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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

Disclaimer

The designations employed and the presentation of material in this dossier do not imply the expression of any opinion whatsoever on the part of the Secretariat of the Convention on Biological Diversity (SCBD) or United Nations Development Programme (UNDP) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. The information contained in this publication do not necessarily represent those of the SCBD or UNDP.

This country dossier is compiled by the UNDP and SCBD from publicly available information. It is prepared, within the overall work of the Global Partnership on Aichi Biodiversity Target 11, for the purpose of attracting the attention of the Party concerned and other national stakeholders to facilitate the verification, correcting, and updating of country data. The statistics might differ from those reported officially by the country due to differences in methodologies and datasets used to assess protected area coverage and differences in the base maps used to measure terrestrial and marine area of a country or territory. Furthermore, the suggestions from the UNDP and SCBD are based on analyses of global datasets, which may not necessarily be representative of national policy or criteria used at the national level. The analyses are also subject to the limits inherent in global indicators (precision, reliability, underlying assumptions, etc.). Therefore, they provide useful information but cannot replace analyses at a national level nor constitute a future benchmark for national policy or decision-making.

The preparation of this dossier was generously supported by: the Government of the Federal Republic of Germany, *Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GMbH*; the European Commission; the Government of the United Kingdom of Great Britain and Northern Ireland; and the Government of Japan (Japan Biodiversity Fund). The dossier does not necessarily reflect their views.

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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 El Salvador is 1,778.4 km² (8.6%) and marine coverage is 666.3 km² (0.7%).
- 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:** El Salvador contains 5 terrestrial ecoregions, 1 marine ecoregion, and 1 pelagic province: the mean coverage by reported PAs and OECMs is 17.6% (terrestrial), 3.2% (marine), and 0.0% (pelagic); 1 pelagic province has no coverage by reported PAs and OECMs.
- **Opportunities for action:** there is opportunity for El Salvador 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:** El Salvador has 20 Key Biodiversity Areas (KBAs): the mean protected coverage of KBAs by reported PAs and OECMs is 29.5%, while 4 KBAs have no coverage by reported PAs and OECMs.
- **Opportunities for action:** there is opportunity for El Salvador 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 El Salvador, 18.5% of aboveground biomass carbon, 18.3% of belowground biomass carbon, 17.8% of soil organic carbon, 0.7% of carbon stored in marine sediments is covered by PAs and OECMs.
- **Opportunities for action:** for carbon, there is opportunity for El Salvador 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 5.2%.
- **Opportunities for action:** there is opportunity for a general increase of PAs or OECMs and to focus on PA and OECM management for enhancing and maintaining connectivity. Improving connectivity increases the effectiveness of PAs and OECMs and reduces the impacts of fragmentation.
- As well, a range of suggested steps for enhancing and supporting integration are included in the voluntary guidance on the integration of PAs and OECMs into the wider land- and seascapes and mainstreaming across sectors to contribute, inter alia, to the SDGs (Annex I of COP Decision 14/8).

Governance Diversity

- **Status:** the most common governance type(s) for reported PAs in El Salvador is: 62.4% under Government (61.9% Federal or national ministry or agency; 0.5% Subnational ministry or agency).
- **Opportunities for action:** explore opportunities for governance types that have lower representation, for El Salvador this could relate to governance by Indigenous Peoples and/or local communities (IPLC), etc. Increase efforts to identify the

- governance types for the 30.7% of sites that do not have their governance type reported.
- There is also opportunity for El Salvador 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:** 3.4% of terrestrial PAs and 0.0% of marine PAs have completed Protected Area Management Effectiveness (PAME) assessments reported.
- **Opportunities for action:** the 60% target for completed management effectiveness assessments (per COP Decision X/31) **has not** been met for terrestrial PAs and **has not** been met for marine PAs. Therefore, there is opportunity to increase protected area management effectiveness (PAME) evaluations for both terrestrial and marine PAs to achieve the target.
- There is also opportunity to implement the results of completed PAME evaluations, to improve the quality of management for existing PAs and OECMs (e.g. through adaptive management and information sharing, increasing the number of sites reporting 'sound management') and to increase reporting of biodiversity outcomes in PAs and OECMs.

INTRODUCTION

The Strategic Plan for Biodiversity 2011-2020 was adopted at the tenth meeting of the Conference of the Parties (COP) to the Convention on Biological Diversity (CBD) held in Nagoya, Aichi Prefecture, Japan from 18-29 October 2010. The vision of the Strategic Plan is one of "Living in harmony with nature" where "By 2050, biodiversity is valued, conserved, restored and wisely used, maintaining ecosystem services, sustaining a healthy planet and delivering benefits essential for all people" (CBD, 2010). In addition to this vision, the Strategic Plan is composed of 20 targets, under five strategic goals. Aichi Biodiversity Target 11 states that "By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes."

With the conclusion of the Aichi Biodiversity Targets in 2020, Target 11 on area-based conservation has seen success in the expansion of the global network of protected areas (PA) and other effective area-based conservation measures (OECMs). The negotiation of the post-2020 Global Biodiversity Framework (GBF) and its future targets provide an essential opportunity to further improve the coverage of PAs and OECMs, to improve other aspects of area-based conservation, to accelerate progress on biodiversity conservation more broadly, while also addressing climate change, and the Sustainable Development Goals. This next set of global biodiversity targets are to be adopted at the fifteenth meeting of the Conference of the Parties to the Convention on Biological Diversity. These new targets must aim to build upon lessons learned from the last decade of progress to deliver transformative change for the benefit of nature and people, to realize the 2050 Vision for biodiversity.

The United Nations Development Programme (UNDP) and the Secretariat of the Convention on Biological Diversity have developed the Aichi Biodiversity Target 11 Country Dossiers, which provide countries with an overview of the status of Target 11 elements, opportunities for action, and a summary of commitments made by Parties over the last decade. Each dossier can support countries in assessing their progress on key elements of Aichi Biodiversity Target 11 and identifying opportunities to prioritize new protected areas and OECMs.

This dossier provides an overview of area-based conservation in El Salvador. Section I of the dossier presents data on the current status of El Salvador'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 El Salvador, in relation to each Target 11 element. The analyses present options for improving El Salvador's area-based conservation network to achieve enhanced protection and benefits for livelihoods and climate change. Section II presents details on El Salvador's existing PA and OECM commitments as a summary of existing efforts towards achieving Target 11.

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

The information on PAs and OECMs presented here is derived from the World Database on Protected Areas (WDPA) and World Database on Other Effective Area-Based Conservation Measures (WD-OECM). These databases are joint products of UNEP and IUCN, managed by UNEP-WCMC, and can be viewed and downloaded at www.protectedplanet.net. Parties are encouraged to provide data on their PAs and OECMs to UNEP-WCMC for incorporation into the databases (see e.g., Decisions 10/31 and 14/8). The significant efforts of Parties in updating their data in the build up to the publication of the Protected Planet Report 2020 (UNEP-WCMC and IUCN, 2021) were greatly appreciated. UNEP-WCMC welcomes further updates, following the data standards described here (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.

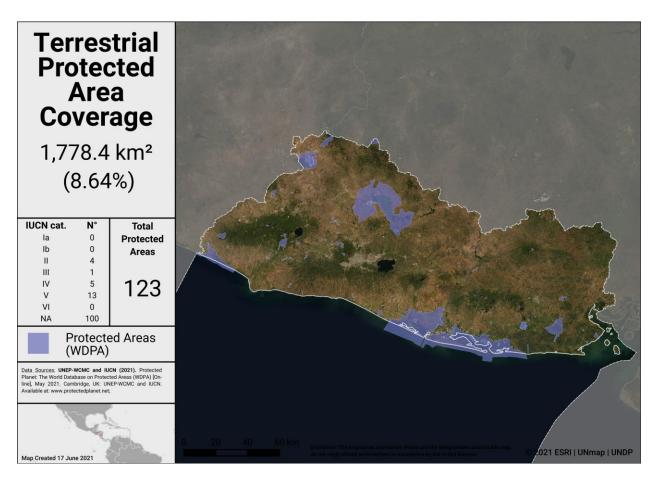
COVERAGE - TERRESTRIAL & MARINE

As of May 2021, El Salvador has **202** protected areas reported in the World Database on Protected Areas (WDPA). 65 proposed PAs are not included in the following statistics (see details on UNWP-WCMC's methods for calculating PA and OECM coverage here).

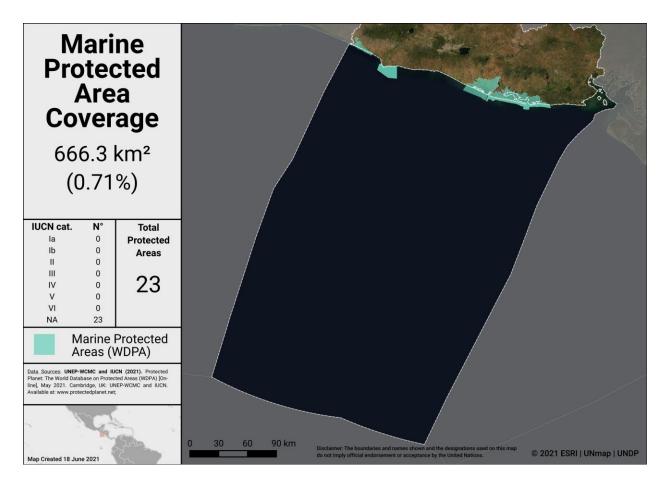
As of May 2021, El Salvador has **0** OECMs reported in the world database on OECMs (WD-OECM).

Current coverage for El Salvador:

- 8.6% terrestrial (126 protected areas, 1,778.4 km²)
- 0.7% marine (24 protected areas, 666.3 km²)



Terrestrial Protected Areas in El Salvador



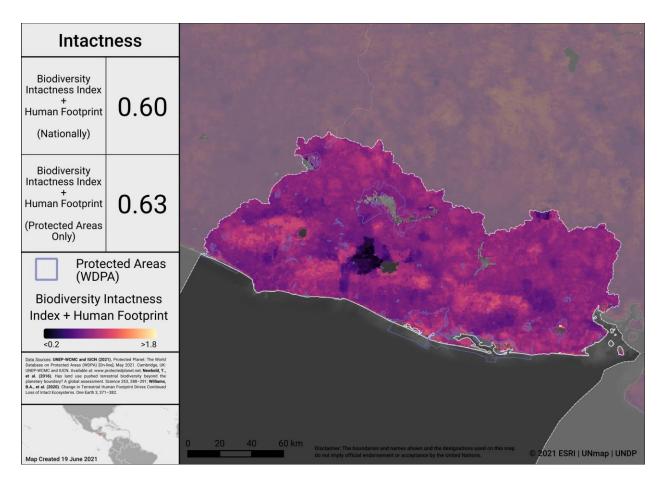
Marine Protected Areas in El Salvador

Potential OECMs

There are currently no potential OECM examples for El Salvador.

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

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).

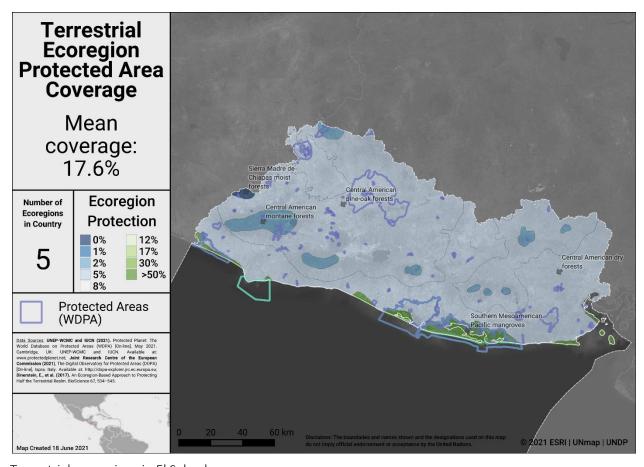
El Salvador has 5 **terrestrial** ecoregions. Out of these:

- All 5 ecoregions have at least some coverage from PAs and OECMs.
- 1 ecoregion has at least 17% protected within the country.
- The average terrestrial coverage of ecoregions is 17.6%.

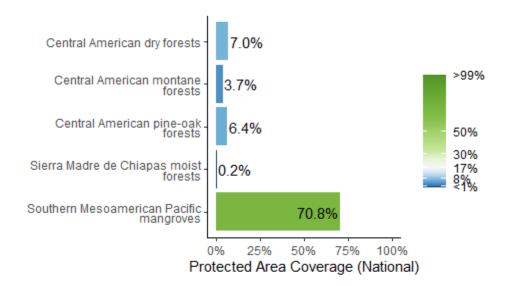
El Salvador has 1 marine ecoregion and 1 pelagic province:

Coverage from reported PAs and OECMs is 3.2% (marine ecoregion) and 0.0% (pelagic province).

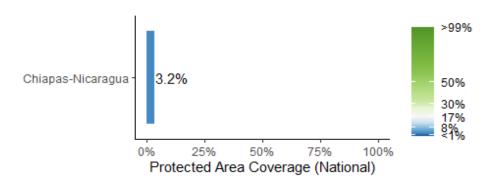
A full list of terrestrial ecoregions in El Salvador is available in Annex I.



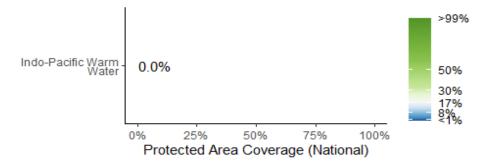
Terrestrial ecoregions in El Salvador



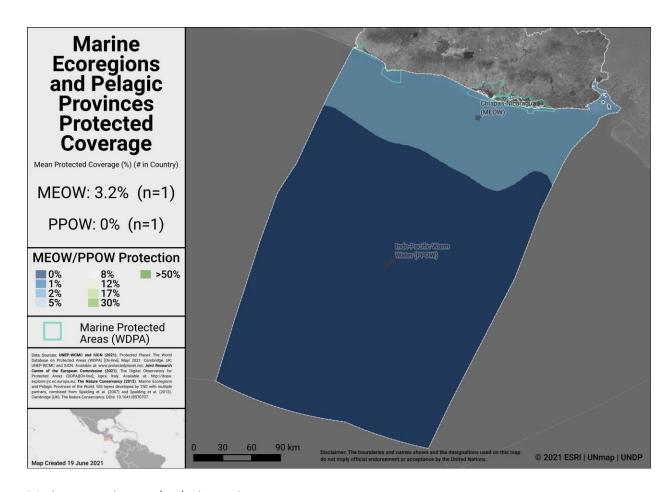
Terrestrial ecoregions of the World (TEOW) in El Salvador



Marine Ecoregions of the World (MEOW) in El Salvador



Pelagic Provinces of the World (PPOW) in El Salvador



Marine ecoregions and pelagic provinces

Opportunities for action

There is opportunity for El Salvador 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.

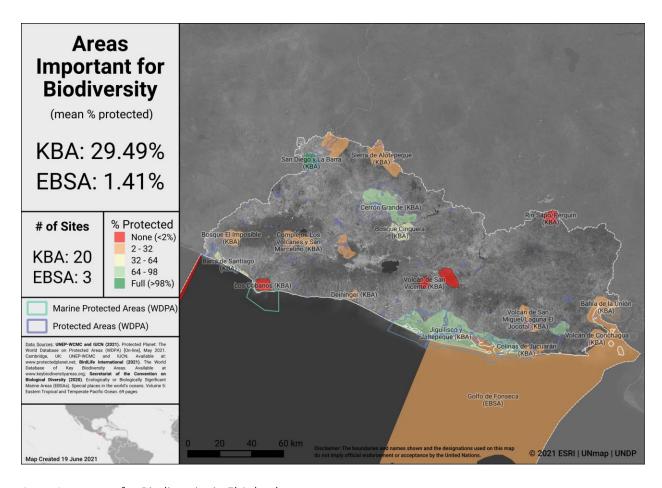
El Salvador has 20 Key Biodiversity Areas (KBAs).

- Mean percent coverage of all KBAs by PAs and OECMs in El Salvador is 29.5%.
- 1 KBA has full (>98%) coverage by PAs and OECMs.
- **15** KBAs have partial coverage by PAs and OECMs.
- **4** KBAs have no (<2%) coverage by PAs and OECMs.

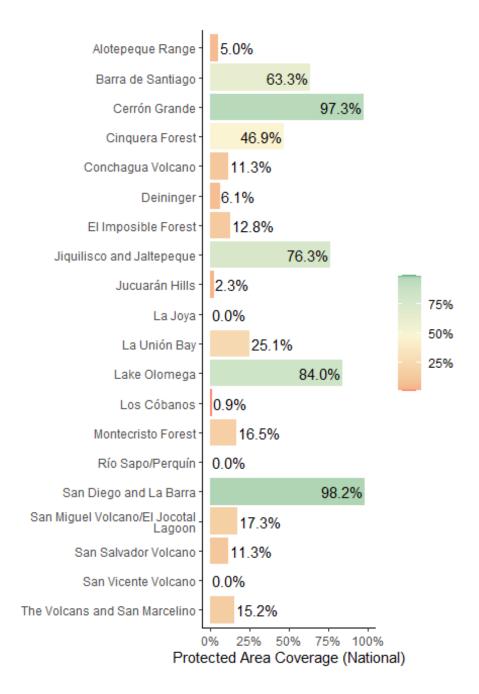
Ecologically or Biologically Significant Marine Areas (EBSAs)

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.

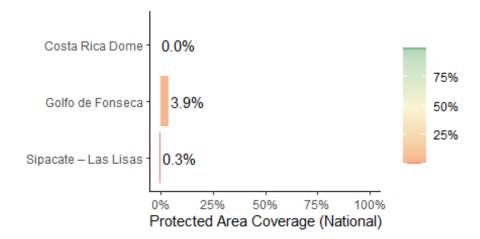
There are 3 EBSAs with some portion of their extent within El Salvador's EEZ, of which 1 EBSAs have no coverage from PAs or OECMs.



Areas Important for Biodiversity in El Salvador



Key Biodiversity Area Coverage (KBA) in El Salvador



Ecologically or Biologically Significant Marine Areas (EBSAs) in El Salvador

Opportunities for action

There is opportunity for El Salvador 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.

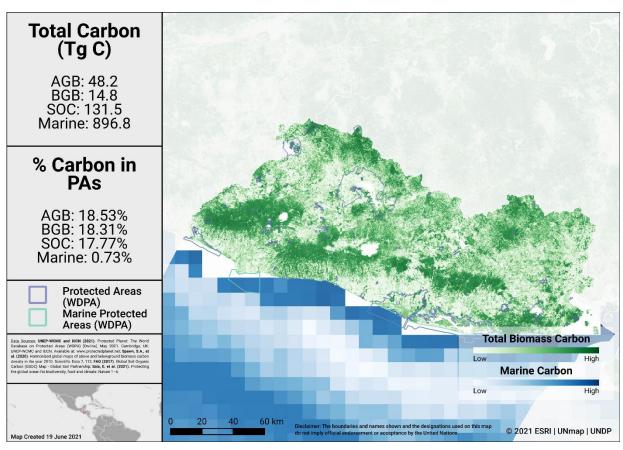
AREAS IMPORTANT FOR ECOSYSTEM SERVICES

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 El Salvador and the percent of carbon in protected areas. The total carbon stocks is 48.2 Tg C from aboveground biomass (AGB), with 18.5% in protected areas; 14.8 Tg C from below ground biomass (BGB), with 18.3% in protected areas; 131.5 Tg C from soil organic carbon (SOC), with 17.8% in protected areas; and 896.8 Tg C from marine sediment carbon, with 0.7% in protected areas.



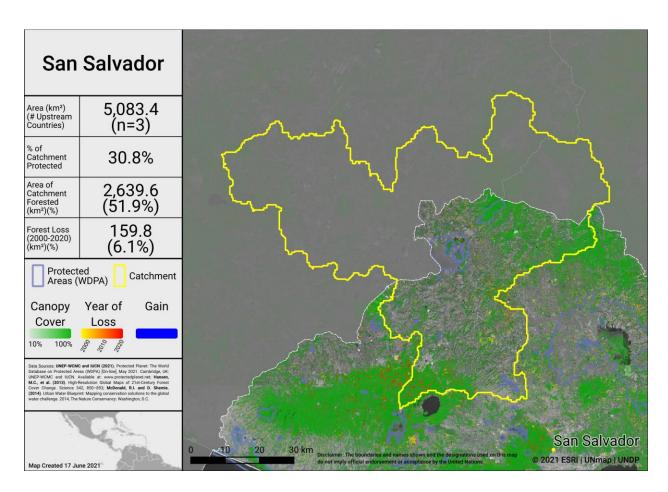
Carbon Stocks in El Salvador

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



Water supply area for the city of San Salvador

Opportunities for action

For carbon, there is opportunity for El Salvador to increase PA and OECM coverage in both marine and terrestrial areas with high carbon stocks, as identified in the map above. Protecting areas with high carbon stocks secures the benefits of carbon sequestration in the area.

For water, there is opportunity to increase the area of the water catchment under protection by PAs and OECMs, or in cases where there is high levels of protection, focus on effective management for these areas. Protecting the current area of forested land and potentially reforesting would have benefits for improving water security.

CONNECTIVITY & INTEGRATION

Two global indicators, the Protected Connected land indicator (ProtConn; EC-JRC, 2021; Saura et al., 2018) and the PARC-Connectedness indicator (CSIRO, 2019), have been proposed for assessing the terrestrial connectivity of PA and OECM networks. To date there is no global indicator for assessing marine connectivity, though some recent developments include proposed guidance for the treatment of connectivity in the planning and management of MPAs (see Lausche et al., 2021).

Protected Connected Land Indicator (Prot-Conn)

As of January 2021, as reported in the Joint Research Centre of the European Commission's Digital Observatory for Protected Areas (DOPA) (JRC, 2021), the coverage of protected-connected lands (a measure of the connectivity of terrestrial protected area networks, assessed using the ProtConn indicator) in El Salvador was 5.2%.

PARC-Connectedness Index

In 2019, as assessed using the PARC-Connectedness Index (values ranging from 0-1, indicating low to high connectivity), connectivity in El Salvador is 0.36. This represents an increase from 0.33 in 2010.

Corridor case studies

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

Opportunities for action

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

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

GOVERNANCE DIVERSITY

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

As of May 2021, PAs in El Salvador reported in the WDPA have the following governance types:

- 62.4% are governed by **governments**
 - 61.9% by federal or national ministry or agency
 - 0.5% by sub-national ministry or agency
 - 0.0% by government-delegated management
- 5.4% are under **shared** governance
 - 5.4 % by collaborative governance
 - 0.0% by joint governance
 - 0.0% by transboundary governance
- 1.5% are under **private** governance
 - 1.0% by individual landowners
 - 0.5% by non-profit organisations
 - 0.0% by for-profit organisations
- 0.0% are under **IPLC** governance
 - 0.0% by Indigenous Peoples
 - 0.0% by local communities
- 30.7% **do not** report a governance type

OECMs

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

Privately Protected Areas (PPAs)

There are several Private Natural Protected Areas designed and reported in the WDPA. There is no additional data available on PPAs for El Salvador (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 El Salvador (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 4,951.0 km², of which 4,909.0 km² falls outside of formal protected areas. Indigenous lands with a human

footprint less than 4 (considered as 'natural landscapes') cover an area of 0.0 km² (for details on analysis see Garnett et al., 2018).

For El Salvador, evidence for the presence of Indigenous Peoples comes from: Anaya, J. Report of the Special Rapporteur on the rights of Indigenous Peoples. Addendum. The situation of Indigenous Peoples in El Salvador (UN, 2013).

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 El Salvador this could relate to governance by Indigenous Peoples and/or local communities (IPLC), etc. Increase efforts to identify the governance types for the 30.7% of sites that do not have their governance type reported.

There is also opportunity for El Salvador 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, El Salvador has 202 PAs reported in the WDPA; of these PAs, 15 (7.4%) have management effectiveness evaluations reported in the global database on protected area management effectiveness (GD-PAME).

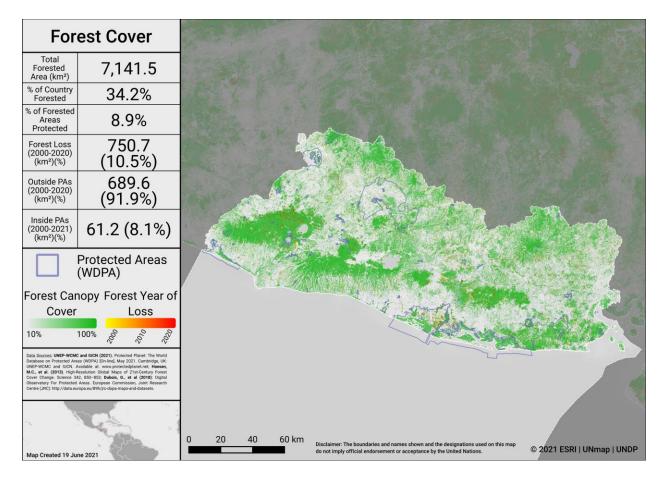
- 0.3% (61 km²) of the terrestrial area of the country is covered by PAs with completed management effectiveness evaluations.
 - 3.4% of the area of terrestrial PAs have completed evaluations.
- 0.0% (0.0 km²) of the marine area of the country is covered by PAs with completed management effectiveness evaluations.
 - 0.0% of the area of marine PAs have completed evaluations.

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

As of May 2021, there are 0 OECMs in El Salvador 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 El Salvador cover approximately 34.2% of the country, an area of 7,141.5 km². Approximately 8.9% (632.9 km²) of this is within the protected area estate of El Salvador. Over the period 2000-2020 loss of forest cover amounted to over 750.7 km², or 3.6% of the country (10.5% of forest area), of which 61.2 km² (81.1% of forest loss) occurred within protected areas. The map below shows how forest cover has changed in El Salvador 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 El Salvador

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 Latin America and the Caribbean on achieving Aichi Biodiversity Targets 11 and 12 took place 28 September - 1 October 2015 in Curitiba, Paraná, Brazil. Progress towards the quantitative targets for marine and terrestrial coverage has been assessed based on data reported in the WDPA and WD-OECM as of 2021. For more information, see the workshop report at: https://www.cbd.int/meetings/

Summary from the workshop:

Priority actions and identified opportunities, if completed as proposed, will provide benefits for the qualifying elements of Aichi Biodiversity Target 11.

The following actions were identified during the workshops:

Terrestrial and marine coverage:

- 1) By 2020 declared PAs have effective management model and highly participatory
- 2) In 2020 the declaration has been made pending completion of legal status protected areas
- 3) By 2020 strengthen and diversify funding sources the System of Protected Areas and Wildlife.

Ecological representation:

- 1) By 2020 complete classification of marine areas
- 2) Increase the protection of unrepresented ecosystems (ex. dry forests) by creating new important wildlife areas and land acquisition by the State
- 3) Establishing new biological corridors and private natural areas declared in order to strengthen the SANP.

Areas Important for biodiversity and ecosystem services:

- 1) Consolidation of experiences of payment for ecosystem services to be replicated in other parts of the country
- 2) By 2020 new mechanism to secure and manage financing (captacion y gestion finaciera) will be implemented to effectively manage important biodiversity areas

- 3) Complete the implementation of the National Biodiversity Strategy
- 4) Implement and promote alternative development in local areas of interest, in order to minimize the negative impacts caused by anthropogenic activities unsustainably in the areas
- 5) create a Master Plan for PAs which frames PA management and administration in the country
- 6) By 2020 creation of standards for agricultural development and conservation in order to achieve sustainable use of the resource.

Connectivity: Implementation of procedures and guidelines from the Governance and management plan for sustainable coastal and marine tourism.

OECMs: Certify private PA by 2020.

No actions were identified for the following elements of Target 11: Management effectiveness; Governance and Equity; Integration into the wider landscape and seascape

NATIONAL BIODIVERSITY STRATEGY AND ACTION PLANS (NBSAPs)

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

Axis 2 Inclusive restoration and conservation of critical ecosystems

This NBSAP **did not** include specific goals or targets for **terrestrial or marine** PAs or OECMs (related to Aichi Biodiversity Target 11).

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)
5749	Yes	566	Terrestrial	All except Ecosystem services

Based on spatial data available for GEF project 5749, benefits will arise for several elements of Target 11:

Coverage of Terrestrial and Marine Ecoregions:

- 2 Terrestrial Ecoregions will have improved coverage. These Ecoregions are: Central American dry forests; Southern Mesoamerican Pacific mangroves.
 - The average increase in coverage of Terrestrial Ecoregions will be 4.16%.
- 1 Marine Ecoregion will have improved coverage (Chiapas-Nicaragua).
 - The increase in coverage will be 0.06%.

Coverage of KBAs:

Coverage will improve for 4 KBAs.

Ecosystem services:

- 3.54 % increase in the PA coverage of aboveground biomass.
- 4.92 % increase in the PA coverage of important aboveground biomass areas.
- 2.19 % increase in the PA coverage of soil organic carbon (SOC).
- 0.71 % 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
FP089	Cross- cutting	Forest and land use	Integration

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: 1.2 Mt CO2e/yr
Nationally Determined Contribution	Forest ecosystems	Avoided woodfuel harvest: 0.18 Mt CO2e/yr
Nationally Determined Contribution	Wetland ecosystems	Avoided peat impacts: 0.01 Mt CO2e/yr
Nationally Determined Contribution	Coastal ecosystems	Mangrove restoration: 0.003 Mt CO2e/yr
Nationally Determined Contribution	Wetland ecosystems	Protection of surface and underground water resources
Nationally Determined Contribution	Wetland ecosystems	Protection of 70% of the main aquifer recharge areas
Plan Nacional de Gestión Integrada de Recurso Hídrico	Forest ecosystems	Promote adequate soil conservation and recovery, reforestation, fire prevention
Plan Nacional de Gestión Integrada de Recurso Hídrico	Wetland ecosystems	Elaboration of the National Plan to Combat Erosion, the National Plan for River Restoration, the delimitation of the Public Water Domain (DPH) and the marginal strip of river banks.
Plan Nacional de Gestión Integrada de Recurso Hídrico	Wetland ecosystems	Specific studies to increase knowledge and thus the protection of water resources from pollution by agricultural activity
Plan Nacional de Gestión Integrada de Recurso Hídrico	Wetland ecosystems	Conservation measures in watercourses
Política Nacional de Seguridad Alimentaria y Nutricional 2018- 2028	Grasslands & Agricultural systems	Transition from traditional agriculture to climate- adapted agriculture, training producers to improve crop quality and variability.
Política Nacional de Seguridad Alimentaria y Nutricional 2018- 2028	Grasslands & Agricultural systems	Promote the protection of the genetic biodiversity of the country's seeds and other native species, both plant and animal.

Policy document	Ecosystem	Policy text
Estrategia y Plan de Acción Nacional para la Diversidad Biológica de El Salvador	Forest ecosystems	Conservation of the last remnants of forest ecosystems
Estrategia y Plan de Acción Nacional para la Diversidad Biológica de El Salvador	Forest ecosystems	Conservation/restoration of gallery forests and secondary forests dedicated to the protection of critical areas.
Plan Nacional de Cambio Climático	Forest ecosystems	Design and implementation of a critical investment program for fragile ecosystems including forest ecosystems essential for disaster risk reduction.
Política Forestal Nacional 2011-2030 de El Salvador	Forest ecosystems	80,000 ha of forest and forest land recovered and subjected to forest protection (8,000 ha/year) to protect watersheds, water recharge areas, restoration of forest ecosystems and biological corridors.
Política Forestal Nacional 2011-2030 de El Salvador	Forest ecosystems	Create a system of incentives or communal prizes to recognize the efforts of communities that best conserve their forests and forest lands.
Política Forestal Nacional 2011-2030 de El Salvador	Forest ecosystems	Design compensation mechanisms for ecosystem services to forest landowners and other forest owners.
Política Forestal Nacional 2011-2030 de El Salvador	Forest ecosystems	Design compensation mechanisms for ecosystem services to owners of forests and other properties that, due to their special condition, contribute to the balance of ecosystems.
Estrategia y Plan de Acción Nacional para la Diversidad Biológica de El Salvador	Wetland ecosystems	Integrated approach to wetland restoration and conservation activities.
Plan Nacional de Cambio Climático	Wetland ecosystems	Increased national coverage, mainly in aquifer recharge areas and landslide-prone areas, as well as in riparian ecosystems.
Plan Nacional de Cambio Climático	Wetland ecosystems	Control of pollution from domestic and industrial waste, pesticides, hydrocarbon byproducts, oils and organic load from aquaculture projects and tourism infrastructure for the conservation of wetland ecosystems.

Policy document	Ecosystem	Policy text
Plan Nacional de Cambio Climático	Wetland ecosystems	Master plan for the development of a hydraulic infrastructure network for water conservation and flood risk reduction.
Plan de Acción de Restauración 2018- 2022 de El Salvador	Wetland ecosystems	Establish and delimit local and regional systems for the protection of water recharge areas and water-producing micro-watersheds, through the declaration of water protection and production areas or micro-watersheds, administered by municipalities and/or communities.
Política Forestal Nacional 2011-2030 de El Salvador	Wetland ecosystems	Train municipalities and communities in the declaration, delimitation, demarcation and management of micro-watersheds that produce water for human consumption.
Plan Nacional de Cambio Climático	Coastal ecosystems	Control of contamination by domestic and industrial wastes, pesticides, hydrocarbon by-products, oils and cargo.
Estrategia y Plan de Acción Nacional para la Diversidad Biológica de El Salvador	Grasslands & Agricultural systems	Evitar la conversión del café de sombra a variedades de sol intensivas en el uso de agroquímicos
Estrategia y Plan de Acción Nacional para la Diversidad Biológica de El Salvador	Grasslands & Agricultural systems	Stop the conversion of existing coffee farms to other uses that involve deforestation.
Plan Nacional de Cambio Climático	Grasslands & Agricultural systems	Design and implementation of a critical investment program for fragile ecosystems including agroforestry ecosystems essential for disaster risk reduction.
Plan Nacional de Cambio Climático	Grasslands & Agricultural systems	Territories occupied by forest areas, coffee plantations and other agroforestry crops will be subject to special conservation and protection measures.

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
Central American dry forests	8,316.2	12.3	40.2	581.2	7.0
Central American montane forests	962.3	7.3	4.7	35.2	3.7
Central American pine-oak forests	10,725.1	9.7	51.8	682.5	6.4
Sierra Madre de Chiapas moist forests	63.5	0.6	0.3	0.1	0.2
Southern Mesoamerican Pacific mangroves	860.1	11.0	4.2	608.7	70.8

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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