional consensus-based Malagasy governance system, known as fokonolona, and community social contracts, known as dina, to regenerate the Badika forest and its surrounding lakes. Working with 6,589 people across ten villages, the union brings together community user groups, technical experts, municipal government, and private sector partners to protect and restore local ecosystems and provide for sustainable jobs. Member incomes from the sale of fish and other products have reached four times the minimum salary for the country, while attendance in primary school has increased from 30 to 90 percent. Farmers have transitioned to a variety of short-cycle seeds such as rice, maize and peanuts to diversify their agricultural activities. Spawning areas for fish have been protected, while compliance with sustainability standards are helping to increase fish abundance and catch size. Together the union manages 14,910 hectares of forest and 65 hectares of lakes, integrating management of natural resources with economic and social sustainability. The union is a beacon of strength, serving as the last barrier against an expanding tobacco industry that is the primary driver of land conversion and deforestation in the region.</p>



Photo from the Equator Prize Winner



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

All 123 established PAs in Madagascar have adopted the METT tool (Management Effectiveness Tracking Tool). METT update in progress [Not all PAs and completed assessments are reflected in the WDPA and GD-PAME].

As of May 2021, Madagascar has 98 designated PAs reported in the WDPA; of these PAs, 71 (72%) have management effectiveness evaluations reported in the global database on protected area management effectiveness (GD-PAME).

- 6.4% (37,912 km²) of the terrestrial area of the country is covered by PAs with completed management effectiveness evaluations.
 - 85.2% of the area of terrestrial PAs have completed evaluations.
- 0.3% (4,137 km²) of the marine area of the country is covered by PAs with completed management effectiveness evaluations.
 - 37.5% of the area of marine PAs have completed evaluations.

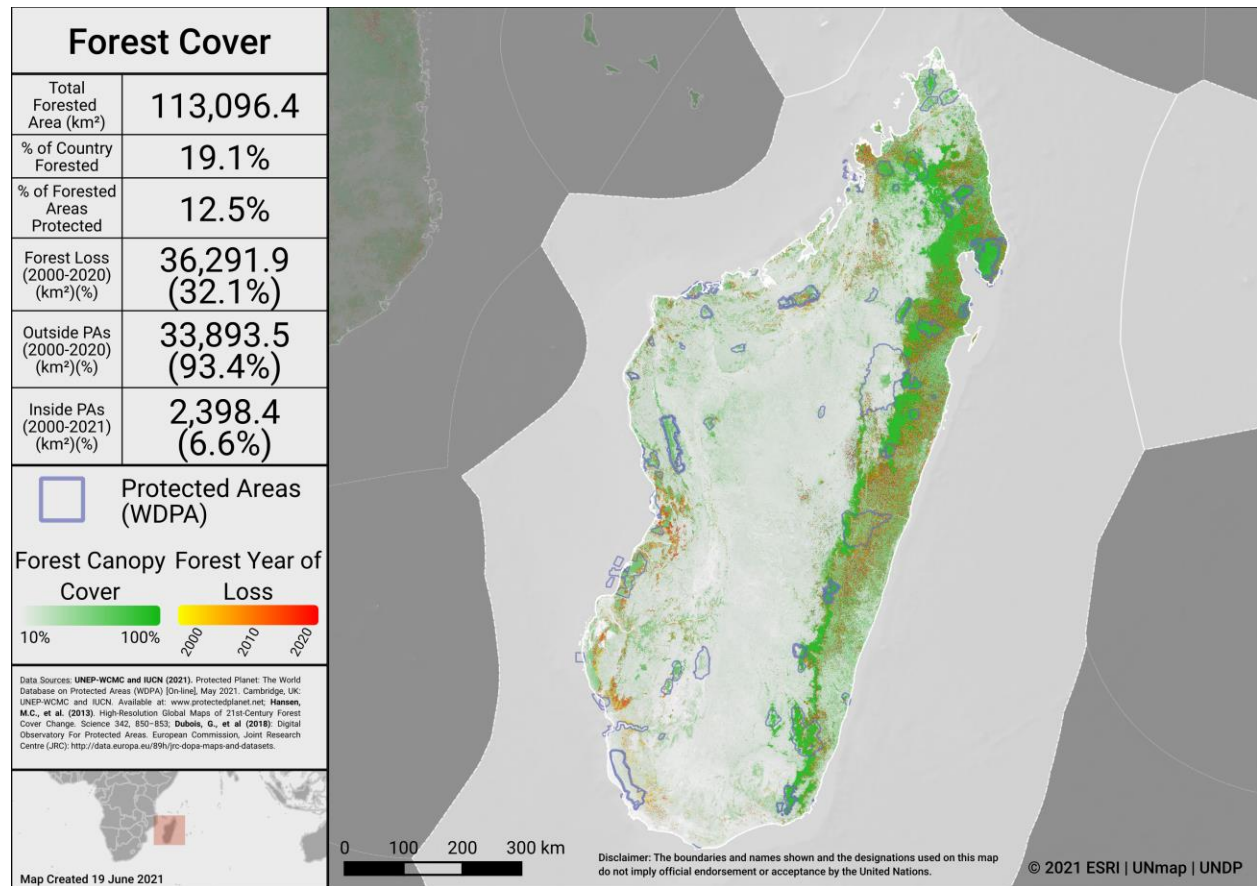
The 60% target for completed management effectiveness assessments (per COP Decision X/31) **has** been met for terrestrial PAs and **has not** been met for marine PAs.

As of May 2021, there are 0 OECMs in Madagascar 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 Madagascar cover approximately 19.1% of the country, an area of 113,096.4 km². Approximately 12.5% (14,135.5 km²) of this is within the protected area estate of Madagascar. Over the period 2000-2020 loss of forest cover amounted to over 36,291.9 km², or 6.1% of the country (32.1% of forest area), of which 2,398.4 km² (6.6% of forest loss) occurred within protected areas. The map below shows how forest cover has changed in Madagascar 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 Madagascar

Opportunities for action

The 60% target for completed management effectiveness assessments (per COP Decision X/31) **has** 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 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 OECD 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 Africa on achieving Aichi Biodiversity Targets 11 and 12 took place 21 - 24 March 2016 in Entebbe, Uganda. Progress towards the quantitative targets for marine and terrestrial coverage has been assessed based on data reported in the WDPA and WD-OECD 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 provide benefits for the qualifying elements of Aichi Biodiversity Target 11.

The following actions were identified during the workshops:

Terrestrial coverage:

- 1) Create and/or effectively manage protected areas to preserve fragile ecosystems and sensitive and / or critical areas of high biodiversity
- 2) Effective management of existing PAs.
- 3) Updating DOPA/ WDPA.

Marine coverage: Initiate Marine Protected Areas (MPA) creation.

Ecological representation:

- 1) Studies and inventory on other ecoregions whose information is missing.
- 2) Update database.

Areas Important for biodiversity and ecosystem services: Focus more money in protecting these important areas for biodiversity.

Connectivity:

- 1) Complete 2 projects focused on connectivity.
- 2) Promotion of other potential areas of connectivity.
- 3) Create and/or effectively manage protected areas to preserve fragile ecosystems and sensitive areas of high biodiversity and/or critical.



Management effectiveness:

- 1) Ensure the security of protected areas vis-à-vis other sectoral activities.
- 2) Create and / or effectively manage protected areas to preserve fragile ecosystems and sensitive areas of high biodiversity and / or critical.
- 3) Integrating Protected Areas in a harmonious overall environmental landscape combining development and conservation.

Governance and Equity: effective governance of New PAs within 5 years, and some mid-term situations will redirect activities relating to governance.

Integration into the wider landscape and seascape: Integrating Protected Areas in a harmonious overall environmental landscape combining development and conservation.

OECSs: Operationalizing Kolo-Ala sites.



NATIONAL BIODIVERSITY STRATEGY AND ACTION PLANS (NBSAPs)

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

Strategic goal C: Improve the state of biological diversity by safeguarding ecosystems, species and genetic diversity.

Objective 11: In 2025, 10% of terrestrial ecosystems and 15% of coastal and marine areas, especially the areas of particular importance for biodiversity and ecosystem services, are conserved adequately in ecologically representative systems and the protected areas are effectively managed by different strategic approaches.

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 (but post-2020 target date)**
- Accounting for other projects, actions and commitments, if this target is met, coverage in the country will increase by **11,981 km²** by 2025.

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: **No (but post-2020 target date)**
- Accounting for other projects, actions and commitments, if this target is met, coverage in the country will increase by **153,055.75 km²** by 2025.

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

Action #	Action (original language from NBSAP)	Action (English translation)
5.6	Élaborer et mettre en œuvre des plans de gestion des habitats naturels sous protection avec les acteurs responsables	Develop and implement management plans for natural habitats under protection with responsible actors
11.1	Assurer la sécurisation des aires protégées vis-à-vis d'autres activités sectorielles	Ensure the security of protected areas vis-à-vis other sectoral activities
11.2	Élaborer et mettre en oeuvre des programmes de restauration des écosystèmes dégradés d'aires protégées et valoriser leur biodiversité	Develop and implement programs to restore degraded ecosystems in protected areas and enhance their biodiversity

Action #	Action (original language from NBSAP)	Action (English translation)
11.3	Intégrer les Aires Protégées dans un paysage environnemental global harmonieux alliant développement et conservation	Integrating Protected Areas in a harmonious overall environmental landscape combining development and conservation
11.4	Créer et /ou Gérer efficacement les Aires Protégées pour préserver les écosystèmes fragiles et les zones à forte biodiversité sensible et/ou critique	Create and / or Effectively manage protected areas to preserve fragile ecosystems and sensitive areas of high and / or critical biodiversity



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)
5351	Yes	2,970	Terrestrial	All except Ecosystem services and Connectivity
5352	No	N/A	N/A	Areas important for biodiversity; Effectively managed; Equitably managed; Integration
5486	No	N/A	N/A	Ecologically representative; Effectively managed; Equitably managed; Integration
9433	Yes	16,800	Marine	Ecologically representative; Effectively managed; Equitably managed; Integration
9546	No	N/A	N/A	Areas important for biodiversity; Effectively managed
9606	No	N/A	N/A	Effectively managed; Equitably managed
9793	No	N/A	N/A	Areas important for biodiversity; Ecosystem services; Effectively managed; Integration

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
FP026	Cross-cutting	Forest and land use	Integration; Effectively managed
FP122	Adaptation	Ecosystems and ecosystem services	PA/OECM coverage; Effectively managed; Ecosystem services; Equitably managed; Integration
FP135	Adaptation	Ecosystems and ecosystem services	PA/OECM coverage; Effectively managed; Ecosystem services; Areas important for biodiversity; Equitably managed; Integration



OTHER ACTIONS/COMMITMENTS

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.

Madagascar has adhered to the Leaders' Pledge for Nature commitment, through the government council of January 13, 2021. The procedure for sending the official approval document is underway at the level of the Ministry of Foreign Affairs

Madagascar's statement at the 2020 UN Biodiversity Summit mentions PAs, OECMs or corridors:

We have about 122 protected areas. In 2014 in Sydney we committed ourselves to triple the territory covered by protected areas.

Other commitments

Vision Durban (2003) - Tripling of Protected Areas:

- **Achievement of the objective** of tripling of PAs in 2015.
- COAP updated in 2015
- Preparation of the Decree implementing the Protected Areas Code in 2017
- Update of current management tools (Development and Management Plan, Environmental and Social Management Framework, Environmental Management and Social Safeguard Plan, Business plan, Management Effectiveness Tracking Tool

Promise of Sydney Promise (2014) - Extension of Marine Protected Areas

- Sydney Promise Steering Committee in place
- Specific framework for current marine PA
- KBAs being identified
- Regulatory framework for Locally Marine Managed Areas (LMMA): **in progress**



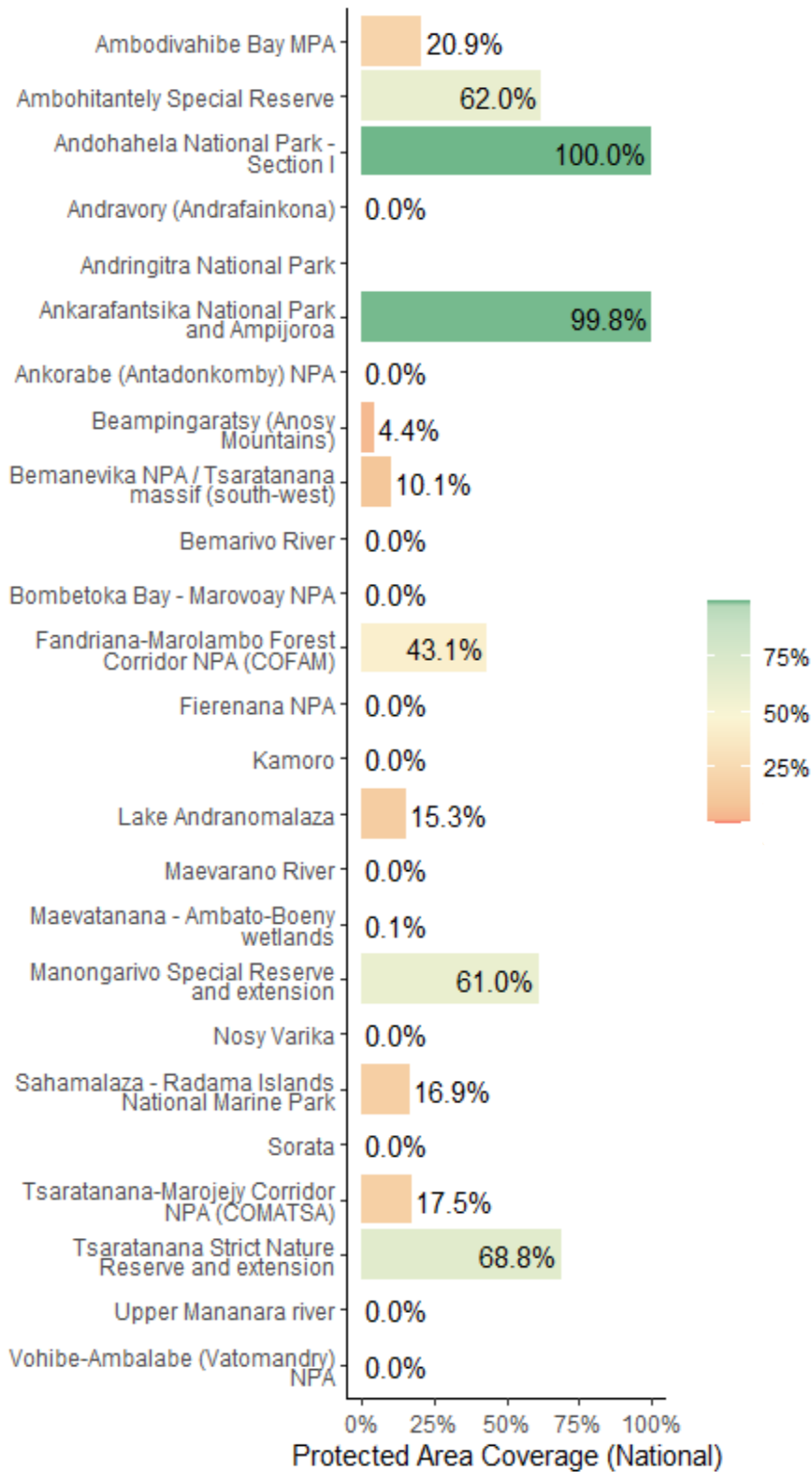
ANNEX I

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
Madagascar dry deciduous forests	151,559.9	100.0	25.6	8,601.3	5.7
Madagascar ericoid thickets	1,273.5	100.0	0.2	408.8	32.1
Madagascar humid forests	111,758.8	100.0	18.9	12,035.6	10.8
Madagascar mangroves	5,187.1	100.0	0.9	343.2	6.6
Madagascar spiny thickets	43,294.2	100.0	7.3	3,551.3	8.2
Madagascar subhumid forests	198,972.0	100.0	33.6	15,261.4	7.7
Madagascar succulent woodlands	79,496.1	100.0	13.4	3,683.2	4.6

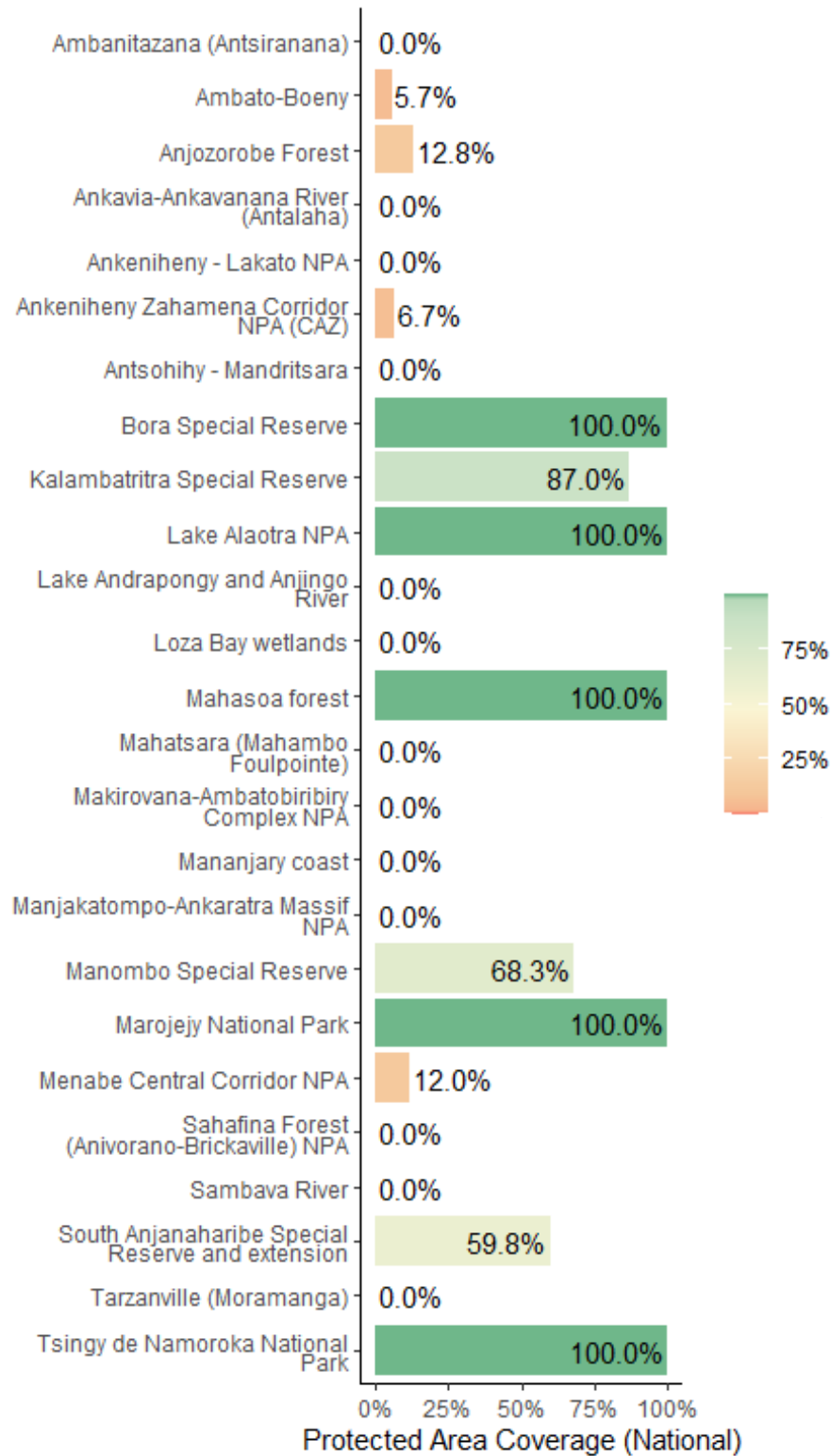


KBA GRAPHS

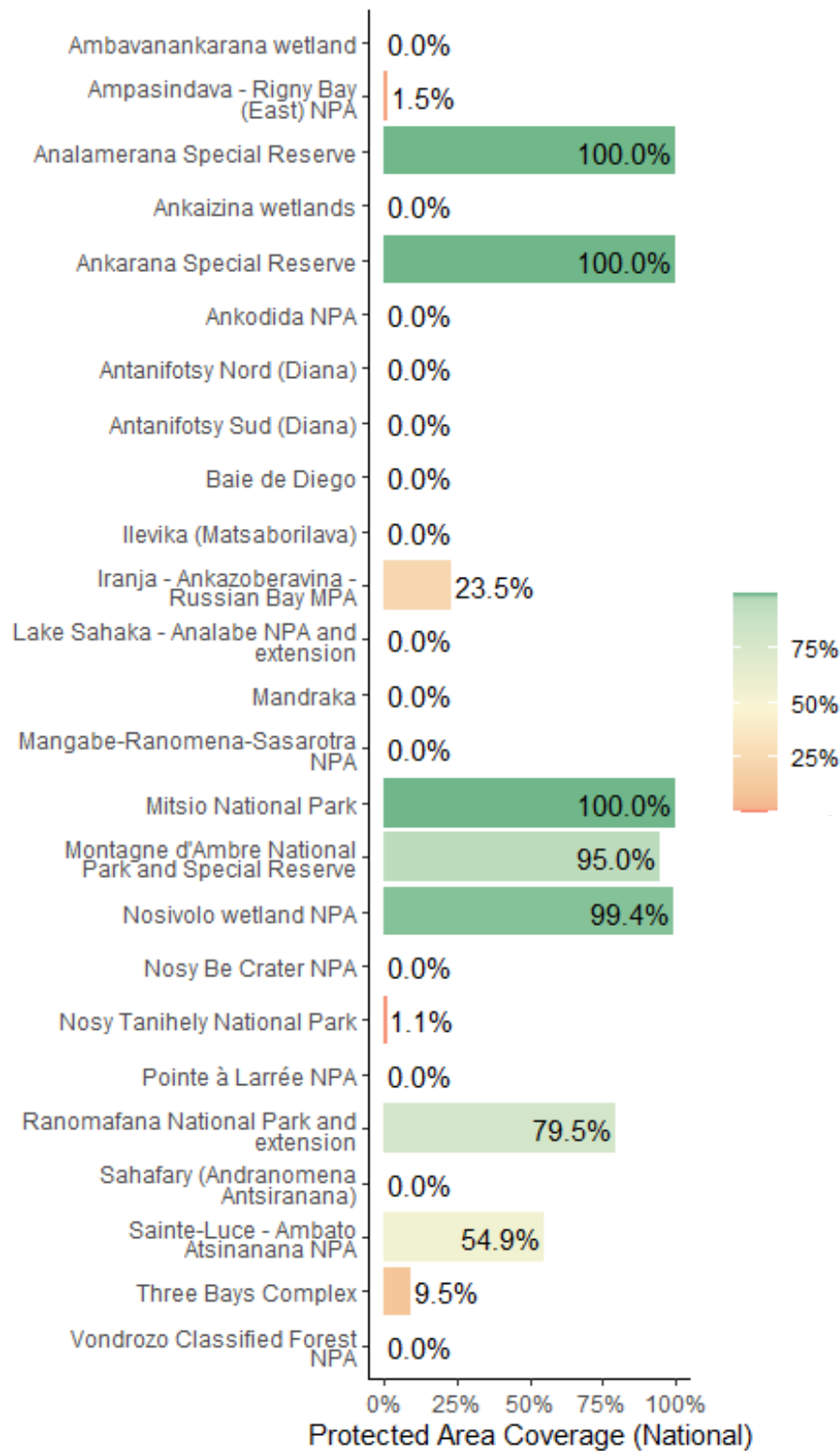


Key Biodiversity Area Coverage (KBA) in Madagascar

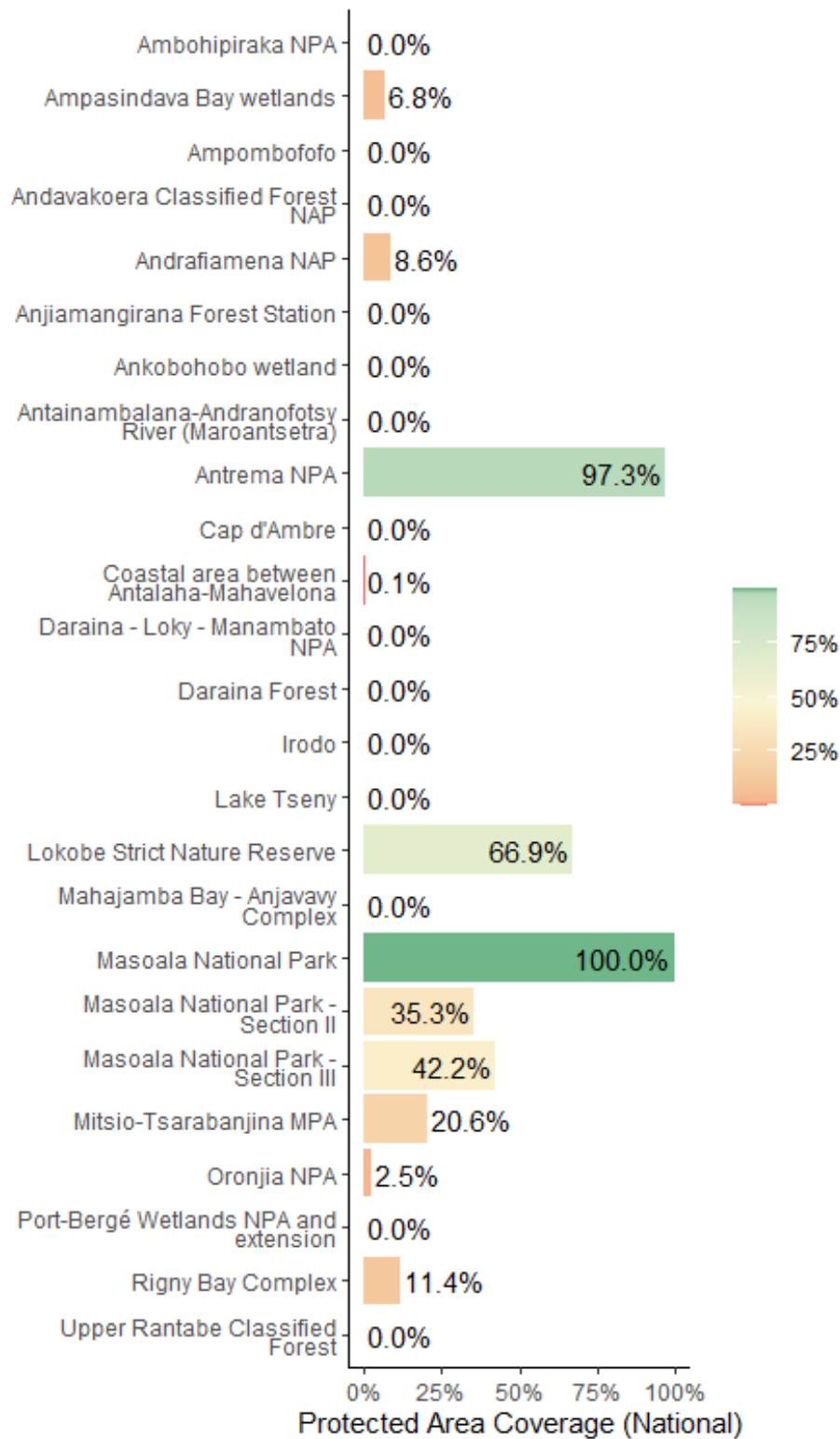
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Key Biodiversity Area Coverage (KBA) in Madagascar

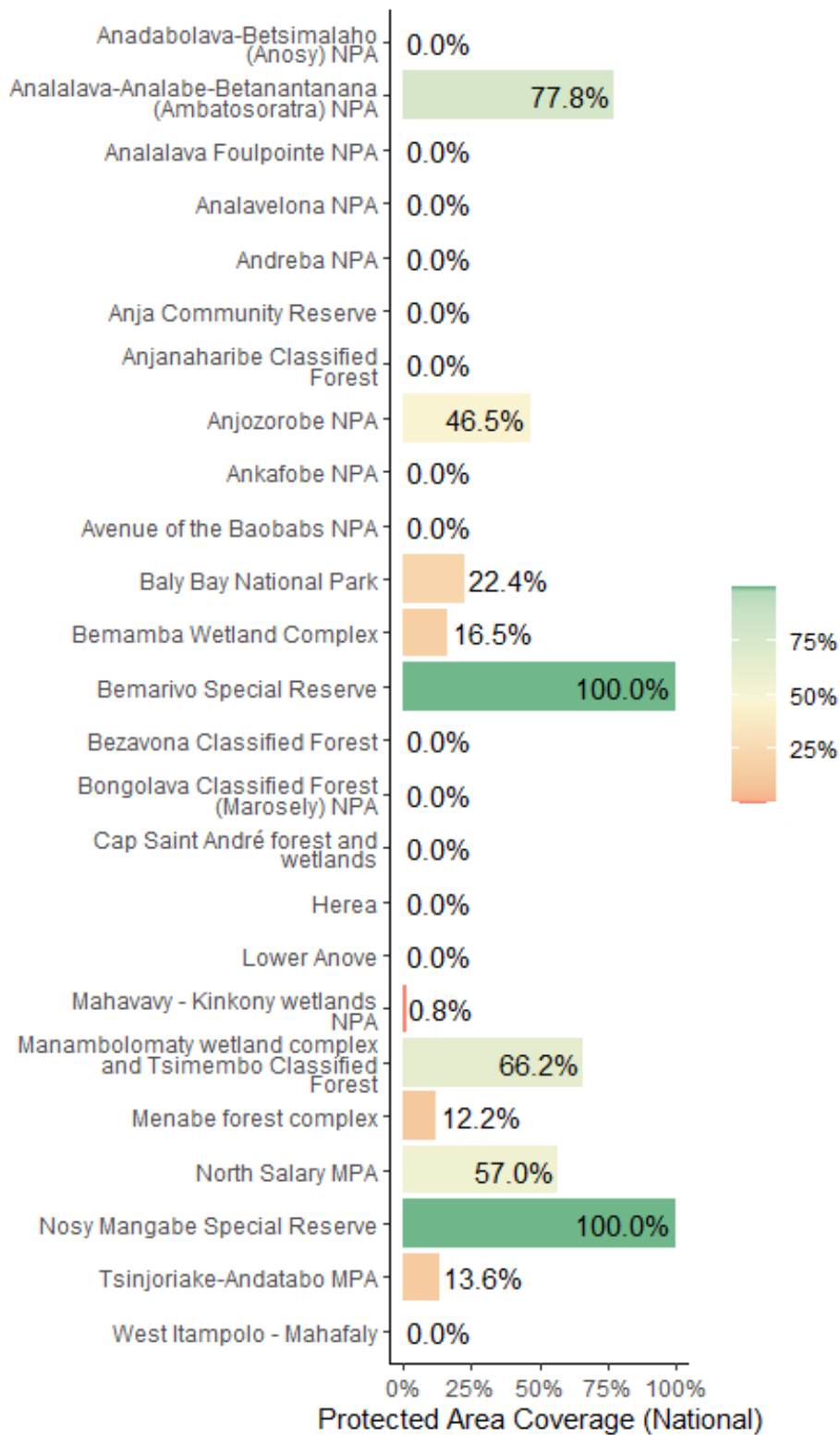


Key Biodiversity Area Coverage (KBA) in Madagascar



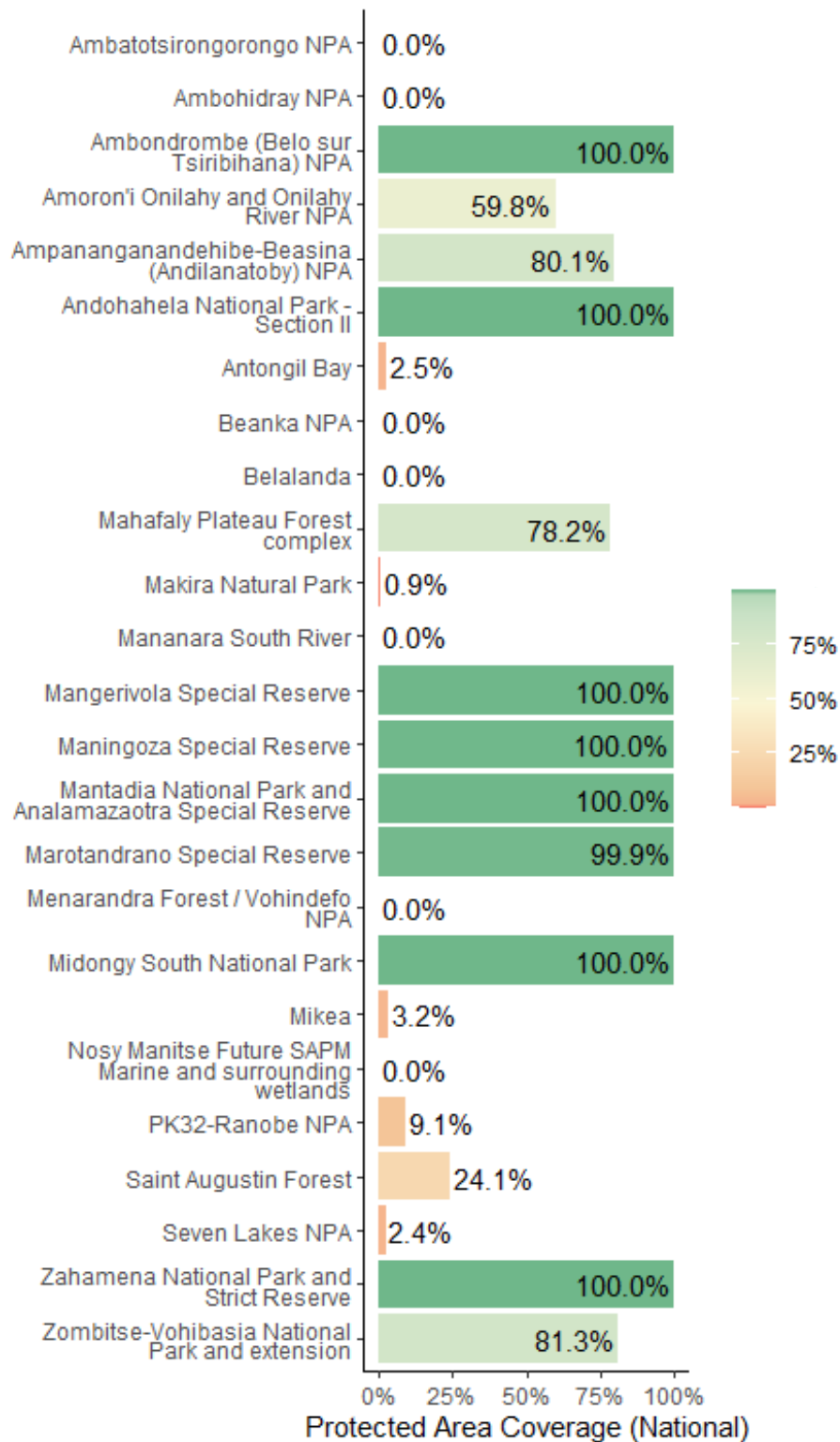
Key Biodiversity Area Coverage (KBA) in Madagascar



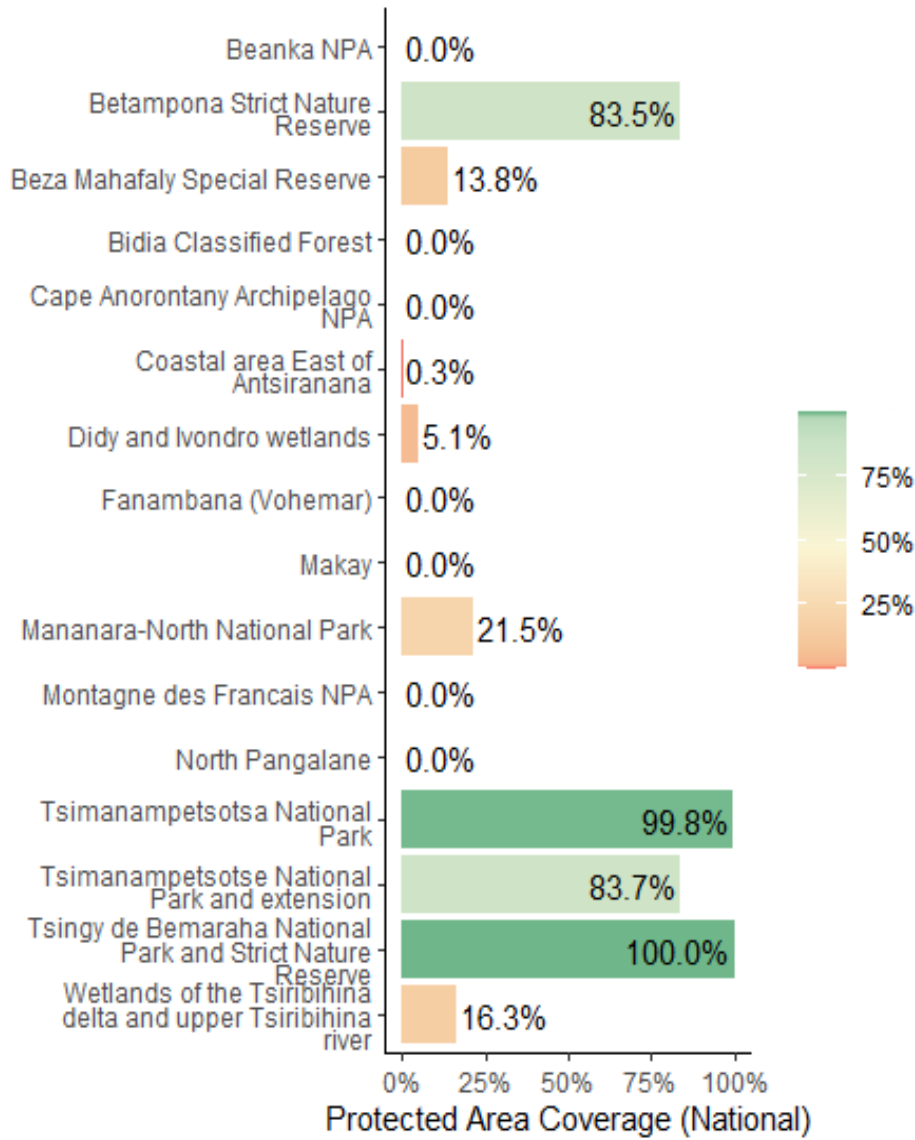


Key Biodiversity Area Coverage (KBA) in Madagascar

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Key Biodiversity Area Coverage (KBA) in Madagascar



Key Biodiversity Area Coverage (KBA) in Madagascar



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