



Convention on
Biological Diversity



Aichi Biodiversity Target 11 Country Dossier: NICARAGUA

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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, terrestrial coverage in Nicaragua is 27,585 km² (21.3%) and marine coverage is 7,596.7 km² (3.4%); the recent designation of the Nicaraguan Caribbean Biosphere Reserve increases marine coverage by 39,130.5 km².
- **Opportunities for action:** opportunities for the near-term include updating the WDPA with any unreported PAs (including the recently designated Nicaraguan Caribbean Biosphere Reserve), the reporting of OECMs (like Private Wildlife Reserves and Municipal Ecological Parks) to the WD-OECM, and finalizing the 3 PAs in the process of demarcation. 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:** Nicaragua contains 10 terrestrial ecoregions, 2 marine ecoregions, and 2 pelagic provinces: the mean protected coverage by reported PAs and OECMs is 37.2% (terrestrial), 6.5% (marine), and 0.0% (pelagic); 2 pelagic provinces have no coverage. Coverage of 1 marine ecoregion and 1 pelagic province will likely increase due to the recent designation of the Nicaraguan Caribbean Biosphere Reserve.



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

Areas Important for Biodiversity

- **Status:** Nicaragua has 34 Key Biodiversity Areas (KBAs): the mean protected coverage of KBAs by reported PAs and OECMs is 67.9%, while 4 KBAs have no coverage by reported PAs and OECMs.
- **Opportunities for action:** there is opportunity for Nicaragua 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 Nicaragua, 32.4% of aboveground biomass carbon, 31.0% of belowground biomass carbon, 22.6% of soil organic carbon, 3.2% of carbon stored in marine sediments is covered by PAs and OECMs.
- **Opportunities for action:** for carbon, there is opportunity for Nicaragua 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 9.6%. The PA system in Nicaragua is integrated into the wider land- and seascapes through the ecosystem approach accounting for ecological connectivity; achieved with the declaration of new PAs, and the certification of Private Wildlife Reserves and Municipal Ecological Parks
- **Opportunities for action:** there is opportunity for a targeted increase of connecting PAs or OECMs and to focus on PA and OECM management for enhancing and maintaining connectivity. Improving connectivity increases the effectiveness of PAs and OECMs and reduces the impacts of fragmentation.
- As well, a range of suggested steps for enhancing and supporting integration are included in the voluntary guidance on the integration of PAs and OECMs into the wider land- and seascapes and mainstreaming across sectors to contribute, inter alia, to the SDGs (Annex I of COP Decision 14/8).



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Governance Diversity

- **Status:** the most common governance type(s) for reported PAs in Nicaragua is: 94.0% under Government (Federal or national ministry or agency). There has been further increase in the areas under collaborative governance in Nicaragua. For OECMs in Nicaragua, they under private governance and municipal government ownership.
- **Opportunities for action:** explore opportunities for governance types that have lower representation, and report on any updates for governance type information in the WDPA.
- There is also opportunity for Nicaragua 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:** 24.3% of terrestrial PAs and 8.4% of marine PAs have completed Protected Area Management Effectiveness (PAME) assessments reported. In Nicaragua, actions are being implemented for the protection, conservation and restoration of the landscapes in these protected areas.
- **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 opportunity to finalize the preparation of the 4 management plans and 11 updates for management plans that are in process.
- 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 Nicaragua. Section I of the dossier presents data on the current status of Nicaragua’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 opportunities for action for Nicaragua, in relation to each Target 11 element. The analyses present options for improving Nicaragua’s area-based conservation network to achieve enhanced protection and benefits for livelihoods and climate change. Section II presents details on Nicaragua’s existing PA and OECM commitments as a summary of existing efforts towards achieving Target 11. This gives focus not only to national policy and actions but also voluntary commitments to the UN.

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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

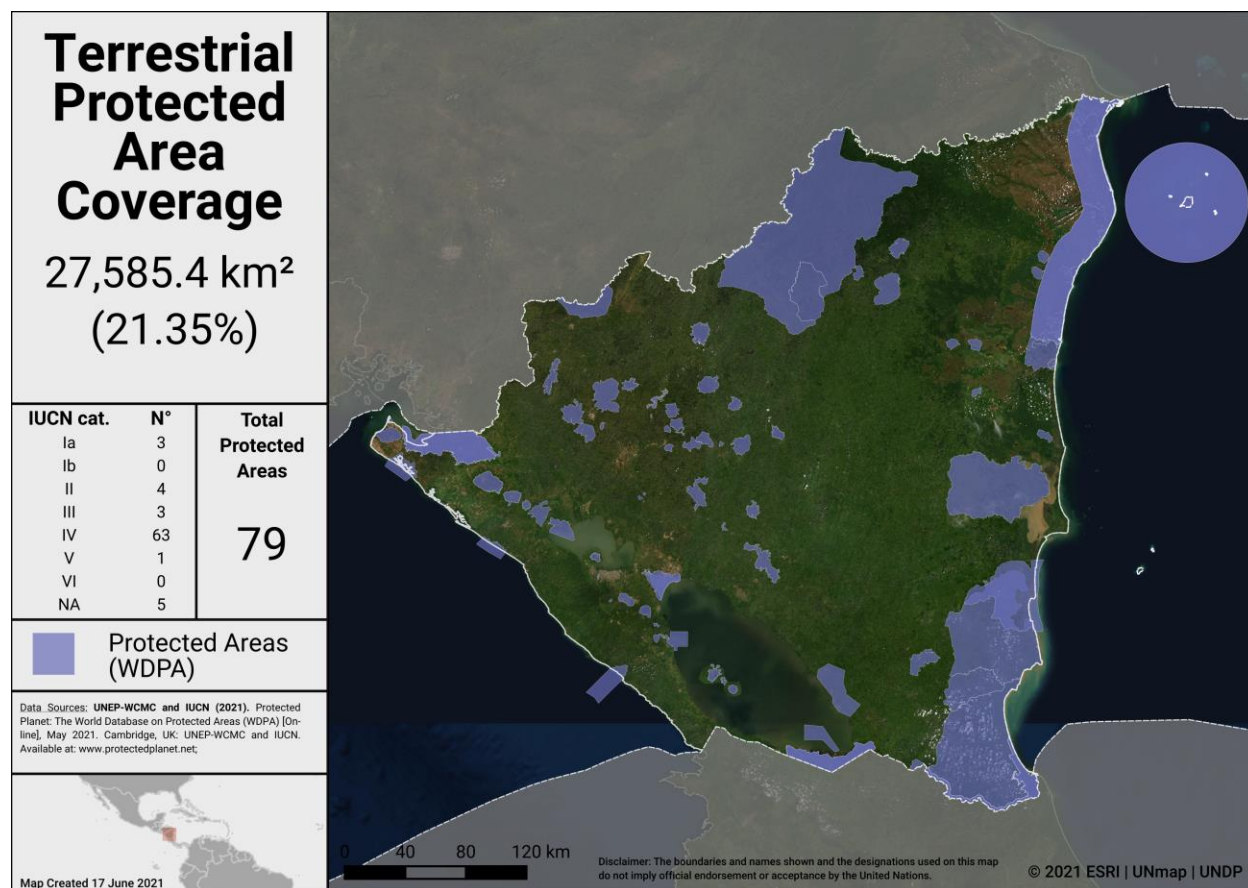
As of May 2021, Nicaragua has **84** protected areas reported in the World Database on Protected Areas (WDPA). 3 UNESCO-MAB Biosphere Reserves are not included in the following statistics (see details on UNWP-WCMC’s methods for calculating PA and OECM coverage [here](#)).

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

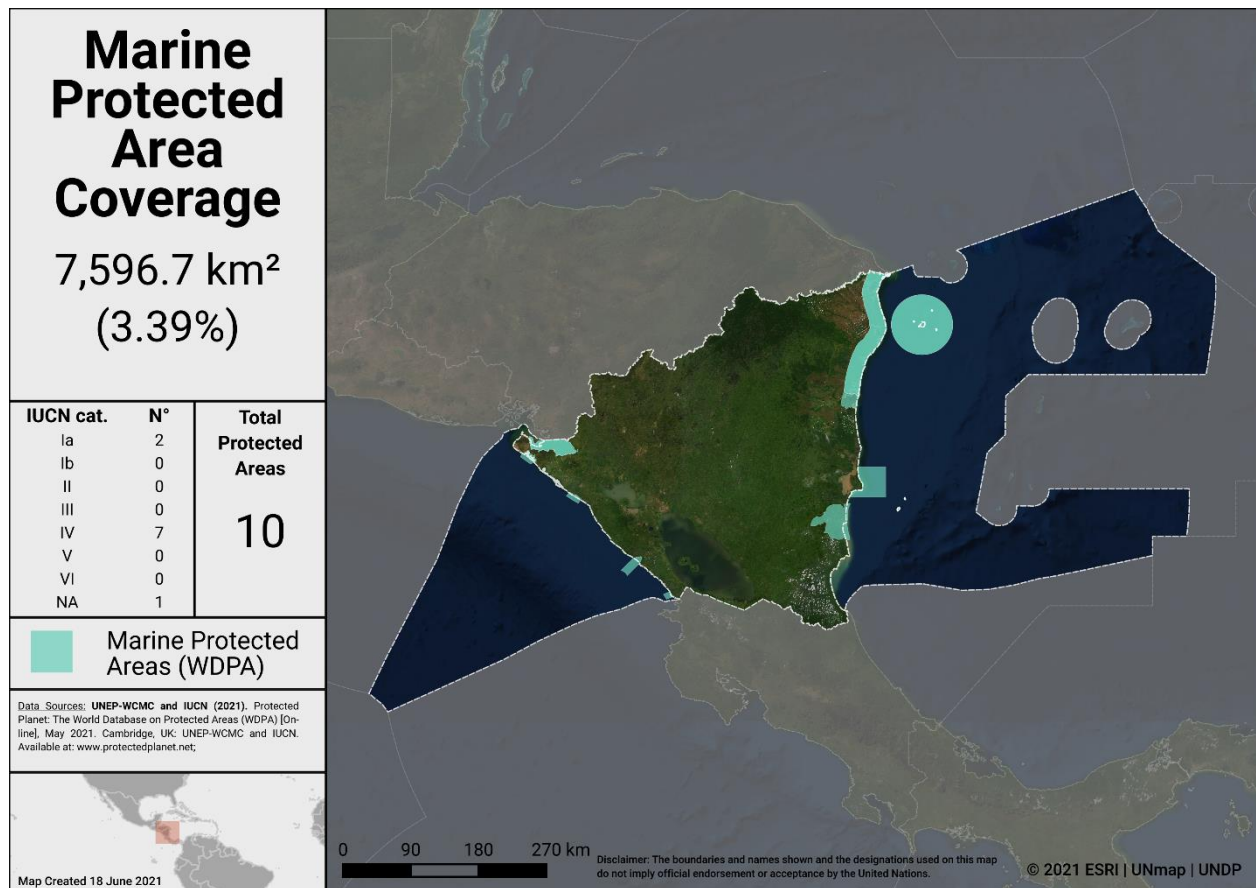
Current coverage for Nicaragua:

- 21.3% terrestrial (79 protected areas, 27,585 km²)
- 3.4% marine (10 protected areas, 7,596.7 km²)

In January 2021, the *Nicaraguan Caribbean Biosphere Reserve* was declared a protected area, through LAW No. 1059. Published in *La Gaceta*, Official Gazette No. 22 of February 2, 2021, increasing marine coverage by **39,130.5 km²**



Terrestrial Protected Areas in Nicaragua



Marine Protected Areas in Nicaragua (recently designated *Nicaraguan Caribbean Biosphere Reserve* is not included in the above map, coverage could surpass 20%)

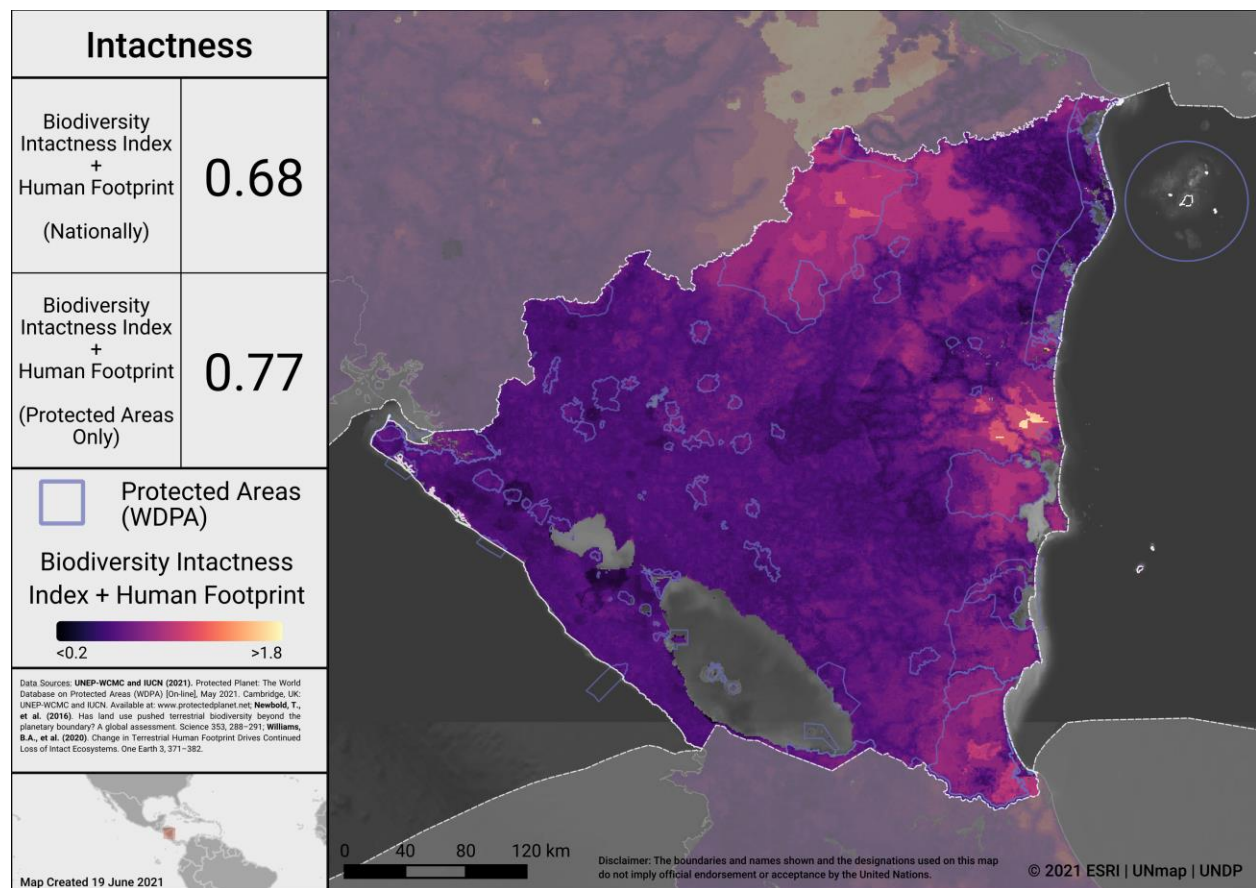
Potential OECMs

Examples of potential OECMs for Nicaragua include:

- Private Wildlife Reserves (RSP; *Reservas Silvestres Privadas*)
 - individual private owners, areas certified by Ministerial Resolution, located in buffer zones of protected areas, connectivity zones or biological corridor, habitat or nesting areas of species or tourist corridors, representative ecosystems and priority presence of endemic, endangered or threatened wild flora and fauna species, existence of geological, archaeological, cultural and historical resources of local, national and regional relevance
 - A total of 212 RSP cover **185.28 km²**
- Municipal Ecological Parks (PEM; *Parques Ecológicos Municipales*)
 - important sites for the conservation of biodiversity and generation of socio-ecologic services certified by Ministerial Resolution and Municipal Ordinances
 - A total of 77 PEM cover **397.27 km²**

Opportunities for action

Opportunities for the near-term include updating the WDPA with any unreported PAs (including the recently designated Nicaraguan Caribbean Biosphere Reserve), the reporting of OECMs (like Private Wildlife Reserves and Municipal Ecological Parks) to the WD-OECM, and finalizing the 3 PAs in the process of demarcation. In the future, as Nicaragua considers where to add new PAs and OECMs, the map below identifies areas in Nicaragua 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 Nicaragua

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).

Nicaragua has 10 **terrestrial** ecoregions. Out of these:

- All 10 ecoregions have at least some coverage from PAs and OECMs.
- 7 ecoregions have at least 17% protected within the country.
- The average terrestrial coverage of ecoregions is 37.2%.

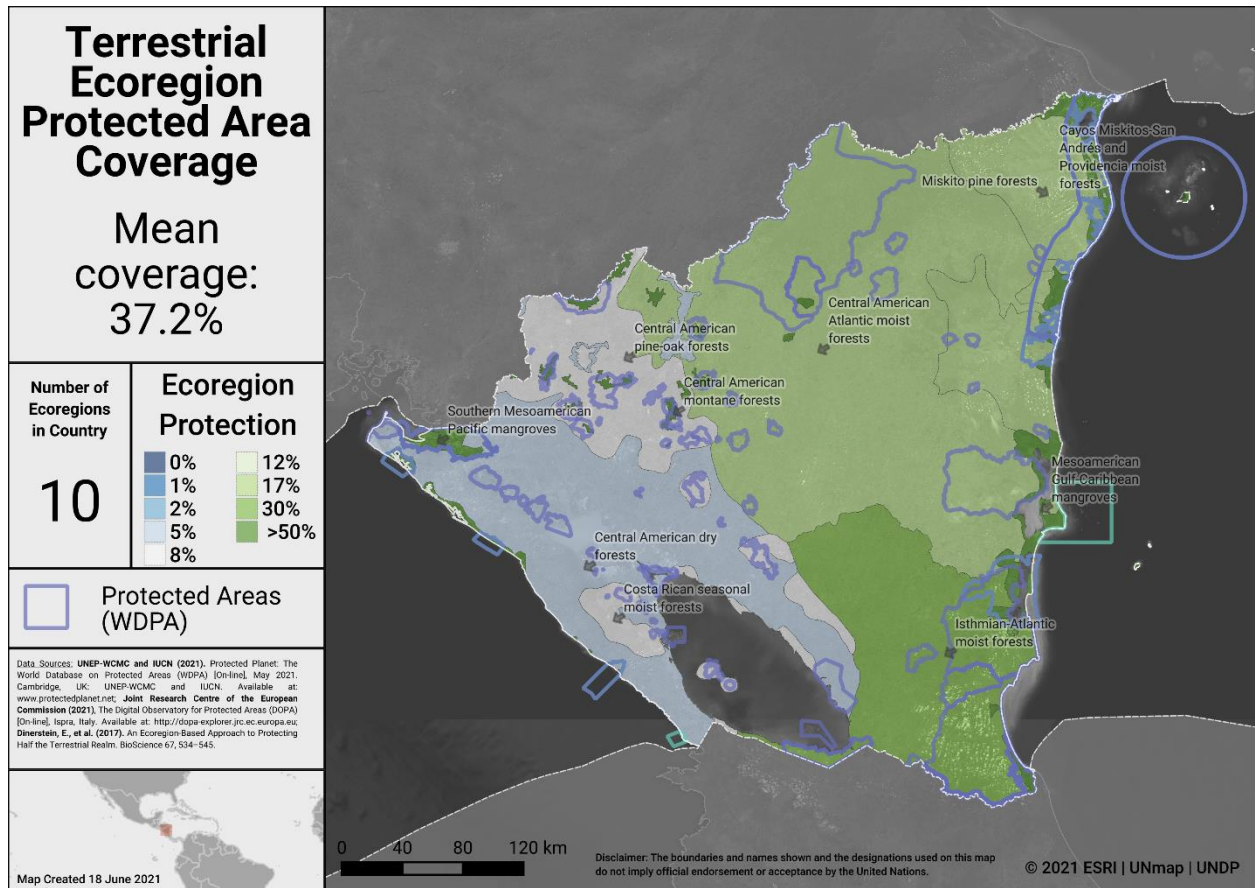
Nicaragua has 2 **marine** ecoregions and 2 **pelagic provinces**. Out of these:

- 2 marine ecoregions and 0 pelagic provinces have at least some coverage from reported PAs and OECMs.
- 1 marine ecoregion and 0 pelagic provinces have at least 10% protected within Nicaragua's exclusive economic zone (EEZ).
- The average protected area coverage of marine ecoregions is 6.5% and the average protected area coverage of Pelagic Provinces is 0.0%.

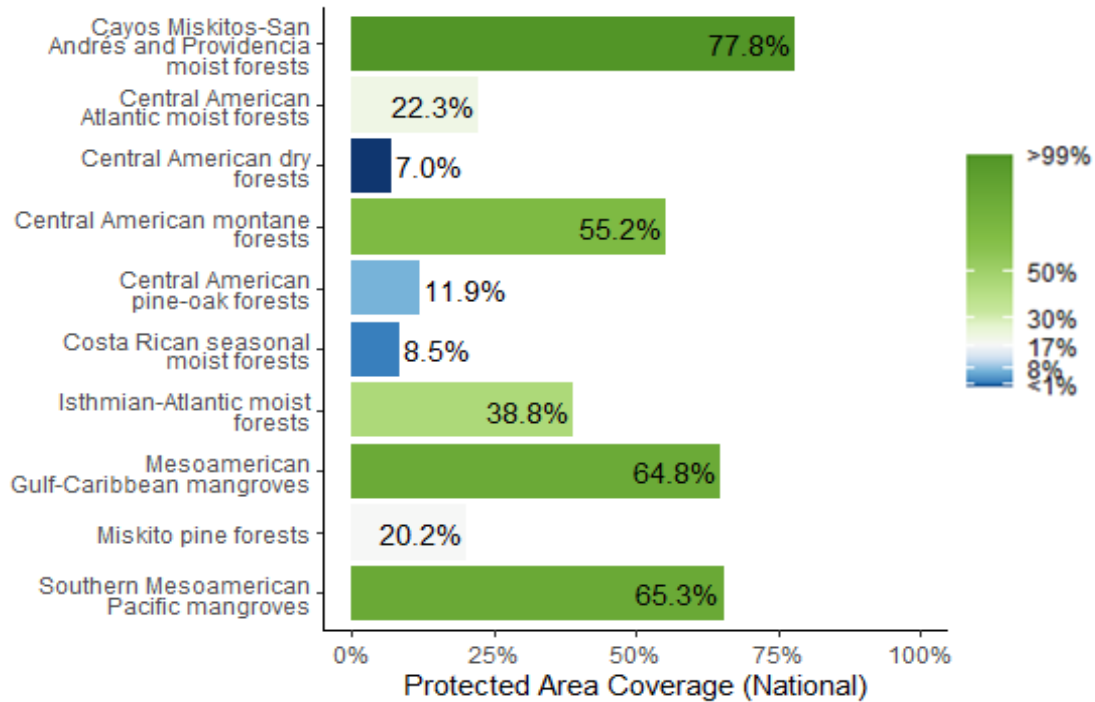
Coverage has likely increased for 1 marine ecoregion and 1 pelagic province due to the recent designation of the Nicaraguan Caribbean Biosphere Reserve.

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



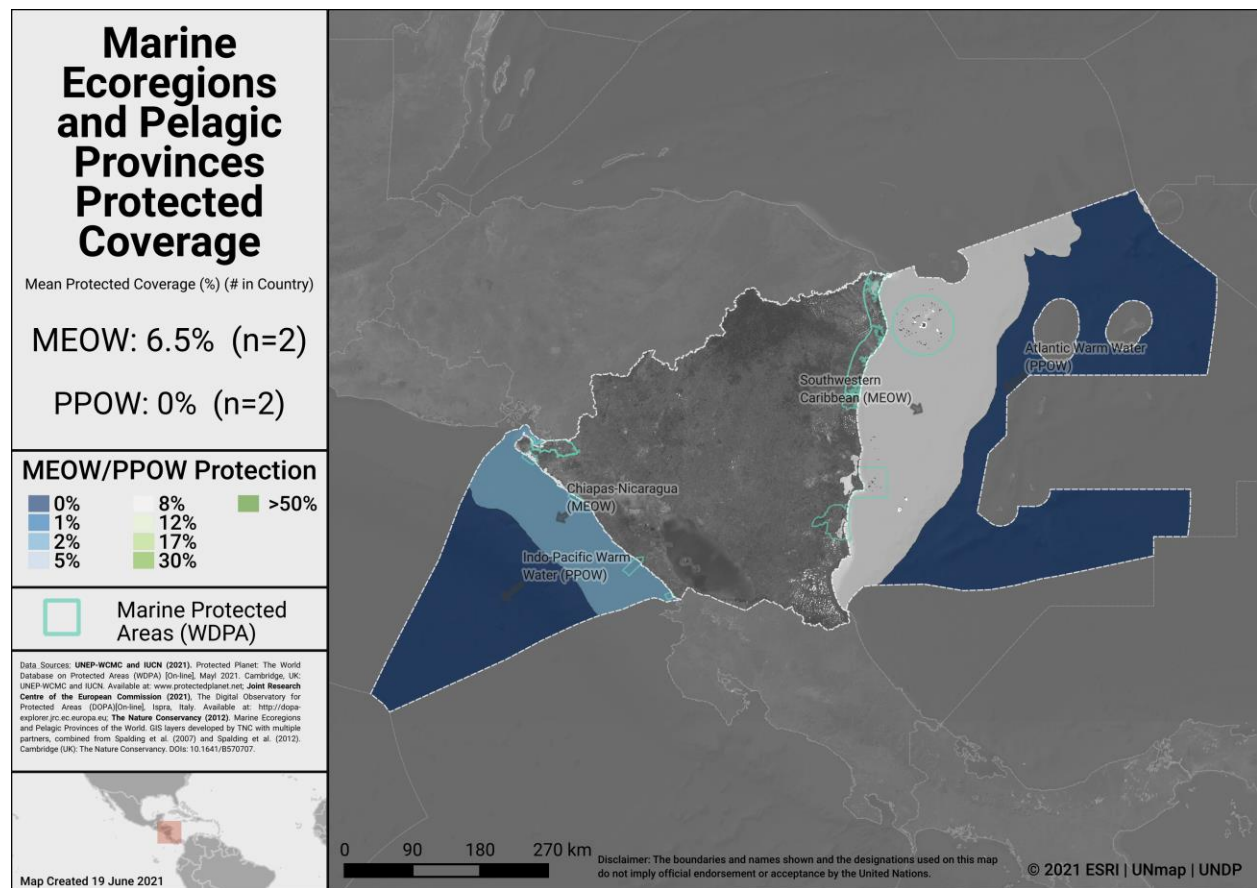


Terrestrial ecoregions in Nicaragua

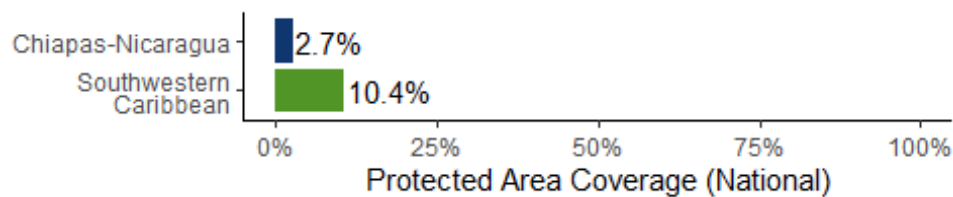


Terrestrial ecoregions of the World (TEOW) in Nicaragua





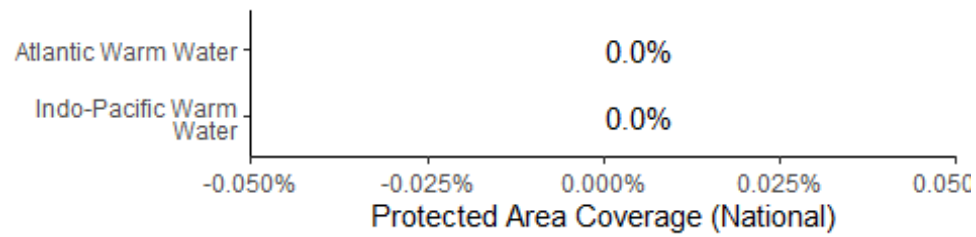
Marine ecoregions and pelagic provinces (recently designated *Nicaraguan Caribbean Biosphere Reserve* is not included in the above map, coverage may increase for 1 marine ecoregion and 1 pelagic province)



Marine Ecoregions of the World (MEOW) in Nicaragua



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Pelagic Provinces of the World (PPOW) in Nicaragua

Opportunities for action

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



AREAS IMPORTANT FOR BIODIVERSITY

Key Biodiversity Areas (KBAs)

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

Nicaragua has **34** Key Biodiversity Areas (KBAs).

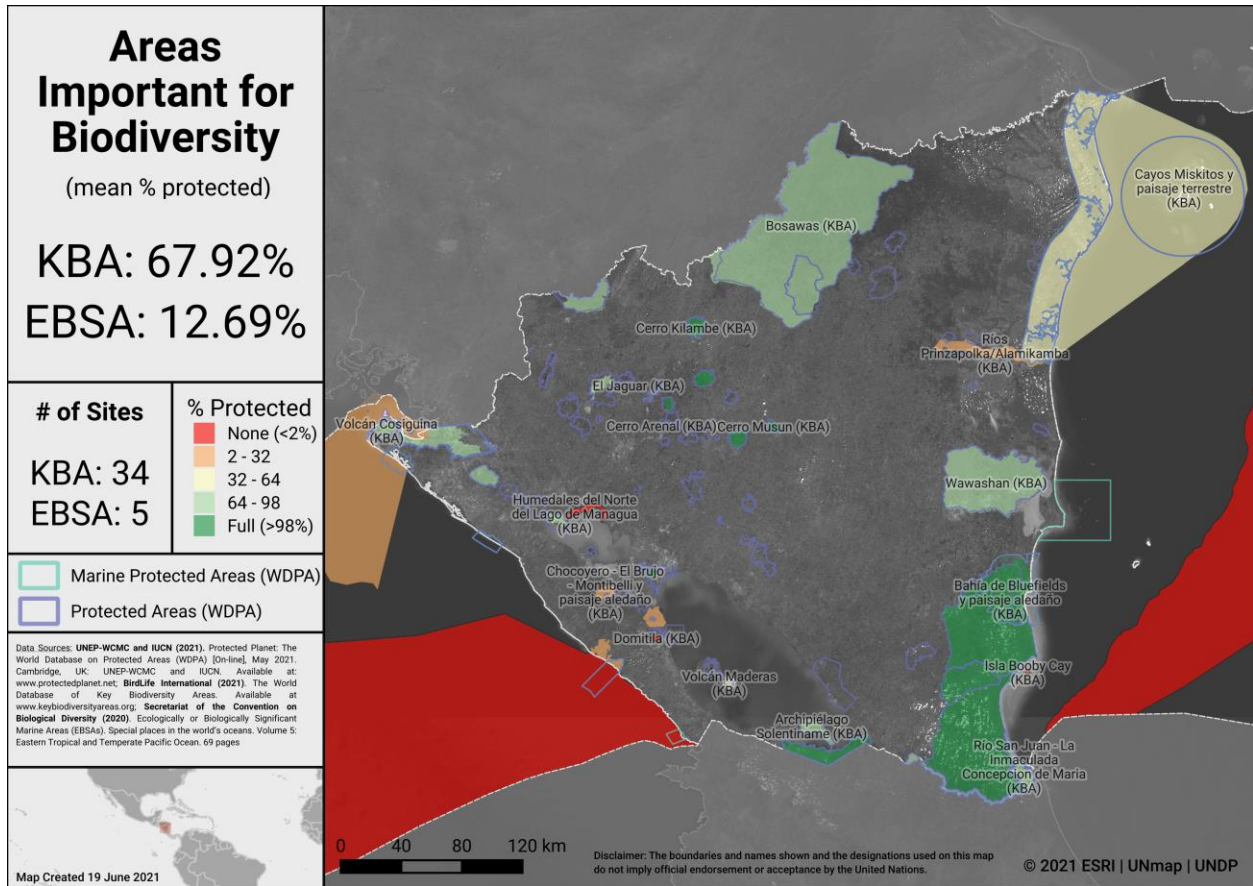
- Mean percent coverage of all KBAs by OECMs in Nicaragua is **67.9%**.
- **11** KBAs have full (>98%) coverage by PAs and OECMs.
- **19** KBAs have partial coverage by PAs and OECMs.
- **4** KBAs have no (<2%) coverage by PAs and OECMs.

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 5 EBSAs with some portion of their extent within Nicaragua's EEZ, of which 3 EBSAs have no coverage from PAs or OECMs.

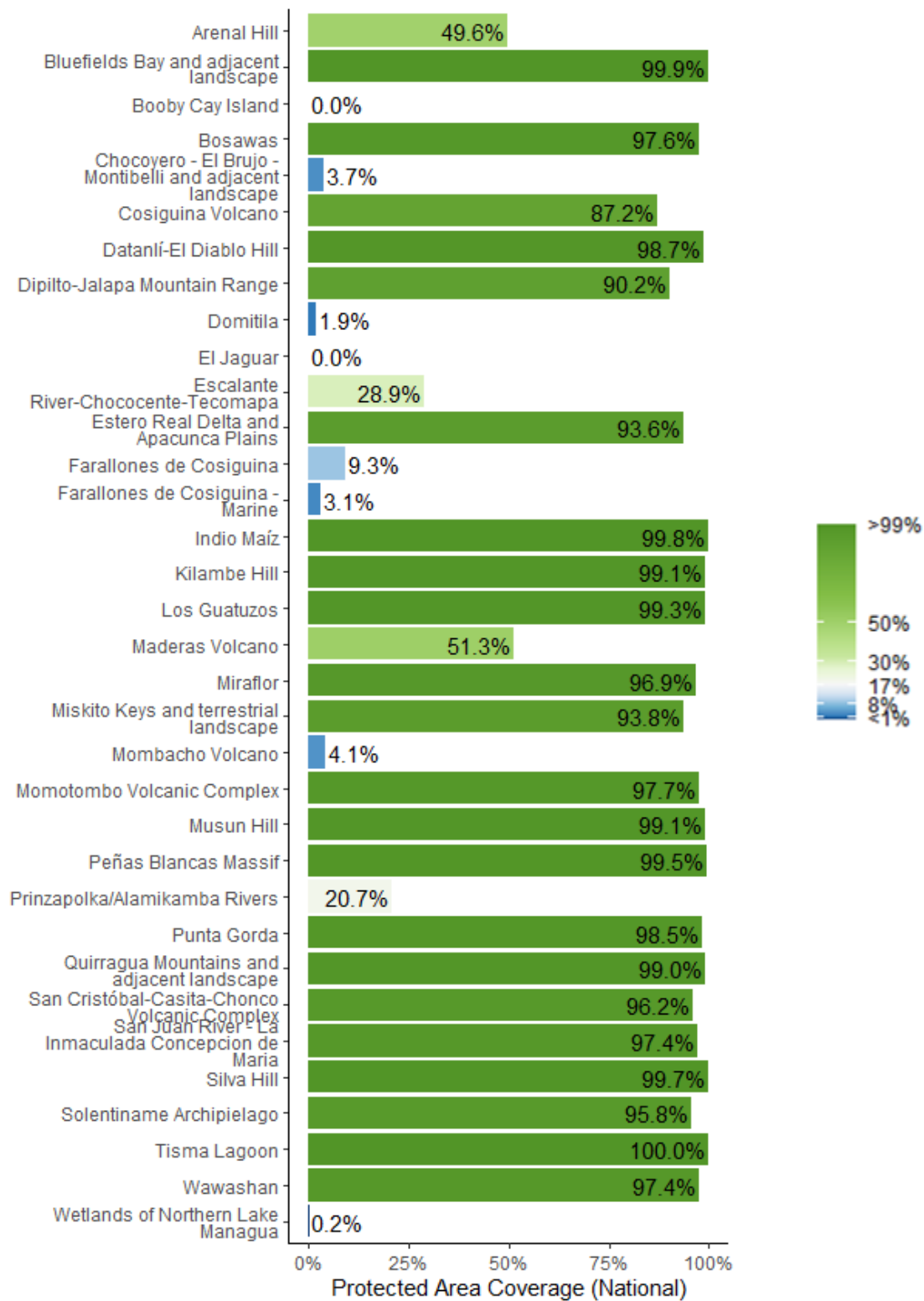
Coverage may increase for some of these EBSAs due to the recent designation of the Nicaraguan Caribbean Biosphere Reserve.



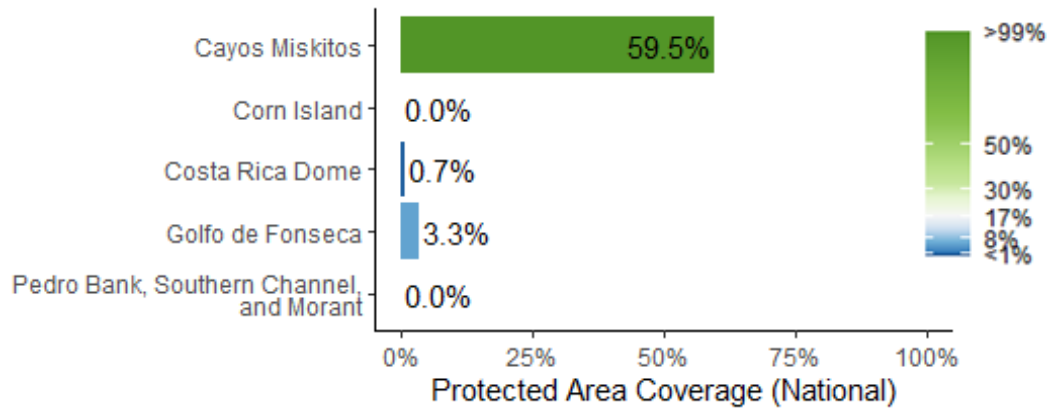
Areas Important for Biodiversity in Nicaragua



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Key Biodiversity Area Coverage (KBA) in Nicaragua



Ecologically or Biologically Significant Marine Areas (EBSAs) in Nicaragua

Opportunities for action

There is opportunity for Nicaragua 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.

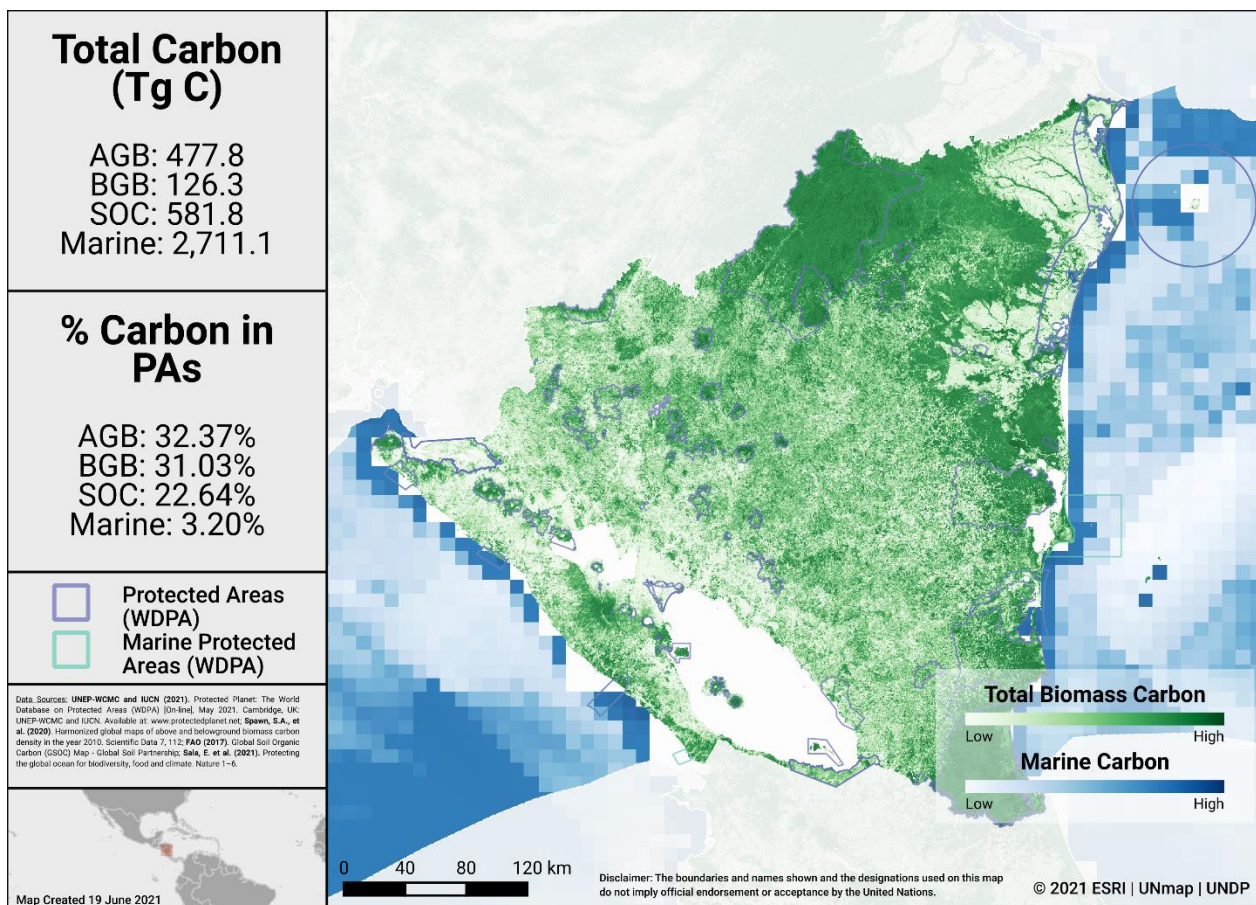
AREAS IMPORTANT FOR ECOSYSTEM SERVICES

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 Nicaragua and the percent of carbon in protected areas. The total carbon stocks is 477.8 Tg C from aboveground biomass (AGB), with 32.4% in protected areas; 126.3 Tg C from below ground biomass (BGB), with 31.0% in protected areas; 581.8 Tg C from soil organic carbon (SOC), with 22.6% in protected areas; and 2,711.1 Tg C from marine sediment carbon, with 3.2% in protected areas.



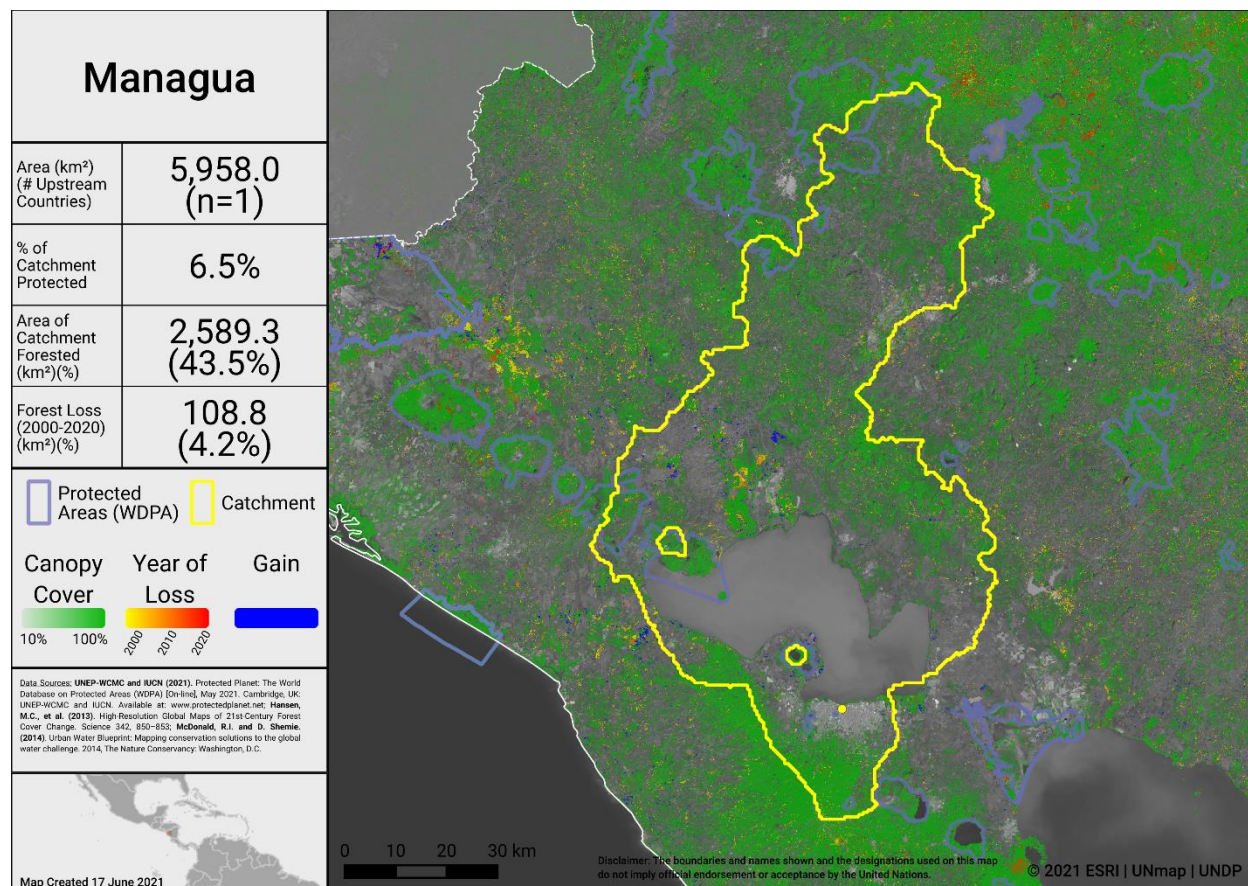
Carbon Stocks in Nicaragua

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 Nicaragua 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 Nicaragua. Intact catchments can support more consistent water supply and improved water quality.



Water catchment in Managua

Opportunities for action

For carbon, there is opportunity for Nicaragua 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).

In Nicaragua, an indicator has also been established to count the total area (ha) in annual average of the connectivity of conservation areas both inside and outside protected areas.

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 Nicaragua was 9.6% (JRC, 2021).

PARC-Connectedness Index

In 2019, as assessed using the PARC-Connectedness Index (values ranging from 0-1, indicating low to high connectivity), connectivity in Nicaragua is 0.63. This represents no significant change since 2010.

Corridor case studies

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

Case study title	Type of study region	Greatest threat to connectivity	Approaches to conserving ecological corridors
The Jaguar Corridor Initiative: A rangewide species conservation strategy	terrestrial, rural	human land-use changes	<ul style="list-style-type: none"> modelled ecological corridors prioritised populations and ecological corridors validated modelled corridors using a rapid assessment interview-based methodology varied implementation action at local level

Further details are available in Hilty et al 2020.

Integration into the wider landscape and seascape

The system of protected areas in Nicaragua is integrated into the wider landscapes and seascapes through application of the ecosystem approach and by taking into account ecological connectivity; this is being achieved with the declaration of new protected areas, and the certification of Private Wildlife Reserves and Municipal Ecological Parks.



Opportunities for action

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

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



GOVERNANCE DIVERSITY

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 Nicaragua in the WDPA have the following governance types:

- 94.0% are governed by **governments** (by federal or national ministry or agency)
- 6.0% are under **shared** governance (by collaborative governance)
- 0.0% are under **private** governance
- 0.0% are under **IPLC** governance
 - 0.0% by Indigenous Peoples
 - 0.0% by local communities
- 0.0% **do not** report a governance type

There has been further increase in the areas under collaborative governance in Nicaragua.

OECMs

For OECMs in Nicaragua, they are under private governance and municipal government ownership.

Privately Protected Areas (PPAs)

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

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

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

Other Indigenous lands

Lands managed and/or controlled by Indigenous Peoples cover an area of 41,648.0 km², of which 22,745.0 km² falls outside of formal protected areas. Indigenous lands with a human footprint less than 4 (considered as 'natural landscapes') cover an area of 19,043.0 km² (for details on analysis see Garnett et al., 2018).

For Nicaragua, 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: International Union for Conservation of Nature. Map of Indigenous Peoples, protected areas and natural ecosystems of Central America.

<http://www.burness.com/pressrooms/iucn-map-briefing/> (2015).



Opportunities for action

Explore opportunities for governance types that have lower representation, for Nicaragua this could relate to governance by Indigenous Peoples and/or local communities (IPLC), etc. Report on any updates for governance type information in the WDPA.

There is also opportunity for Nicaragua 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).



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, Nicaragua has 84 PAs reported in the WDPA; of these PAs, 32 (38.1%) have management effectiveness evaluations reported in the global database on protected area management effectiveness (GD-PAME).

- 5.2% (6,707 km²) of the terrestrial area of the country is covered by PAs with completed management effectiveness evaluations.
 - 24.3% of the area of terrestrial PAs have completed evaluations.
- 0.3% (638 km²) of the marine area of the country is covered by PAs with completed management effectiveness evaluations.
 - 8.4% 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.

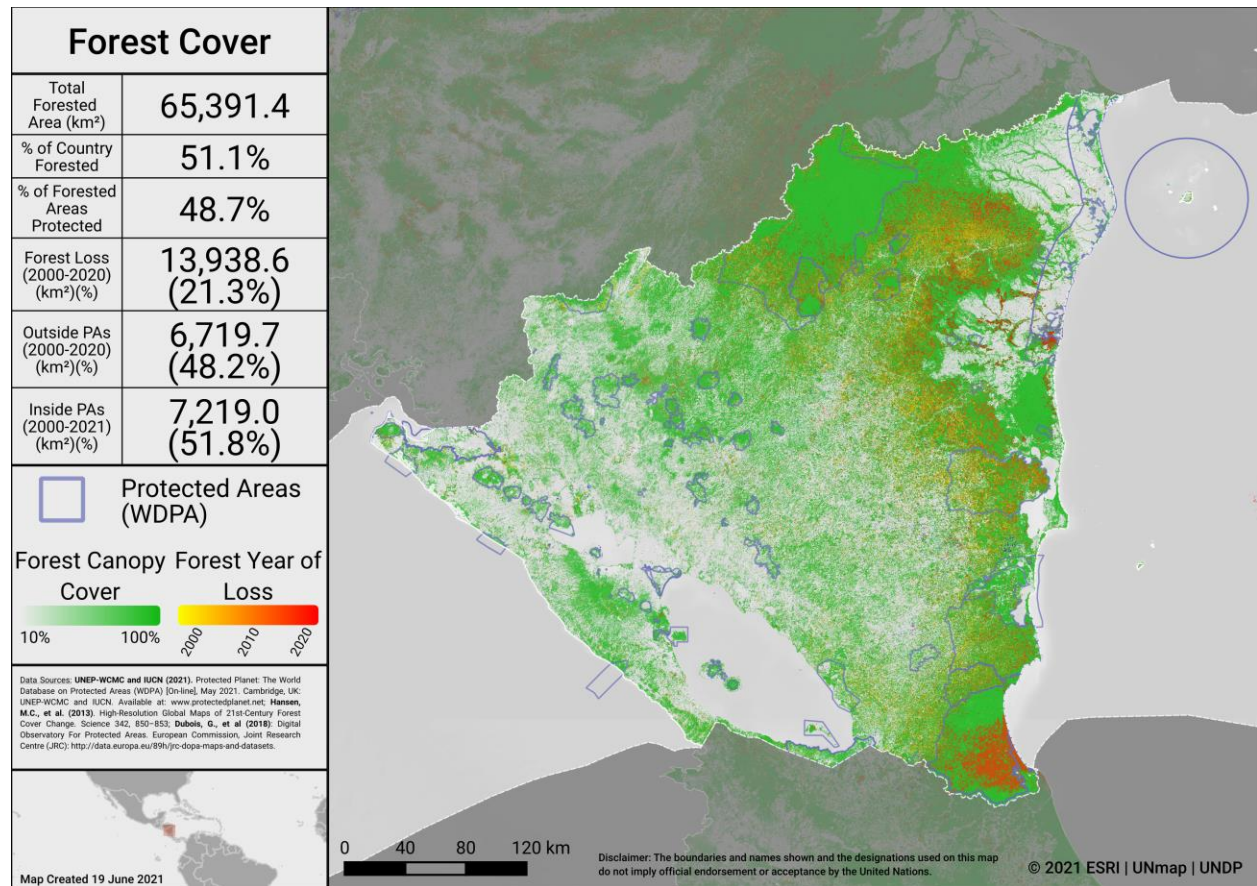
In Nicaragua, actions are being implemented for the protection, conservation and restoration of the landscapes in these protected areas.

As of May 2021, there are 0 OECMs in Nicaragua 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 Nicaragua cover approximately 51.1% of the country, an area of 65,391.4 km². Approximately 48.7% (31,840.8 km²) of this is within the protected area estate of Nicaragua. Over the period 2000-2020 loss of forest cover amounted to over 13,938.6 km², or 10.9% of the country (21.3% of forest area), of which 7,219.0 km² (51.8% of forest loss) occurred within protected areas. The map below shows how forest cover has changed in Nicaragua 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 Nicaragua

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 opportunity to finalize the preparation of the 4 management plans and 11 updates for management plans that are in process.

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

SECTION II: EXISTING PROTECTED AREA AND OECM COMMITMENTS

NATIONAL BIODIVERSITY STRATEGY AND ACTION PLANS (NBSAPs)

Nicaragua 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 3: Strengthen the National System of Protected Areas, ensuring the environmental benefits derived from their conservation and their contribution to the well-being of Nicaraguans. Indicators:

- By 2020 Nicaragua will have started with the process of declaring new protected areas destined to the conservation of ecosystems and / or species unique or in critical condition
- The management effectiveness of 11 existing protected areas located in Norcentro and in western Nicaragua will have been improved
- 30% of the SINAP areas have their management plans developed with the participation of communities and implement their management programs
- Seven protected areas will be demarcated by 2020.

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

NBSAP Action #	Action (original language from NBSAP)	Action (English translation)
3.1	Mejorar la representatividad del SINAP mediante la creación de nuevas áreas protegidas nacionales especialmente para la conservación de especies y ecosistemas únicos y aquellos en estado crítico.	Improve the representativeness of SINAP by creating new national protected areas, especially for the conservation of unique species and ecosystems and also those under critical conditions.
3.2	Fortalecer la efectividad de manejo de áreas protegidas de uso múltiple y el uso sostenible de bosques húmedos y secos en el paisaje amplio de las regiones occidental y norcentral de Nicaragua.	Strengthen management effectiveness of protected areas of multiple use and sustainable use of wet and dry forests in the wider landscape of the western and north central Nicaragua.



NBSAP Action #	Action (original language from NBSAP)	Action (English translation)
3.5	Promover el compromiso entre la población, instituciones, gobiernos locales para que se destinen recursos y así recuperar áreas deterioradas dentro de áreas protegidas.	Promote commitment among the population, institutions, local governments to allocate resources and recover degraded areas within protected areas.
3.6	Elaborar y/o actualizar e Implementar Instrumentos de gestión para las áreas protegidas.	Develop and/or update and Implement management tools for protected areas.
3.7	Mejorar la conservación de las Reservas de Biosfera.	Improve the conservation of Biosphere Reserves.
3.9	Facilitar la declaración de Reservas Silvestres Privadas y Parques Ecológicos Municipales como elementos para el establecimiento y funcionamiento de corredores de vida.	Facilitate the declaration of Private Wildlife Reserves and Municipal Ecological Parks as elements for the establishment and operation of corridors of life.
3.10	Demarcar físicamente las áreas protegidas, fortaleciendo su administración y gestión.	Physically demarcate protected areas, for strengthening their administration and management.
5.8	Declarar reservas productoras de agua.	Declare reserves of water production.

Updates on progress for NBSAP Actions

Improve the representativeness of SINAP through the creation of new national PAs especially for the conservation of unique species and ecosystems and those in critical condition:

- The protected area was declared the Nicaraguan Caribbean Biosphere Reserve, through LAW No. 1059. Published in La Gaceta, Official Gazette No. February 22, 2021, and a new PA in the South Caribbean Coast of Nicaragua is in the process of being declared.

Prepare and / or update and implement management instruments for protected areas:

- From 2011 to now, 6 management plans have been prepared and 15 management plans updated for the sustainable management of PAs.
- In the process of preparing 4 plans and 11 updates of management plans and management of PAs.



Improve the conservation of the Biosphere Reserves:

- Permanent Institutional Presence for the protection and conservation of the Biosphere Reserves, establishment of infrastructure such as Biological Stations, Control Posts, Headquarters for the guard personnel of the Biosphere Reserves, Labeling, execution of Environmental Education Plans, Inter-institutional Coordination for an effective presence and control in the Biosphere Reserves, implementation of the Environmental Observer Plan

Facilitate the declaration of Private Wild Reserves and Municipal Ecological Parks as elements for the establishment and operation of life corridors:

- The declaration of Private Wild Reserves and Municipal Ecological Parks has been facilitated, accompanying the owners and municipalities and establishing agile processes for their recognition
- From 2011 to now, 161 Private Wildlife Reserves and 68 Municipal Ecological Parks have been recognized

Physically demarcate protected areas, strengthening their administration and management:

- From 2011 to now, 10 protected areas have been demarcated
- 3 more in the process of demarcation



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).

GEF ID	PA increase?	Area to be added (km ²)	Qualitative elements potentially benefiting (based on keyword search of PIFs)
5277	No	N/A	All Qualitative Elements
9579	No	N/A	All except Ecologically representative

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
FP146	Mitigation	Forest and land use	All elements



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 OECMs:

#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: **No area given** (project “aims to develop management plans for existing MPAs to ensure their effectiveness”; see more in country profile for WCS MPA project at <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

High Ambition Coalition for Nature and People

Nicaragua **has** joined the High Ambition Coalition for Nature and People.

The High Ambition Coalition for Nature and People (HAC) is an intergovernmental group, co-chaired by France and Costa Rica [currently including 65 countries and the European Commission]. Its objective is to support the adoption of a target aiming to protect 30% of the planet's land and 30% of its oceans by 2030 (30x30 target), within the future global framework of the Convention on Biological Diversity (CBD) for the protection of biodiversity, which is to be adopted at the next COP in China this autumn.

Global Ocean Alliance

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

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

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

In Nicaragua, we conserve, protect, and restore the environment in our 20 main biological corridors.



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
Cayos Miskitos-San Andrés and Providencia moist forests	44.3	46.7	0.0	34.5	77.8
Central American Atlantic moist forests	47,248.2	52.8	36.6	10,543.2	22.3
Central American dry forests	24,447.5	36.1	18.9	1,699.2	7.0
Central American montane forests	917.6	6.9	0.7	506.4	55.2
Central American pine-oak forests	10,506.7	9.5	8.1	1,255.7	12.0
Costa Rican seasonal moist forests	2,100.8	19.7	1.6	179.3	8.5
Isthmian-Atlantic moist forests	18,529.9	31.8	14.3	7,185.2	38.8
Mesoamerican Gulf-Caribbean mangroves	3,407.6	12.8	2.6	2,207.6	64.8
Miskito pine forests	11,997.3	63.6	9.3	2,419.2	20.2
Southern Mesoamerican Pacific mangroves	999.1	12.8	0.8	652.9	65.3



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