



Aichi Biodiversity Target 11 Country Dossier: UNITED REPUBLIC OF TANZANIA

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GLOSSARY

AZEs Alliance for Zero Extinction sites
CEPF Critical Ecosystem Partnership Fund

EBSA Ecologically or Biologically Significant Marine Area

EEZ Exclusive Economic Zone GCF Green Climate Fund

GD-PAME Global Database on Protected Area Management Effectiveness

GEF Global Environment Facility

IBA Important Bird and Biodiversity Area

ICCAs Indigenous and Community Conserved Area Area (may also be referred to as

territories and areas conserved by Indigenous peoples and local communities or

"territories of life")

IPLC Indigenous Peoples and Local Communities

KBA Key Biodiversity Area

MEOW Marine Ecosystems of the World

MPA Marine Protected Area

NBSAP National Biodiversity Strategy and Action Plan
OECM Other Effective Area-Based Conservation Measures

PA Protected Area

PAME Protected Area Management Effectiveness

PPA Privately Protected Area

PPOW Pelagic Provinces of the World ProtConn Protected Connected land indicator

SOC Soil Organic Carbon

TEOW Terrestrial Ecosystems of the World WDPA World Database on Protected Areas

WD-OECM World Database on Other Effective Area-Based Conservation Measures

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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.

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.

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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. 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 Tanzania (United Republic of) is 362,263.5 km² (38.2%) and marine coverage is 7,330.4 km² (3.0%).
- 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:** Tanzania (United Republic of) contains 17 terrestrial ecoregions, 1 marine ecoregion, 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 39.3% (terrestrial), 25.7% (marine), and 0.2% (pelagic).
- **Opportunities for action:** there is opportunity for Tanzania (United Republic of) to increase protection in terrestrial ecoregions and pelagic provinces that have lower levels of coverage by PAs or OECMs, and to focus on effective management for ecoregions with higher levels of coverage.

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Areas Important for Biodiversity

- **Status:** Tanzania (United Republic of) has 122 Key Biodiversity Areas (KBAs): the mean protected coverage of KBAs by reported PAs and OECMs is 57.2%, while 36 KBAs have no coverage by reported PAs and OECMs.
- **Opportunities for action:** there is opportunity for Tanzania (United Republic of) 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 Tanzania (United Republic of), 45.9% of aboveground biomass carbon, 49.1% of belowground biomass carbon, 40.1% of soil organic carbon, 3.4% of carbon stored in marine sediments is covered by PAs and OECMs.
- **Opportunities for action:** for carbon, there is opportunity for Tanzania (United Republic of) to increase PA and OECM coverage in marine areas with high carbon stocks, and to focus on effective management for terrestrial PAs 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 21.2%.
- **Opportunities for action:** there is opportunity 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 Tanzania (United Republic of) is: 92.6% under Government (92.4% Federal or national ministry or agency; 0.2% Sub-national ministry or agency).
- **Opportunities for action:** explore opportunities for governance types that have lower representation, for Tanzania (United Republic of) this could relate to shared

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- governance, etc. Increase efforts to identify the governance types for the 2.3% of sites that do not have their governance type reported.
- There is also opportunity for Tanzania (United Republic of) 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:** 32.4% of terrestrial PAs and 55.5% 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 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 Tanzania (United Republic of). Section I of the dossier presents data on the current status of Tanzania (United Republic of)'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 Tanzania (United Republic of), in relation to each Target 11 element. The analyses present options for improving Tanzania (United Republic of)'s area-based conservation network to achieve enhanced protection and benefits for livelihoods and climate change. Section II presents details on Tanzania (United Republic of)'s existing PA and OECM commitments as a summary of existing efforts towards

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achieving Target 11. This gives focus not only to national policy and actions but also voluntary commitments to the UN. Furthermore, where data is available, this dossier provides information on potential OECMs, Indigenous and Community Conserved Areas (ICCAs; also often referred to as territories and areas conserved by Indigenous peoples and local communities or "territories of life") and Privately Protected Areas (PPAs) and the potential contribution they will have in achieving the post-2020 targets.

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

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

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

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

SECTION I: CURRENT STATUS

Aichi Biodiversity Target 11 refers to both protected areas (PAs) and other effective areabased 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.

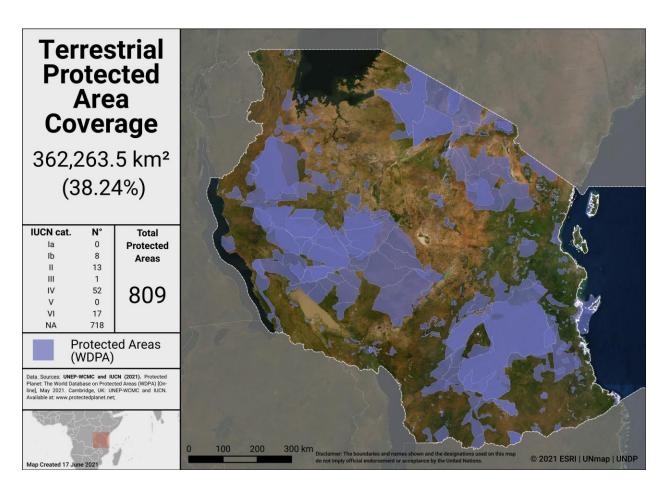
COVERAGE - TERRESTRIAL & MARINE

As of May 2021, Tanzania (United Republic of) has **838** protected areas reported in the World Database on Protected Areas (WDPA). 6 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).

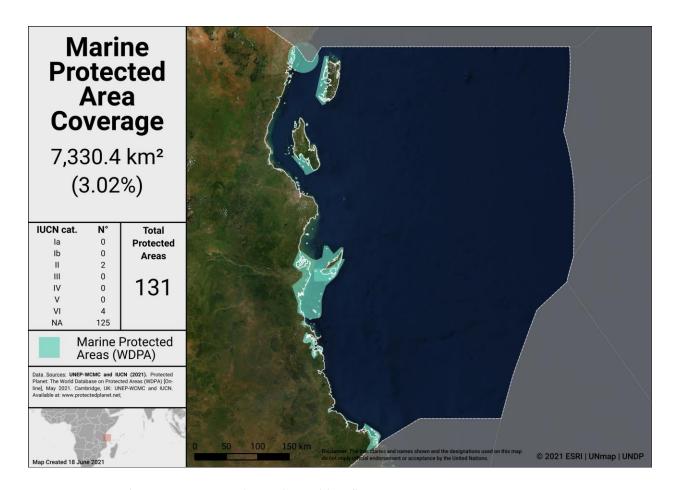
As of May 2021, Tanzania (United Republic of) has **0** OECMs reported in the world database on OECMs (WD-OECM).

Current coverage for Tanzania (United Republic of):

- 38.2% terrestrial (809 protected areas, 362,263.5 km²)
- 3.0% marine (131 protected areas, 7,330.4 km²)



Terrestrial Protected Areas in Tanzania (United Republic of)



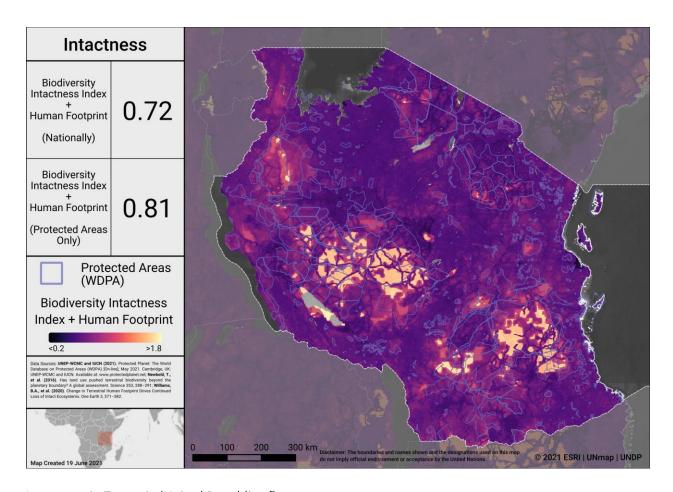
Marine Protected Areas in Tanzania (United Republic of)

Potential OECMs

There are currently no potential OECM examples for Tanzania (United Republic of).

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 Tanzania (United Republic of) considers where to add new PAs and OECMs, the map below identifies areas in Tanzania (United Republic of) 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 Tanzania (United Republic of)

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 broadscale 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).

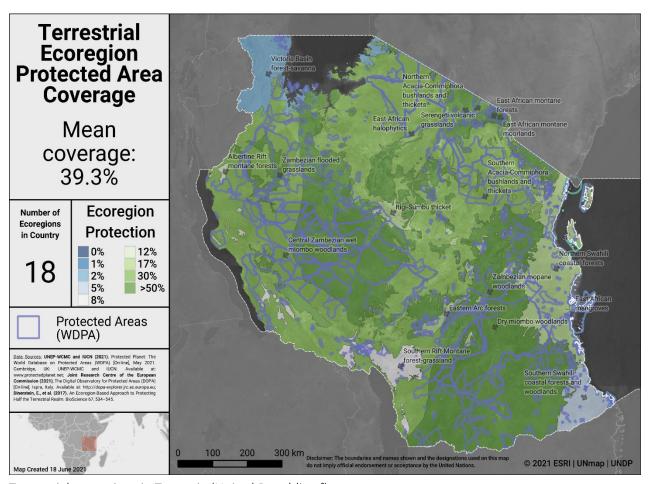
Tanzania (United Republic of) has 17 **terrestrial** ecoregions [there is 1 additional ecoregion with <1km² within Tanzania]. Out of these:

- All 17 ecoregions have at least some coverage from PAs and OECMs.
- 13 ecoregions have 17% protected within the country.
- The average terrestrial coverage of ecoregions is 39.3%.

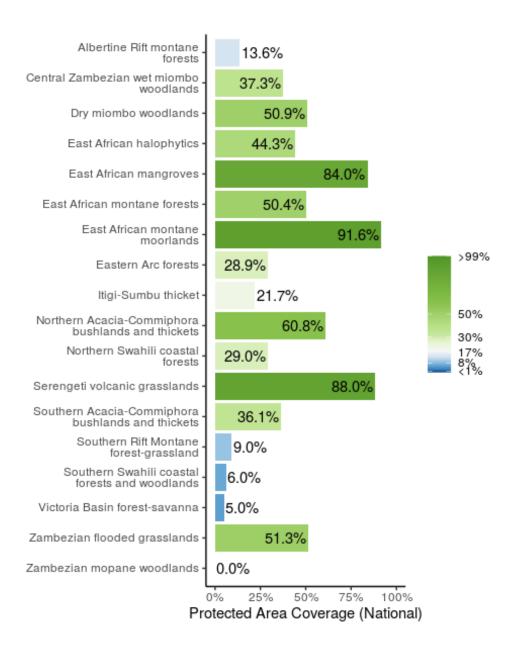
Tanzania (United Republic of) has 1 marine ecoregion and 1 pelagic province:

 Coverage from reported PAs and OECMs is 25.7% (marine ecoregion) and 0.2%. (pelagic province)

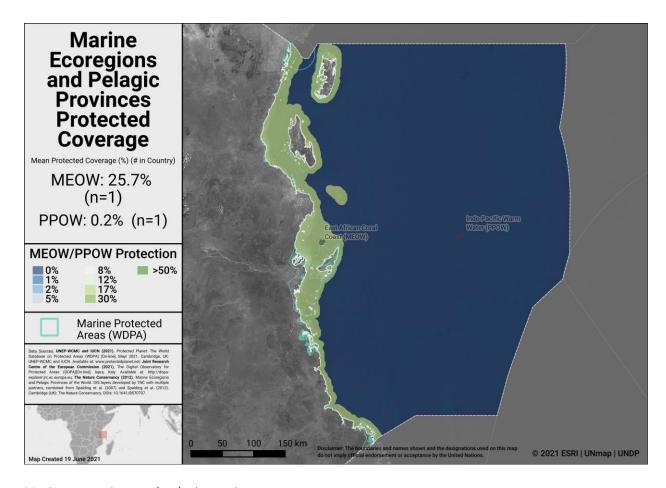
A full list of terrestrial ecoregions in Tanzania (United Republic of) is available in Annex I.



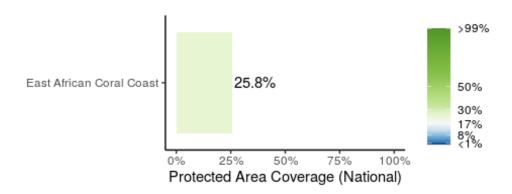
Terrestrial ecoregions in Tanzania (United Republic of)



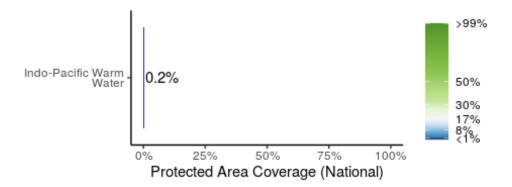
Terrestrial ecoregions of the World (TEOW) in Tanzania (United Republic of)



Marine ecoregions and pelagic provinces



Marine Ecoregions of the World (MEOW) in Tanzania (United Republic of):



Pelagic Provinces of the World (PPOW) in Tanzania (United Republic of):

Opportunities for action

There is opportunity for Tanzania (United Republic of) to increase protection in terrestrial ecoregions and pelagic provinces that have lower levels of coverage by PAs or OECMs, and to focus on effective management for ecoregions with higher levels of coverage.

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.

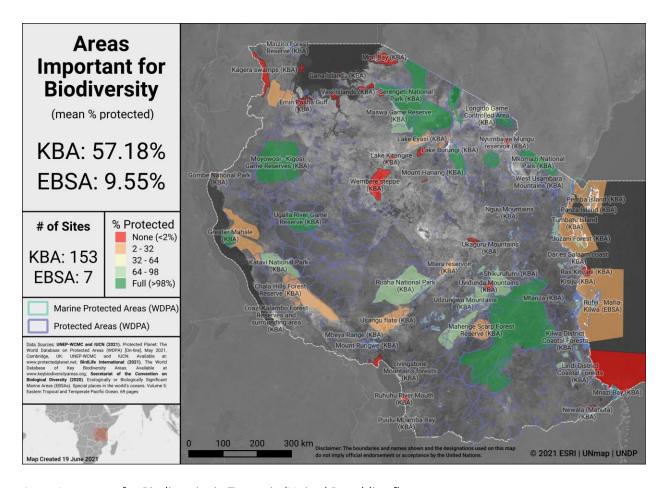
Tanzania (United Republic of) has 153 Key Biodiversity Areas (KBAs) [122 are included in the analysis]

- Mean percent coverage of all KBAs by PAs and OECMs in Tanzania (United Republic of) is **57.2%**.
- 32 KBAs have full (>98%) coverage by PAs and OECMs.
- **54** KBAs have partial coverage by PAs and OECMs.
- **36** KBAs have no (<2%) coverage by PAs and OECMs.
- 31 KBAs lack spatial data to allow PA/OECM coverage to be determined

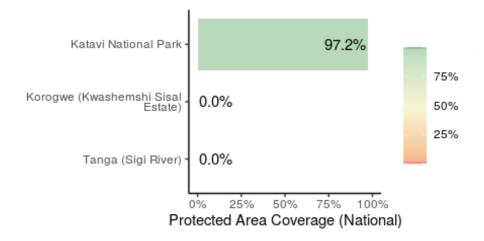
Ecologically or Biologically Significant Marine Areas (EBSAs)

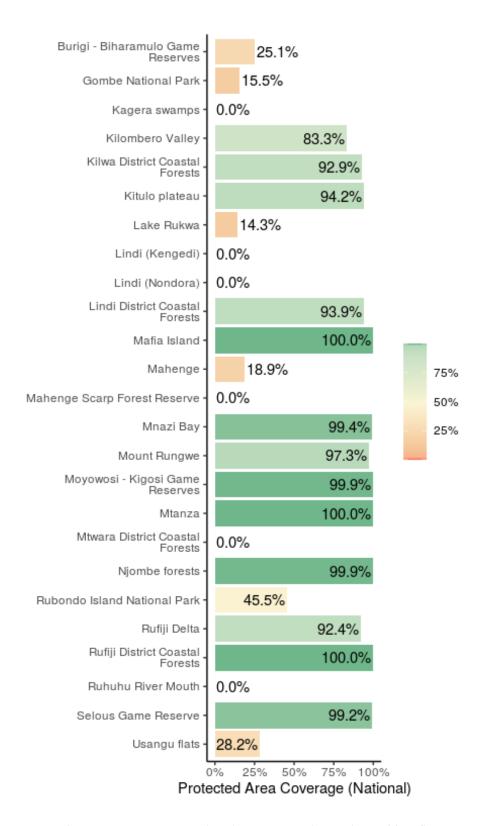
Other important areas for biodiversity may also include Ecologically or Biologically Significant Marine Areas (EBSAs), which were identified following the scientific criteria adopted at COP-9 (Decision IX/20; see more at: https://www.cbd.int/ebsa/). Sites that meet the EBSA criteria may require enhanced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

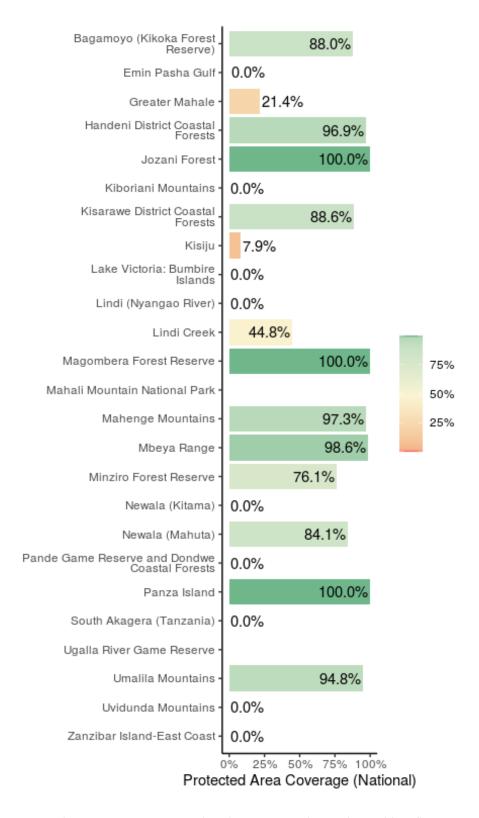
There are 7 EBSAs with some portion of their extent within Tanzania (United Republic of)'s EEZ, all of which have at least 1% coverage from PAs and OECMs.

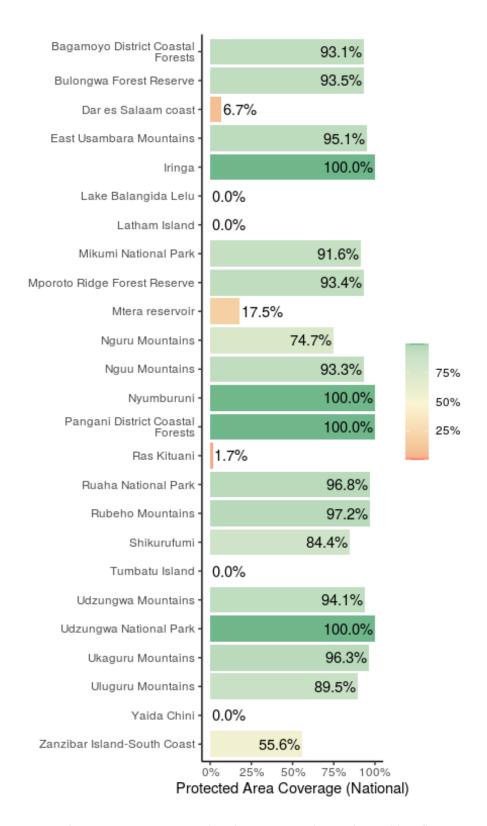


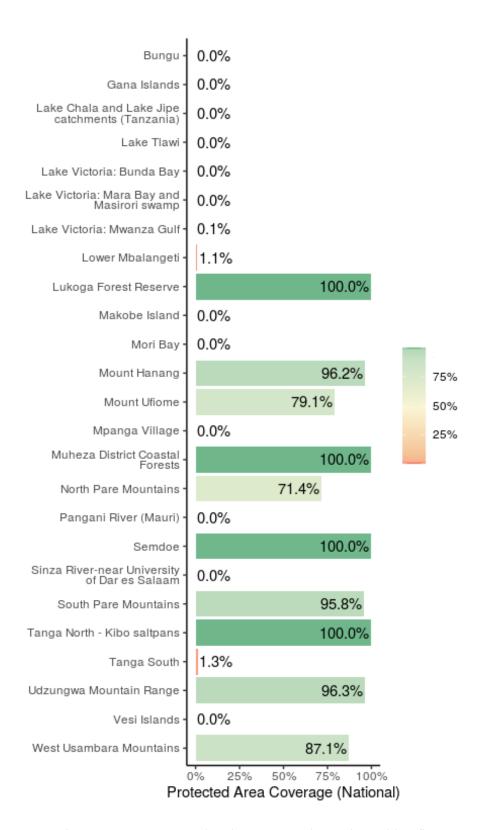
Areas Important for Biodiversity in Tanzania (United Republic of)



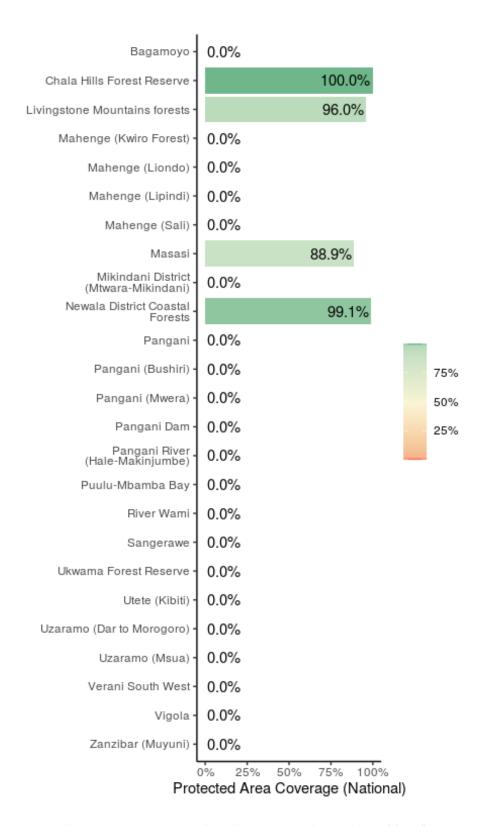


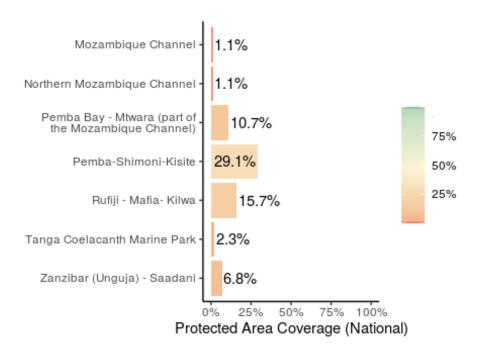






Key Biodiversity Area Coverage (KBA) in Tanzania (United Republic of)





Ecologically or Biologically Significant Marine Areas (EBSAs) in Tanzania (United Republic of)

Opportunities for action

There is opportunity for Tanzania (United Republic of) 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

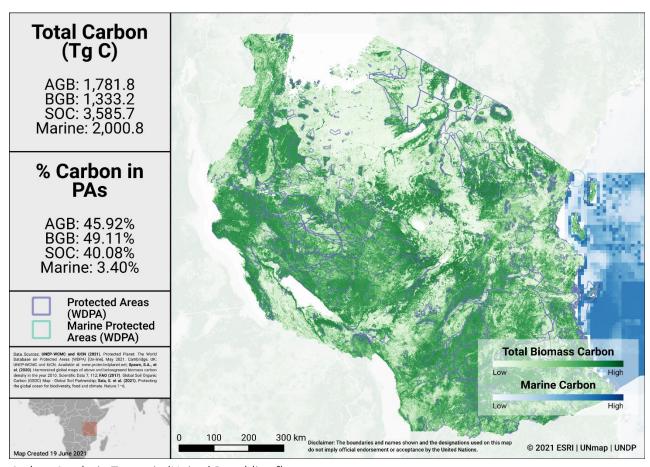
AREAS IMPORTANT FOR ECOSYSTEM SERVICES

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 Tanzania (United Republic of) and the percent of carbon in protected areas. The total carbon stock is: 1,781.8 Tg C from aboveground biomass (AGB), with 45.9% in PAs; 1,333.2 Tg C from below ground biomass (BGB), with 49.1% in PAs; 3,585.7 Tg C from soil organic carbon (SOC), with 40.1% in PAs; and 2,000.8 Tg C from marine sediment carbon, with 3.4% in PAs.



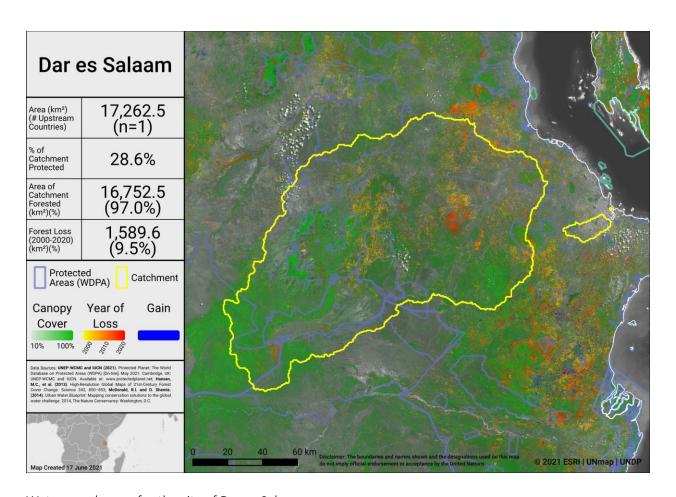
Carbon Stocks in Tanzania (United Republic of)

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 Tanzania (United Republic of) 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 Tanzania (United Republic of). Intact catchments van support more consistent water supply and improved water quality.



Water supply area for the city of Dar es Salaam

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Opportunities for action

For carbon, there is opportunity for Tanzania (United Republic of) to increase PA and OECM coverage in marine areas with high carbon stocks, and to focus on effective management for terrestrial PAs 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 Tanzania (United Republic of) was 21.2%.

PARC-Connectedness Index

In 2019, as assessed using the PARC-Connectedness Index (values ranging from 0-1, indicating low to high connectivity), connectivity in Tanzania (United Republic of) is 0.61. This represents no significant change since 2010.

Corridor case studies

Below is a list of case studies on corridors and connectivity in United Republic of Tanzania:

Case study title	Type of study region	Greatest threat to connectivity	Approaches to conserving ecological corridors
Kilimanjaro Landscape: Ensuring the viability of wildlife populations	terrestrial, rural	habitat loss and fragmentation	 conservation lease programme for private landowners
Conserving six landscapes of the Albertine Rift to ensure connectivity	terrestrial, rural	habitat loss and fragmentation	facilitating cooperationdeveloping sustainableuse community areas
The Kilombero Valley Ramsar site, United Republic of Tanzania	terrestrial, rural	sustained human immigration and growing settlements and agriculture	 designation as a Ramsar site transitional governance approach from central management of large protected areas to management of a mosaic of smaller protected areas

Further details are available in Hilty et al 2020.

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Opportunities for action

There is opportunity 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 Tanzania (United Republic of) reported in the WDPA have the following governance types:

- 92.6% are governed by **governments**
 - 92.4% by federal or national ministry or agency
 - 0.2% by sub-national ministry or agency
 - 0.0% by government-delegated management
- 0.5% are under **shared** governance
 - 0.5% by collaborative governance
 - 0.0% by joint governance
 - 0.0% by transboundary governance
- 0.1% are under **private** governance
 - 0.0% by individual landowners
 - 0.1% by non-profit organisations
 - 0.0% by for-profit organisations
- 4.5% are under **IPLC** governance
 - 0.0% by Indigenous Peoples
 - 4.5% by local communities
- 2.3% **do not** report a governance type

OECMs

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

Privately Protected Areas (PPAs)

There is currently no data available on PPAs for Tanzania (United Republic of) (see Gloss et al., 2019, and Stolton et al., 2014 for details).

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

From Kothari et al. (2012), potential ICCAs (or similar designations) in Tanzania (United Republic of) include:

- **1,457** Villages under Community Based Forest Management (CBFM)
 - These cover **23.500 km**².
- Other potential ICCAs include: 331 declared Village Land Forest Reserves (no total area provided).

Other Indigenous lands

Lands managed and/or controlled by Indigenous Peoples cover an area of $89,770.0 \text{ km}^2$, of which $70,044.0 \text{ km}^2$ falls outside of formal protected areas. Indigenous lands with a human footprint less than 4 (considered as 'natural landscapes') cover an area of $9,663.0 \text{ km}^2$ (for details on analysis see Garnett et al., 2018).

For Tanzania (United Republic of) evidence for the presence of Indigenous Peoples comes from: Indigenous Work Group on Indigenous Affairs. Indigenous World 2017 (Indigenous Working Group on Indigenous Affairs, 2017);.

Boundaries of the lands Indigenous Peoples manage or have tenure rights over come from:

Maasai: Nilsson J. 'What is new about what has always been': communication technologies and the meaning-making of Maasai mobilities in Ngorongoro (KU Leuven, 2016)

Akiye: Schöpperle, F. The economics of Akie identity: adaptation and change among a hunter-gatherer people in Tanzania (Leiden University, 2011)

Akiye, Barabaig, Hadzabe, Maasai, Sandawe: Simons, G. F. & Fennig, C. D. (eds). Ethnologue: Languages of the World. Twentieth ed. (SIL International, 2017)

Hadzabe, Sandawe: Yatsuka, H. Reconsidering the "Indigenous Peoples" in the African context from the perspective of current livelihood and its historical changes: the case of the Sandawe and the Hadza in Tanzania. African Study Monographs 36, 27–47 (2015)..

Opportunities for action

Explore opportunities for governance types that have lower representation, for Tanzania (United Republic of) this could relate to shared governance, etc. Increase efforts to identify the governance types for the 2.3% of sites that do not have their governance type reported.

There is also opportunity for Tanzania (United Republic of) 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. Tanzania (United Republic of) has the following Equator Prize winners that showcase examples of local, sustainable community action:

Organization	Year	Project Description
Hifadhi ya Asili 2006 ya Amani (Amani Nature Reserve)		The Amani Nature Reserve was created to protect the unique, biologically important sub-montane forest ecosystem of Tanzania's East Usambara Mountains. The biosphere reserve covers an area of about 83,600 hectares, and is home to a number of human settlements as well as unique and endemic biodiversity. These communities have been actively engaged in the management of the reserve since its establishment in 1997: two community representatives currently sit on the Amani Nature Reserve Advisory Board.
		The high dependency of local people on the natural resources found in the area was the main obstacle to Amani's goal of conserving this unique fragment of rainforest. The reserve's management board has therefore developed a strategy focusing on developing alternative, non-consumptive uses of the natural resources in the area and income-generating activities, such as ecotourism, beekeeping, and fish and butterfly farming.
Matumizi Bora ya Malihai Idodi na Pawaga (MBOMIPA) Wildlife Management Area	2014	A community wildlife management association of 22 villages, Matumizi Bora ya Malihai Idodi na Pawaga (MBOMIPA) Wildlife Management Area works with the 30,000 people living adjacent to Ruaha National Park on sustainable natural resource management and anti-poaching efforts. The association has brought community livelihoods focused on wildlife protection into harmony with biodiversity conservation and environmental stewardship. Revenue has been invested into health, education, and infrastructure. Ecotourism increased income tenfold in 2011. The association has adopted a "human rights of wildlife" approach, where the protection of wildlife is central to community wellbeing. Living fences are used to support food security by keeping elephants and other wildlife from destroying crops. MBOMIPA

Wildlife Management Area is recognized as best practice in

Tanzania and is being replicated in other regions to protect wildlife and promote sustainable livelihoods.

Organization	Year	Project Description
Timu ya Rasilimali ya Jamii ya Ujamaa (Ujamaa Community Resource Team)	2008	Timu ya Rasilimali ya Jamii ya Ujamaa (Ujamaa Community Resource Team) works across northern Tanzania to help secure land and resource rights for pastoralist, agro-pastoralist, and hunter-gatherer communities, many of whom are negatively affected by the existence of the country's large protected areas. The group's approach has capitalized on Tanzania's village land legislation, which allows communities to develop by-laws and land use plans for their customary lands, and has also focused on improving the ecosystem management capacity of these communities.
		By guiding socially marginalized groups through the arduous process of securing official rights to land, the NGO has secured several landmark agreements, including the legal demarcation of the first village for hunter-gatherers in Tanzania. Capacity-building, conflict resolution, and sustainable livelihoods programming have underpinned the initiative's work, helping to demonstrate the effectiveness of these rural communities as land and resource managers.
Ujamaa Community Resource Trust - Tanzania	2008	Timu ya Rasilimali ya Jamii ya Ujamaa (Ujamaa Community Resource Team) works across northern Tanzania to help secure land and resource rights for pastoralist, agro-pastoralist, and hunter-gatherer communities, many of whom are negatively affected by the existence of the country's large protected areas. The group's approach has capitalized on Tanzania's village land legislation, which allows communities to develop by-laws and land use plans for their customary lands, and has also focused on improving the ecosystem management capacity of these communities.
		By guiding socially marginalized groups through the arduous process of securing official rights to land, the NGO has secured several landmark agreements, including the legal demarcation of the first village for hunter-gatherers in Tanzania. Capacity-building,

managers.

conflict resolution, and sustainable livelihoods programming have underpinned the initiative's work, helping to demonstrate the effectiveness of these rural communities as land and resource

Organization Year	Project Description
Yaeda Valley Project	In 2011, the 40,000-year-old hunter-gatherer Hadzabe tribe secured the first-ever Certificate of Customary Right of occupancy in Tanzania, granting them rights to over 20,000 hectares of their traditional lands. Building on this landmark victory, the Hadzabe partnered with Carbon Tanzania to sell carbon credits to the voluntary carbon market. This partnership has enabled the Hadzabe to earn US\$250,000, with proceeds funding the salaries of 40 community wildlife scouts and supporting other community needs. Through this work, deforestation in the core Hadzabe territory has declined by nine percent in the past five years, compared to a 50 percent increase in the wider region. Populations of endangered African elephants, African wild dogs, lions and leopards have likewise increased in the last three years. Yaeda Valley Project tells a powerful story of the role of land tenure and innovative finance mechanisms in mitigating climate change and sustaining Indigenous livelihoods.



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, Tanzania (United Republic of) has 838 PAs reported in the WDPA; of these PAs, 175 (20.9%) have management effectiveness evaluations reported in the global database on protected area management effectiveness (GD-PAME).

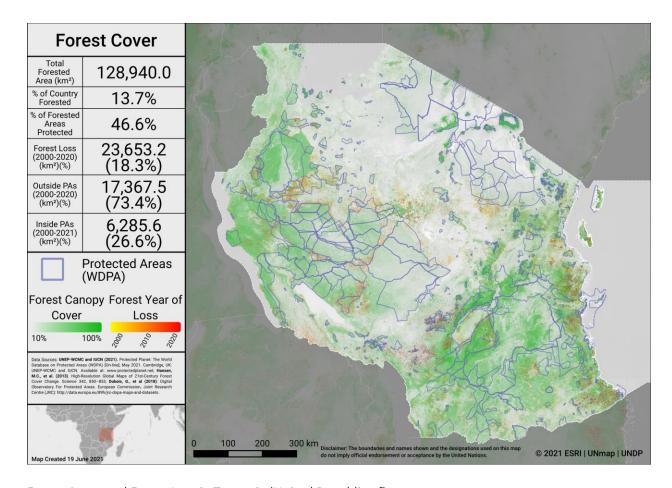
- 12.4% (117,232 km²) of the terrestrial area of the country is covered by PAs with completed management effectiveness evaluations.
 - 32.4% of the area of terrestrial PAs have completed evaluations.
- 1.7% (4,070 km²) of the marine area of the country is covered by PAs with completed management effectiveness evaluations.
 - 55.5% 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 Tanzania (United Republic of) 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 Tanzania (United Republic of) cover approximately 13.7% of the country, an area of 128,940.0 km². Approximately 46.6% (60,054.2 km²) of this is within the protected area estate of Tanzania (United Republic of). Over the period 2000-2020 loss of forest cover amounted to over 23,653.2 km², or 2.5% of the country (18.3% of forest area), of which 6,285.6 km² (26.6% of forest loss) occurred within protected areas. The map below shows how forest cover has changed in Tanzania (United Republic of) 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 Tanzania (United Republic of)

Opportunities for action

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

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

SECTION II: EXISTING PROTECTED AREA AND OECM COMMITMENTS

PRIORITY ACTIONS FROM 2015-2016 REGIONAL WORKSHOPS

National priority actions for Aichi Biodiversity Target 11 were provided by Parties following a series of regional workshops in 2015 and 2016. The Capacity-building workshop for 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-OECM as of 2021. For more information, see the workshop report at: https://www.cbd.int/meetings/

The following actions were identified during the workshops:

Terrestrial coverage:

- 1) 4 Wetland protected areas as new categories of PAs will increase PAs coverage and revenue for PAs system to meet conservation needs.
- 2) 6 candidate Forest Nature Reserve within the proposed 30,000 km² Ecologically sensitive area [completed].

Marine coverage:

- 1) Create new marine protected areas in biodiversity hotspots and fragile ecosystems [No area given]
- 2) Inclusion of ecologically sensitive areas adjacent to marine PAs will secure more fish breeding sites.

Ecological representation: No actions were identified for this element of Target 11.

Areas Important for biodiversity and ecosystem services:

- 1) 4 IBAs out of 22 will be given legal status to increase legal protection of national IBAs.
- 2) Wetland Regulation formulation will provide protection of unprotected IBAs and wetland areas.

Connectivity:

- 1) Expansion of Wildlife Management Areas (WMAs) and Forest Nature Reserve to improve wildlife corridors connecting PAs
- 2) promote Regional Cooperation on protection and conservation of trans-boundary terrestrial and marine protected areas

- 3) Formulation of Buffer zone Regulation will provide legal protection of remaining wildlife corridors
- 4) 6 candidate Forest Nature Reserve within the proposed 30,000 km² will improve wildlife corridors connecting PAs and reduce threats to endemic species in the regions.

Management effectiveness:

- 1) Review policies, plans and strategies aimed at managing terrestrial and marine protected areas
- 2) Strengthen measures to limit illegal exploitation of resources in terrestrial and marine protected areas
- 3) Enhance institutional, research and human capacity on the management of terrestrial and marine protected areas
- 4) Promote ecosystem approach in marine protected areas.

Governance and Equity: Applying equity principle will improve incentive to the local people in management of PAs and preventing illegal trade on natural resources.

Integration into the wider landscape and seascape: Promote new protected areas integrating wider land and seascape.

OECMs: Fund generated through wildlife related tourism can support conservation plans.

NATIONAL BIODIVERSITY STRATEGY AND ACTION PLANS (NBSAPs)

Tanzania (United Republic of) 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** include a quantitative target for **marine** protected areas or OECMs.

National Target 11 - By 2020, area covered under marine protected areas be increased from 6.5% to 10% and effectively manage the existing terrestrial and marine protected areas.

- As of May 2021 (based on the WDPA/WD-OECM) has the target been met: NO
- Accounting for other projects, actions and commitments, if this target is met, coverage in the country will increase by 8,983 km².

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

NBSAP Action number	Action (original language from NBSAP)
6.7	Promote regional cooperation on management of trans-boundary water resources
10.5	Enhance institutional and human capacity for management of coral reefs and closely associated ecosystems
10.7	Promote Regional Cooperation for coral reef conservation
11.1	Strengthen policies, plans and strategies aimed at managing terrestrial and marine protected areas
11.2	Establish new marine protected areas in biodiversity hotspots and fragile ecosystems
11.4	Promote ecosystem approach in marine protected areas
11.5	Promote and strengthen Regional Cooperation on protection and conservation of trans-boundary terrestrial and marine protected areas
11.6	Strengthen measures to limit illegal exploitation of resources in terrestrial and marine protected areas
11.7	Enhance institutional, research and human capacity on the management of terrestrial and marine protected areas

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 (km²)	Type of new protected area	Qualitative elements potentially benefitting (based on keyword search of PIFs)
4855	No	N/A	N/A	Areas important for biodiversity; Ecosystem services; Effectively managed; Equitably managed
5034	Yes	194	Terrestrial	All except Ecosystem services and Connectivity
9132	No	N/A	N/A	Ecosystem services; Effectively managed; Equitably managed; Integration
9400	No	N/A	N/A	All except Areas important for biodiversity and Ecosystem services

Based on spatial data available for GEF project 5034, benefits will arise for several elements of Target 11:

Coverage of Terrestrial and Marine Ecoregions:

- 10 Terrestrial Ecoregion(s) will have improved coverage: Central Zambezian wet miombo woodlands; Dry miombo woodlands; East African halophytics; Eastern Arc forests; Northern Acacia-Commiphora bushlands and thickets; Southern Acacia-Commiphora bushlands and thickets; Southern Rift Montane forest-grassland; Southern Swahili coastal forests and woodlands; Victoria Basin forest-savanna; Zambezian flooded grasslands.
 - The average increase in coverage of Terrestrial Ecoregions will be 0.11%.

Coverage of KBAs:

• Coverage will improve for 12 KBAs.

Ecosystem services:

- 0.67 % increase in the PA coverage of aboveground biomass.
- 0.2 % increase in the PA coverage of important aboveground biomass areas.
- 0.047 % increase in the PA coverage of soil organic carbon (SOC).
- 0.08 % increase in the PA coverage of areas important for SOC.

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
FP122	Adaptation	Ecosystems and ecosystem services	PA/OECM coverage; Effectively managed; Ecosystem services; Equitably managed; Integration

UN OCEAN CONFERENCE VOLUNTARY COMMITMENTS

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

Ocean Actions improving MPA or OECM coverage:

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

- Area to be added: 8,000 km².
- Notes on area added: aim to create a large MPA in the Pemba Channel that would encompass two existing MPAs and protect an additional 8,000 km² (see WCS MPA country profile: https://mpafund.wcs.org/)
- Progress report: Yes (2019), status=On Track.
- Further details available at: https://oceanconference.un.org/commitments/?id=16178.

OTHER ACTIONS/COMMITMENTS

Commitments for PAs and OECMs from Other National Policies

Policy document	Ecosystem	Policy text
Nationally Determined Contribution	Forest ecosystems	Avoided forest conversion: 33.15 Mt CO2e/yr
Nationally Determined Contribution	Wetland ecosystems	Avoided peat impacts: 0.09 Mt CO2e/yr
Nationally Determined Contribution	Coastal ecosystems	Avoided mangrove impacts: 0.14 Mt CO2e/yr
National Development Plan	Forest ecosystems	Protecting, restoring and promoting sustainable use of terrestrial ecosystems; sustainably managing forests, combating desertification, halting and reversing land degradation and halting biodiversity loss
National Agricultural Sector Development Strategy	Grasslands & Agricultural systems	Improve water use efficiency (irrigation and others) by improving water distribution planning, drainage system, reducing conveyance loss, rainwater harvesting facility, on-farm water storage, and by introducing new technology like drip irrigation in places where feasible.
National Agricultural Sector Development Strategy	Grasslands & Agricultural systems	Enhance use of organic fertilizer along with livestock activity, especially in the areas where mixed husbandry is in place Improving rangeland such as seed dissemination for improved pasture varieties, controlled burning for eradication of pests, prevention of erosion, etc.
National Strategy for Growth and Reduction of Poverty II	Grasslands & Agricultural systems	Improving existing and expanding irrigation infrastructure, developing rainwater harvesting infrastructure, including water for livestock and fishery
National Resilience Strategy	Forest ecosystems	REDD+ baseline scenario, monitoring, reporting and verification systems established
National Resilience Strategy	Forest ecosystems	Support village level awareness raising on land use tenure issues
National Resilience Strategy	Forest ecosystems	Awareness raising to Economic Processing Zone (EPZ) practitioners on REDD+ activities
National Resilience Strategy	Forest ecosystems	Promoting PES mechanisms for income generation
National Resilience Strategy	Forest ecosystems	Promoting biomass conservation initiatives

Policy document	Ecosystem	Policy text
National Resilience Strategy	Forest ecosystems	Enhance effective implementation of relevant policies
National Adaptation Program of Action	Forest ecosystems	Establishment of protected areas
National Adaptation Program of Action	Forest ecosystems	Control habitat destruction and fragmentation in high biodiversity areas.
National Biodiversity Strategy Action Plan	Forest ecosystems	Enforce relevant policies, plans and strategies to curb negative impacts of climate change on biodiversity and desertification.
National Biodiversity Strategy Action Plan	Forest ecosystems	Strengthen policies, plans and strategies aimed at managing terrestrial and marine protected areas
National Biodiversity Strategy Action Plan	Forest ecosystems	Strengthen preventive measures against wildfires
National Biodiversity Strategy Action Plan	Forest ecosystems	Establishment of protected areas
National Biodiversity Strategy Action Plan	Wetland ecosystems	Promote sustainable aquaculture technologies
National Biodiversity Strategy Action Plan	Wetland ecosystems	Enhance protection and conservation of water catchment areas
Protected Area Plan	Coastal ecosystems	Create new marine protected areas in biodiversity hotspots and fragile ecosystems
National Biodiversity Strategy Action Plan	Grasslands & Agricultural systems	Strengthen preventive measures against wildfires
National Biodiversity Strategy Action Plan	Grasslands & Agricultural systems	Establish new marine protected areas in biodiversity hotspots and fragile ecosystem
National Biodiversity Strategy Action Plan	Grasslands & Agricultural systems	Strengthen and enforce sustainable land use planning practices
National Adaptation Program of Action	Grasslands & Agricultural systems	Establishment of protected areas
National Adaptation Program of Action	Grasslands & Agricultural systems	Control habitat destruction and fragmentation in high biodiversity areas

ANNEX I

FULL LIST OF TERRESTRIAL ECOREGIONS

Ecoregion Name	Area (km²)	% of Global Ecoregion in Country	% of Country in Ecoregion	Area Protected (km²)	% Protected in Country
Albertine Rift montane forests	2,014.7	1.3	0.2	273.4	13.6
Central Zambezian wet miombo woodlands	163,356.8	16.0	17.4	60,948.6	37.3
Dry miombo woodlands	317,438.7	26.8	33.8	161,660.4	50.9
East African halophytics	3,659.6	96.9	0.4	1,619.7	44.3
East African mangroves	1,142.9	52.1	0.1	960.5	84.0
East African montane forests	3,311.1	5.4	0.4	1,669.7	50.4
East African montane moorlands	772.8	25.0	0.1	707.6	91.6
Eastern Arc forests	10,873.5	97.5	1.2	3,140.5	28.9
Itigi-Sumbu thicket	6,183.8	56.2	0.7	1,340.4	21.7
Northern Acacia- Commiphora bushlands and thickets	21,940.0	6.0	2.3	13,329.1	60.8
Northern Swahili coastal forests	52,053.1	36.3	5.5	15,072.1	29.0
Serengeti volcanic grasslands	124.9	100.0	0.0	109.9	88.0
Southern Acacia- Commiphora bushlands and thickets	211,971.2	90.6	22.5	76,543.1	36.1

Ecoregion Name	Area (km²)	% of Global Ecoregion in Country	% of Country in Ecoregion	Area Protected (km²)	% Protected in Country
Southern Rift Montane forest- grassland	17,672.9	79.4	1.9	1,588.7	9.0
Southern Swahili coastal forests and woodlands	15,903.8	10.7	1.7	955.3	6.0
Victoria Basin forest-savanna	28,252.7	17.0	3.0	1,412.6	5.0
Zambezian flooded grasslands	34,823.3	17.2	3.7	17,870.7	51.3
Zambezian mopane woodlands	0.1	0.0	0.0	0.0	0.0

REFERENCES

Atwood, TB, Witt, A, Mayorga, J, Hammill, E, & Sala, E. (2020). Global patterns in marine sediment carbon stocks. *Frontiers in Marine Science*.

https://doi.org/10.3389/fmars.2020.00165

BirdLife International (2021). World Database of Key Biodiversity Areas. Available at: http://www.keybiodiversityareas.org

CBD (2010). Decision adopted by the Conference of the Parties to the Convention on Biological Diversity at its tenth meeting. Decision X/2. Strategic plan for biodiversity 2011–2020. Retrieved from https://www.cbd.int/doc/decisions/cop-10/cop-10-dec02-en.pdf.

CSIRO (2019). Protected area connectedness index (PARCconnectedness). https://www.bipindicators.net/indicators/protected-area-connectedness-index-parcconnectedness

Dinerstein, E., et al. (2017). An ecoregion-based approach to protecting half the terrestrial realm. BioScience 67(6), 534-545.

Donald et al., 2019, The prevalence, characteristics and effectiveness of Aichi Target 11's "other effective area-based conservation measures" (OECMs) in Key Biodiversity Areas. Conservation Letters, 12(5).

EC-JRC (2021). DOPA Indicator factsheets: http://dopa.jrc.ec.europa.eu/en/factsheets

FAO (2017). Global Soil Organic Carbon (GSOC) Map - Global Soil Partnership [WWW Document]. URL http://www.fao.org/global-soil-partnership/pillars-action/4-information-and-data/global-soil-organic-carbon-gsoc-map/en/.

Franks, P and Booker, F (2018). Governance Assessment for Protected and Conserved Areas (GAPA): Early experience of a multi-stakeholder methodology for enhancing equity and effectiveness. IIED Working Paper, IIED, London. https://pubs.iied.org/17632IIED

Franks, P. et al. (2018). Social Assessment for Protected and Conserved Areas (SAPA). Methodology manual for SAPA facilitators. Second edition. IIED, London. https://pubs.iied.org/14659iied

Garnett et al. (2018). A spatial overview of the global importance of Indigenous lands for conservation. Nature Sustainability, 1(7), 369.

Global Environment Facility (GEF-5 and GEF-6); all projects can be found online at: https://www.thegef.org/projects

Gloss, L. et al. (2019). International Outlook for Privately Protected Areas: Summary Report. International Land Conservation Network (a project of the Lincoln Institute of Land Policy) and United Nations Development Programme. Summary report, and individual country profiles, available at: https://nbsapforum.net/knowledge-base/resource/international-outlook-privately-protected-areas-summary-report

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

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

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

IUCN (2016). A Global Standard for the Identification of Key Biodiversity Areas, Version 1.0. First edition. Gland, Switzerland: IUCN.

https://portals.iucn.org/library/sites/library/files/documents/2016-048.pdf

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

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

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

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

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

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

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

Sala, E. et al. (2021). Protecting the global ocean for biodiversity, food and climate. Nature, 592(7854), 397-402. https://doi.org/10.1038/s41586-021-03496-1

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

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

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

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

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

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

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

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

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

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

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

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

https://doi.org/10.1016/j.oneear.2020.08.009

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