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MAINSTREAMING MARINE PROTECTED AREAS IN THE INSULAR CARIBBEAN

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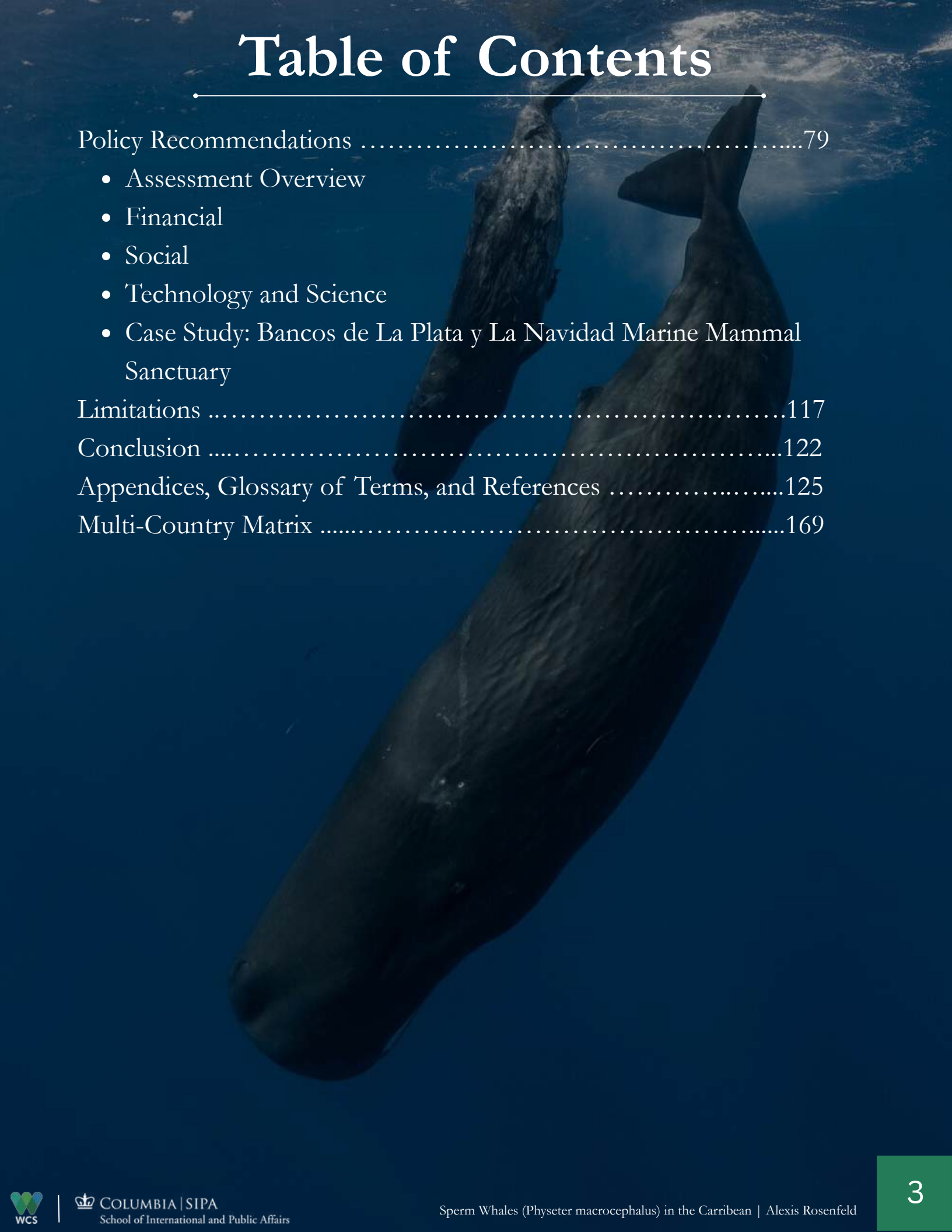
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Fishermen in Samaná Bay, Dominican Republic part of the Caribbean Marine
Biodiversity Program | The Nature Conservancy

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Limitations Note

The authors of this report acknowledge that we encountered limitations during the research, analysis, and creation of our policy recommendations. Limitations, such as data accessibility, information reliability, and limited access to stakeholder input from Cuba, Haiti, the Dominican Republic, and Jamaica, were difficult to avoid. Despite these limitations, we researched extensively for the most reliable and up-to-date sources to present well-informed and accurate information. Through diligent work, our report highlights powerful examples of regional success in the Insular Caribbean and recommendations to strengthen Marine Protected Areas (MPAs) under the guidance of the Caribbean Biological Corridor (CBC).



Acknowledgments

This report, overseen by our Faculty Advisor Shannon Doherty, was developed by the following team members for the Master of Public Administration in Environmental Science and Policy (MPA-ESP) at Columbia University's School of International and Public Affairs (SIPA) in collaboration with our client, the Wildlife Conservation Society (WCS):

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Executive Summary

This report presents our research involving methodology to assess conservation policies and ecosystem protections across the CBC target countries, Cuba, Haiti, the Dominican Republic, and Jamaica. Our analysis maps out 51 variables into a multi-country matrix to highlight key trends, gaps and opportunities in the CBC nations. The multi-country matrix shows that the Insular Caribbean's marine protection efforts remain uneven and under-resourced.

The Dominican Republic has made the most progress, reaching 30% protection with the Beata Ridge Sanctuary marine protected area (MPA) and co-managed parks. This includes the region's first transboundary MPA along the Beata Ridge, representing a significant step in collaborative conservation. Following this country, Cuba protects the region through long-running mangrove and marine reserve projects that cover 4% of its waters. Haiti and Jamaica trail farther behind because of weak enforcement in managing MPAs, fragmented funding and—in Haiti's case—frequent natural disasters that divert scarce public resources. It has been identified that across the corridor, mangroves receive the highest relative protection, and fully protected “no-take” (no fishing) zones have to be increased to allow fish population recovery.

Across the region, shared stressors, such as overfishing, pollution, and sea-level rise, pose challenges to ecosystems, while gender-responsive measures and stable finance streams are largely missing from national MPA frameworks. In this context, one of the main issues is the lack of multilateral aid, where only 1–2 percent of funding streams goes to Greater Antilles regional projects. This funding gap persists despite active participation by all countries in international frameworks such as the Convention on Biological Diversity (CBD) and the Sustainable Development Goals (SDGs)

On the other hand, all nations share co-management approaches (between local government agencies, private organizations and nonprofits) and community-based programs. In addition to looking to increase sustainable practices in fisheries and tourism, since both activities constitute a significant part of the local economy. They are also engaged with initiatives that aim to increase the protection, education and scientific information related to the marine environment. One example of this is the CoralCarib initiative, which applies a strategic approach to identify and prioritize climate refugia areas for implementation of conservation efforts. This initiative works across Cuba, Haiti, Jamaica, and the Dominican Republic to protect over 1,800 hectares of coral reef ecosystems using localized climate modeling and stakeholder input. Considering the success cases, learning from existing partnerships and databases will help to effectively implement new policies and programs.

However, the countries under study have governance, economic and social limitations that could increase the difficulty to enforce, manage and implement the policies, as well as to obtain public and reliable information. In particular, their vulnerability to extreme weather events combined with inadequate infrastructure heightens disaster risk, diverts resources from conservation efforts, and undermines long-term environmental planning capabilities.

Key Findings

- 1 The Dominican Republic shows the highest marine protected area (MPA) coverage and innovation, including co-management models and blended finance. Cuba, Haiti and Jamaica trail behind, with fragmented governance and weak enforcement capacity.
- 2 All four countries face stressors such as unsustainable fishing, pollution, weak institutional capacity, and climate-related risks of coral degradation and sea-level rise.
- 3 There is an inconsistent integration of gender across MPA policies and management plans, lack of financing pathways for long-term MPA implementation, and the disconnect between high-level policy commitments and local enforcement or outcomes.
- 4 Across the region, the nations share co-management approaches, community-based programs, and look to increase sustainable practices in fisheries and tourism organizations.
- 5 Urgent action is needed to combat rising sea levels and ecosystem degradation, particularly in Haiti and the Dominican Republic.
- 6 All countries have submitted NDCs and NBSAPs, but marine-specific commitments vary in effectiveness. Some, like Cuba's gender-responsive fisheries plans, offer models for replication.
- 7 Alignment with frameworks like the GBF, UNCLOS, and CBD presents an opportunity for greater cooperation, but legal enforcement and financing remain as obstacles.

Together, these recommendations will help transform fragmented efforts into a cohesive, well-resourced network of MPAs—positioning the Insular Caribbean not only to meet its 30×30 commitments by 2030, but also safeguard its marine ecosystems for generations to come.

Policy Recommendations

Based on the considerations outlined above, we present the following policy recommendations

- 1 Incorporate gender-responsive planning in MPA design and monitoring
- 2 Inclusion of MPAs in the National Food Security Program
- 3 Develop educational MPA outreach programs through partnerships between national environmental agencies, MPA managers, and local NGOs
- 4 Create a regional finance readiness strategy
- 5 Establish an immediate regional task force under the Caribbean Biodiversity Fund (CBF)
- 6 Develop and/or strengthen research partnerships with academic institutions
- 7 Enhance enforcement and management of MPAs through establishing community-based marine patrols with collaborative management approach
- 8 Create a regionally recognized MPA data reporting standard under the leadership of the CBC
- 9 Establish Transboundary Marine Conservation Corridors

Introduction

THE INSULAR CARIBBEAN: REGIONAL CHALLENGES

The **Insular Caribbean** is a geographical region composed of more than 7,000 islands of various sizes (CBC, 2022). With a total land area of approximately 230,000 km², it is globally recognized as a "**biodiversity hotspot**" (CBC, 2022). A hotspot refers to an area with high levels of biodiversity, including endemic species, that are experiencing serious threats (Defenders of Wildlife, 2023). Despite covering only 0.15% of the planet's surface, the Antilles, comprising the Greater Antilles and the Lesser Antilles, exhibits one of the highest richness and endemism rates in the world (CBC, 2022). The region is home to more than 12,500 species of which 70% are found only in the Caribbean (CBC, 2022). The Caribbean Sea itself, made up of only 0.8% of the global ocean, has a 26% endemism rate among its best-studied marine taxa (CBC, 2022). Connectivity among islands is facilitated by the migratory cycles of millions of birds, fish, turtles, and marine mammals, and the dispersion and exchange of seeds and larvae driven by marine currents and winds (CBC, 2022).

BACKGROUND ON SHARED REGIONAL CHALLENGES

Dependence on Marine Ecosystems

The Greater Antilles, the islands that form the territories of Cuba, Haiti, Jamaica, Puerto Rico, and the Dominican Republic, cover a combined area of 207,411 km². It is nearly 90% of the landmass of the entire insular Caribbean (CBF, 2023). This island group encompasses more than 90% of the insular Caribbean's population and biodiversity (CBF, 2023). Communities across the region heavily depend on the marine and coastal ecosystems for their livelihoods. They provide essential ecosystem services, such as contributions to eco-tourism, fisheries, coastal protection and food security.



Bleached Elkhorn and Staghorn corals in Negril, Jamaica | Sabine Bolenius

Pressures on Marine Ecosystems

However, these ecosystems and the communities that rely on them face significant challenges from the cumulative impacts of threats (SCBC, 2024). Key threats include unsustainable fishing practices, pollution from both land and marine sources, unsustainable coastal development, habitat destruction and fragmentation due to agriculture, urban development, and increasingly, climate change (SCBC, 2024). Socioeconomic root causes, such as poverty, exacerbate the situation by restricting livelihood alternatives and promoting unsustainable practices. Furthermore, effective conservation measures in the region are often hindered by insufficient area-based protection, particularly in marine areas, limited financial and technical constraints, knowledge gaps regarding biodiversity and connectivity, and inadequate regulatory oversight and enforcement capacity. Addressing these interconnected ecological and socioeconomic factors is crucial for conserving the rich biodiversity and supporting the communities of the insular Caribbean (CEPF, 2020).

Project Objective

Develop
detailed policy
recommendations
that answer this
key question:

How can WCS and CBC strengthen marine conservation efforts through mainstreaming Marine Protected Areas (MPAs) and promote connectivity in CBC countries to help protect 30 percent of the world's oceans and land by the year 2030?



Project Overview

MAINSTREAMING MPAS AT THE REGIONAL LEVEL

For the purposes of this project and report, the CBC target countries are Cuba, Haiti, the Dominican Republic, and Jamaica. They are key islands located within the Greater Antilles of the Insular Caribbean. These nations exhibit regional challenges due to the interconnectedness of their ecosystems and migratory patterns of species (CBC, 2022). Therefore, our recommendations on mainstreaming marine conservation are through the lens of regional collaboration, so that the implementation of shared solutions provides long-term shared benefits that livelihoods depend on.

KUNMING-MONTREAL GLOBAL BIODIVERSITY FRAMEWORK 30 x 30 TARGETS

Target 3: Conserve 30% of Land, Waters and Sea

Marine resources are interconnected with almost every aspect of development in the Insular Caribbean. Heavy dependence can put intense pressures on marine and coastal ecosystems causing a variety of issues (Heilman, 2007). However, under the Convention on Biological Diversity's (CBD) [Kunming-Montreal Global Biodiversity Framework \(GBF\)](#), Target 3 was established in order to protect these vital ecosystems.



Coral restoration project at the Grupo Puntacana Fundación, Dominican Republic | Grupo Puntacana Fundación

Also known as the 30x30 Target, this initiative aims to conserve 30% of terrestrial, inland water, coastal and marine areas by 2030 (Convention on Biological Diversity, n.d.).

Countries who commit to this goal must figure out how to conserve and manage these areas through expanding their [Marine Protected Areas \(MPAs\)](#) and effective conservation measures.

Marine Protected Area (MPA) Shortfalls

In the Greater Antilles, Cuba, Haiti, the Dominican Republic, and Jamaica have committed to working to protect their land and sea under the GBF framework. Through their commitments, they have made progress, but many MPAs in the Caribbean are coastal and small. Based on our research, most countries are falling short of the 30% target for their Exclusive Economic Zones due to financial constraints, lack of tracking and monitoring technology, and missed opportunities for MPAs in key policies. Achieving the 30x30 goal poses significant challenges, especially for many small island nations.

Client Overview



**Wildlife
Conservation
Society**



**CORREDOR
BIOLÓGICO
EN EL CARIBE**

Wildlife Conservation Society (WCS) and Caribbean Biological Corridor (CBC)

Our client, the Wildlife Conservation Society (WCS), has been working with countries in the region with the mission of protecting wildlife and wild places through science, conservation action, education, and spreading awareness on the value of nature (Wildlife Conservation Society, n.d.). They are working in collaboration with the Caribbean Biological Corridor (CBC), an intergovernmental platform, in an effort to conserve biodiversity and the ecological integrity and connectivity of key marine ecosystems in the Insular Caribbean. Achieving the 30x30 goal for these countries will require financial support, community engagement, innovative technology and monitoring systems, and specific knowledge and expertise.

The main instrument used by WCS and CBC to achieve this goal is through CBC's Strategic Plan towards 2030. This plan establishes priorities and programs to ensure that at least 30% of marine areas are under effective and resilient conservation management (CBC, 2022). Conserving marine biodiversity at this scale demands multinational planning and regional cooperation.

A photograph of a pod of dolphins swimming in deep blue water. The dolphins are sleek, greyish-blue animals with long, pointed snouts and curved dorsal fins. They are arranged in a loose, diagonal line across the frame, moving from the upper left towards the lower right. The water is a deep, clear blue, and there are some small white specks, possibly air bubbles or sand, visible near the dolphins' tails. The overall mood is serene and majestic.

Country Profiles

Country Profiles

This section outlines the current status of marine conservation efforts by country (Cuba, Haiti, Dominican Republic, and Haiti), with a specific focus on the progress of each country's 30x30 targets. Each country will have an overview of each country's marine protected areas (MPAs), their coverage in relation to their **Exclusive Economic Zone (EEZ)**, and key marine conservation management initiatives. Additionally, certain aspects like the country's designation systems, coverage of blue carbon ecosystems, ecosystem services provided by coastal-marine ecosystems, existence of blended models for MPA management, and the diverse marine species of Caribbean waters.

Current MPA Progress per country

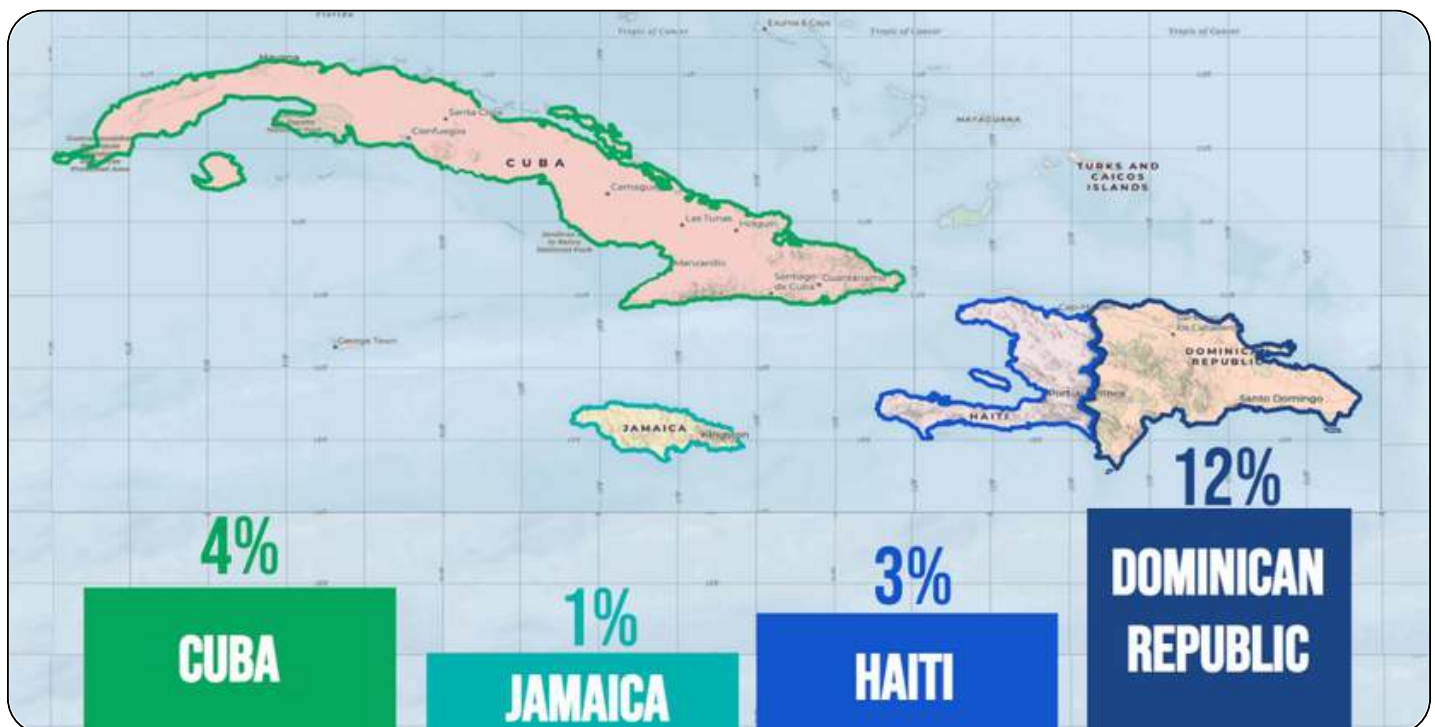


Figure 1: Graphic representation of the progression of the four Greater Antilles countries' toward their 30 x 30 goals | Amanda Biscoe

Country Profile: *Cuba*



30 x 30 Program Progress

As of December 2022, Cuba has designated approximately 4.02% of its Exclusive Economic Zone (EEZ) as Marine Protected Areas (MPAs) (Skytruth Organization, 2024). *Figure 2* reflects Cuba's commitment to marine conservation, aligning with international targets such as Aichi Target 11 of the Convention on Biological Diversity, which aims for the protection of at least 10% of a country's EEZ. While Cuba has made significant strides in establishing MPAs, the current coverage is below the 10% benchmark. The Jardines de la Reina (Gardens of the Queen) National Park, encompassing 2,170 km², is one of the largest MPAs in Cuba, safeguarding diverse marine ecosystems.

The MPAs encompass approximately 30 percent of coral reefs, 24 percent of seagrass beds, and 35 percent of mangrove forests found in the country's territorial waters. Cuba's MPAs host some of the region's healthiest coral reefs, highly diverse fish assemblages, and charismatic mega-fauna such as sharks, manatees, cetaceans, and sea turtles.

Marine Conservation Management

The management of marine protected areas in Cuba is primarily conducted by governmental agencies and programs, such as the National System of Protected Areas (SNAP).



Fundación Grupo Puntacana's Coral Reef Restoration Project

Established in partnership with Counterpart International and the University of Miami (one of the first in the DR) | Fundación Grupo Puntacana

64

Established MPAs

4%

Current MPA Coverage

14,903 KM²

Total km² of MPAs

Country Profile: *Cuba*

However, there are some co-management efforts between community-led projects and nongovernmental organizations (NGOs). Under SNAP, SOS Pesca was developed to give Cuban fisheries an opportunity to participate in planning and managing fisheries and marine areas (Environmental Defense Fund). The main focus of this project is a collaborative effort between local fishermen, their families, protected area officials, and the government to develop sustainable fisheries. To support these efforts, the Environmental Defense Fund (EDF) worked with communities, scientists, and resource managers to establish marine protected areas through new marine reserves and co-management systems. The combined co-management strategies of well-designed MPAs and strengthened fishery management systems have motivated fishermen to better protect and sustain fish populations (Sailors for the Sea, 2025).

Jardines de la Reina National Park was established in 1996 as an MPA site. With a host of diverse plant and animal species, including mangroves, seagrass meadows, coral reefs, Caribbean reef sharks and more, the park protects around 2,170 km² of land and ocean (Wildlife Conservation Society, n.d.). The parks management and compliance in the MPA works due to the development of stewardship, sustainable financing plans and public-private partnerships.

Some of the organizations include a diving and sports fishing organization, Avalon Cuba Diving Centers, park management of the National Body for Protection of Flora and Fauna, and fishing inspectors from the Ministry of Fisheries (Global Conservation, n.d.). This is a critically important MPA because this park protects critical habitats from destructive fishing or human practice and the critically endangered species that rely on its sustained preservation.

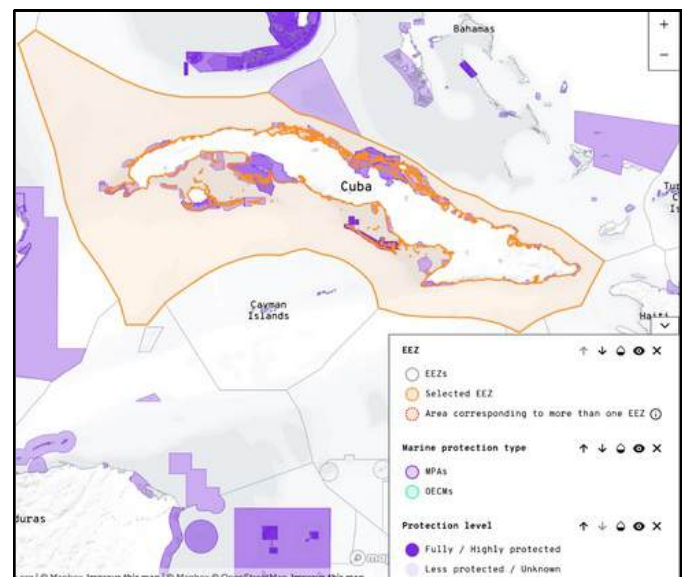


Figure 2: Cuba MPAs map: fully protected and less protected areas along with the country's Exclusive Economic Zone (EEZ) (SkyTruth Org. 30x30 Progress Tracker)

Country Profile: *Cuba*

Category	Description
% Coverage of MPAs	4.0% (SkyTruth Organization, 2024)
Total km2 of MPAs	14,903 km2 (Protected Planet, 2025)
Location of MPAs	As of 2021, Cuba has legally approved 64 marine protected areas (MPAs). The most important are (Valderrama et al., 2018): • Jardines de la Reina National Park • Guanahacabibes National Park • Bay of Buena Vista Biosphere Reserve • Ciénaga de Zapata Biosphere Reserve • Cuchillas del Toa Biosphere Reserve • Península de Hicacos Ecological Reserve
Co-Management	• SOS Pesca Project • Environmental Defense Fund
Designation System(s)	• The Convention on Wetlands of International importance (Ramsar Convention). • Of the six Biosphere Reserves declared in Cuba, five include marine or coastal areas: Ciénaga de Zapata, Cuchillas del Toa, Península de Guanahacabibes, Baconao, and Buenavista. • Two of the World Natural Heritage Sites declared in Cuba by UNESCO have marine components: Alejandro de Humboldt National Park, Desembarco del Granma National Park.
Blue Carbon Ecosystem Coverage	• <i>Coastal mangroves</i>: 5,967 km2 • Cuba's seagrass meadows cover approximately 17,000 km² and rank second in seagrass coverage in the Caribbean (33% of the region's total) • <i>Coral reefs</i>: about 25,000 km2 of coastal waters
Marine Species Report	Green Turtle – <i>Chelonia mydas</i> • Caribbean Reef Shark – <i>Carcharhinus perezi</i> • West Indian Manatee – <i>Trichechus manatus manatus</i> • Whale Shark – <i>Rhincodon typus</i>
Ecosystem Services	• Commercial fishing • Timber & fuel wood (Mangroves) • Alternate building materials (coral reefs) • Coastal Protection
Blended Models (YES or NO)	YES; Example: Jardines de la Reina
Other Relevant Information	Additional organizations working with Cuba: • The Nature Conservancy • Global Conservation • National Oceanic and Atmospheric Administration (NOAA)

Country Profile: *Haiti*

30 x 30 Program Progress

Haiti has designated 20 Marine Protected Areas (MPAs), including 14 terrestrial, 1 marine, and 5 coastal. However, the total marine coverage of MPAs in its Exclusive Economic Zone (EEZ) is still limited, with only 2.8% of its EEZ and 1,763 square kilometers covered, which only take place as a very small portion of the northern coast of Haiti's southwest corner that demonstrates that there is still considerable development space and potential to achieve the 30 x 30 target (SkyTruth Organization, 2024).

Marine Conservation Management

Haiti's marine conservation management is based on the Decree on the management of the environment and the regulation of the conduct of citizens for sustainable development established in 2006 (ELI Ocean, 2018).

20

Established MPAs

2.8%

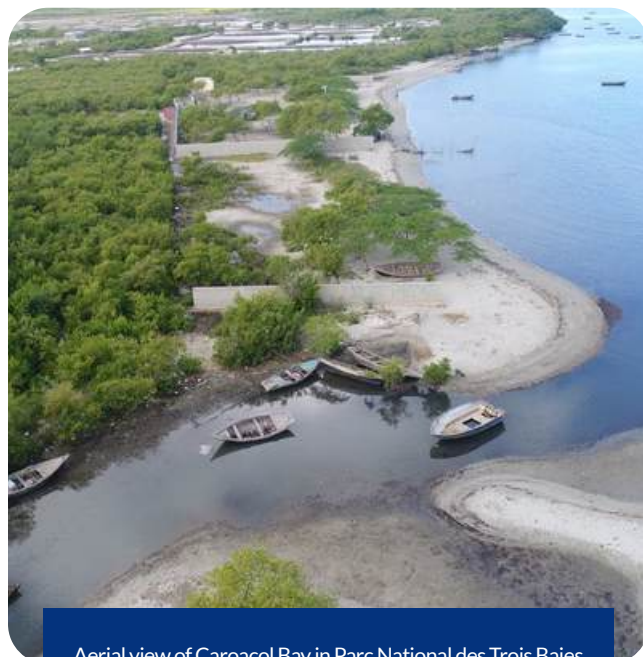
Current MPA Coverage

3719 KM²

Total km² of MPAs



This Decree sets the main legal authority for the creation of marine protected areas in Haiti. The National Agency of Protected Areas under the Ministry of Environment manages the National Protected Area System under this legal authority. The fisheries activities fall under the administration of a parallel agency called the Fisheries Service under the Ministry of Environment under the 1978 Fisheries Decree (ELI Ocean, 2018).



Aerial view of Caracol Bay in Parc National des Trois Baies
| Facebook: Eric Aguste

Country Profile: *Haiti*

This agency determines refuge zones, areas for fish species, and reserved areas, while dictating measures for the maintenance of development of marine flora and fauna. Under its regulation, all fishing activities in Haitian waters require administrative approval, and fishing in a protected area is considered a felony. Despite the government administration, Haiti also cooperates with international organizations to establish projects around financial assistance, enforcement, and evaluations regarding the National Protected Areas.

The [United Nations Development Program](#) (No.00070685) is an example of this kind that focuses on laying the institutional bases for achieving financial sustainability in the National Protected Areas, which provides analysis from current situations to potential plans for generating economic benefits through sustainable usage of marine ecosystem services (UNDP, n.d.).

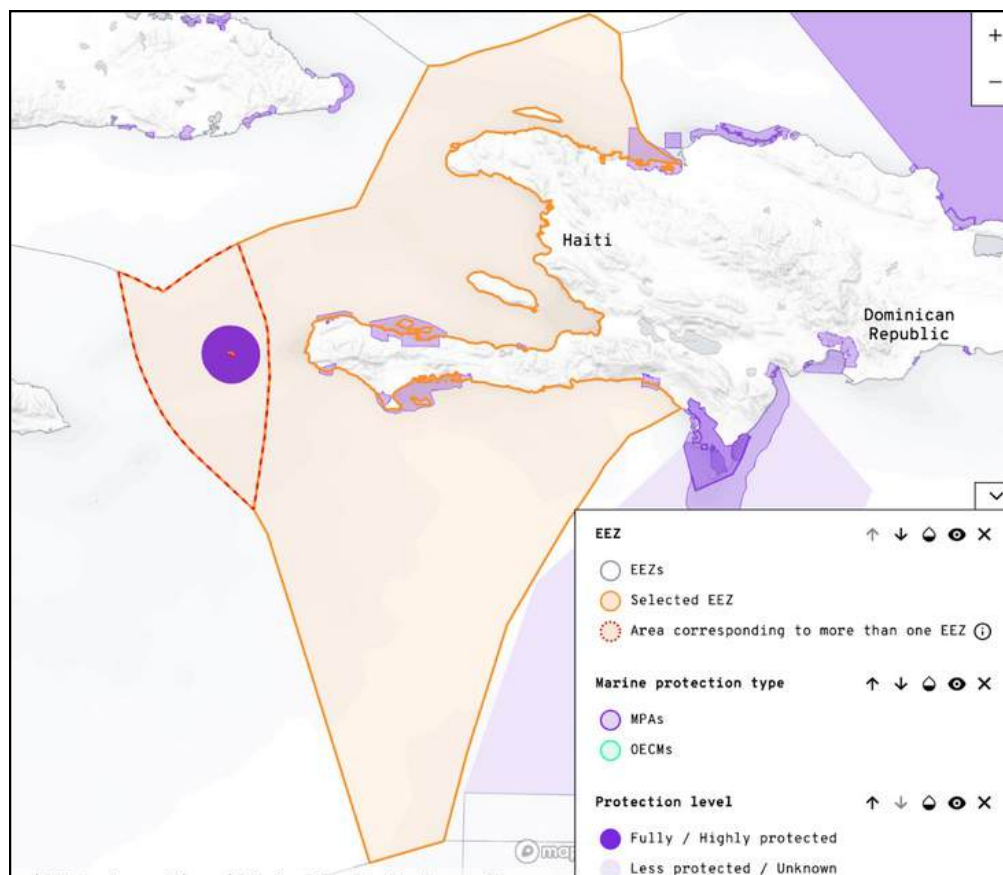


Figure 3: Haiti MPAs map: fully protected and less protected areas along with the country's Exclusive Economic Zone (EEZ) (SkyTruth Org. 30x30 Progress Tracker)

Country Profile: *Haiti*

Category	Description
% Coverage of MPAs	2.8% (SkyTruth Organization, 2024)
Total km ² of MPAs	3719 km ² (CIA, 2025)
Location of MPAs	- Marine protected areas are only located along the southwestern coastline near Jérémie (DOPA, n.d.) - Have a total of 11 Marine Protected Areas (UNEP, n.d.) - Example: Three Bays National Park, the Port Salut/Aquin Protected Area (UNEP, n.d.)
Co-Management	- FoProBim - Local leading NGO (FoProBim) - The Ministry of the Environment - National Protected Areas Agency (ANAP) - The Nature Conservancy (TNC) - Wildlife Conservation Society (WCS) - International Coral Reef Initiative (ICRI) - Professional Association of Diving Instructors
Designation System(s)	- Decree on the management of the environment and the regulation of the conduct of citizens for a sustainable development (2006) (ELI Ocean, 2018) - The Fisheries Decree (1978) (ELI Ocean, 2018) - Inter-Communal By-Law Concerning the Management of Fishery Resources in the Protected Area of Natural Resources Managed in the Three Bays of Limonade, Caracol, Terrier Rouge, Ft. Liberté and Ferrier (2018) (ELI Ocean, 2018)
Blue Carbon Ecosystem Coverage	- Mangroves: 205.17 km² - Coral Reefs: 304.09 km² (Biopama, 2013)
Marine Species Report	Marine Mammals: - West Indian Manatee (<i>Trichechus manatus</i>) Reptiles: - Hawksbill Turtle (<i>Eretmochelys imbricata</i>) Fish: - Nassau Grouper (<i>Epinephelus striatus</i>) - American Eel (<i>Anguilla rostrata</i>) - Oceanic Whitetip Shark (<i>Carcharhinus longimanus</i>) Corals: - Elkhorn Coral (<i>Acropora palmata</i>) - Staghorn Coral (<i>Acropora cervicornis</i>)
Ecosystem Services	- Mangroves & Mangrove restoration - Coral Reefs - Nearshore Aquatic Habitat - Beach & Beach near Dwelling - Coastal & Riparian Forest - Freshwater Stream - Freshwater Herbaceous Swamp - Grassland/pasture (Biopama, 2013)
Blended Models (YES or NO)	YES; Example: Three Bays National Park
Other Relevant Information	Additional organizations working with Cuba to protect marine ecosystems: - Haiti Ocean Project - KOOPA-3B & KOOPEK-3B

Country Profile:

Dominican Republic



30 x 30 Program Progress

In 2024, the Dominican Republic committed to protecting 30% of its waters, including “a critical trans-boundary MPA – the first in the Caribbean - straddling the Colombian boundary on the Beata Ridge seamount” (Laidlaw et al., 2024). The Dominican Republic announced its commitment to reach 30.8% of marine protected areas by 2030 (Laidlaw, 2024). They are in Phase 3 of this plan.



Fundación Grupo Puntacana's Coral Reef Restoration Project

Established in partnership with Counterpart International and the University of Miami (one of the first in the DR) | Fundación Grupo Puntacana

Marine Conservation Management

Marine Conservation Management

The Dominican Republic implements a comprehensive approach to marine conservation management through its National System of Protected Areas (SINAP) and IUCN-protected designations. The Ministry of Environment and Natural Resources serves as the primary governing body, though many protected areas operate under co-management arrangements with local foundations and organizations. Notable examples include National Park "La Caleta," which is co-managed with the Reef Check Foundation, and National Park "los Haitises," jointly overseen by the Ministry and the Karso Los Haitises Foundation. The country has established significant marine sanctuaries, including the North Marine Sanctuary and Southeast Reef Marine Sanctuary, both under ministerial jurisdiction.

69

Established MPAs

12%

Current MPA Coverage

45,922.78 KM²

Total km² of MPAs

Country Profile:

Dominican Republic

Management efforts have resulted in protection of approximately 13.3% of marine areas (according to UNEP-WCMC, 2025), covering 45,922.78 km² of vital marine habitat.

The Dominican Republic is also exploring innovative conservation financing mechanisms, with an 8,000 km² MPA already being managed through a Blue finance Public-Private Partnership. As part of its commitment to the 30x30 initiative, the country has pledged to increase marine protected coverage to 30.8% by 2030, including the establishment of the Caribbean's first trans-boundary MPA along the Beata Ridge seamount at the Colombian boundary.

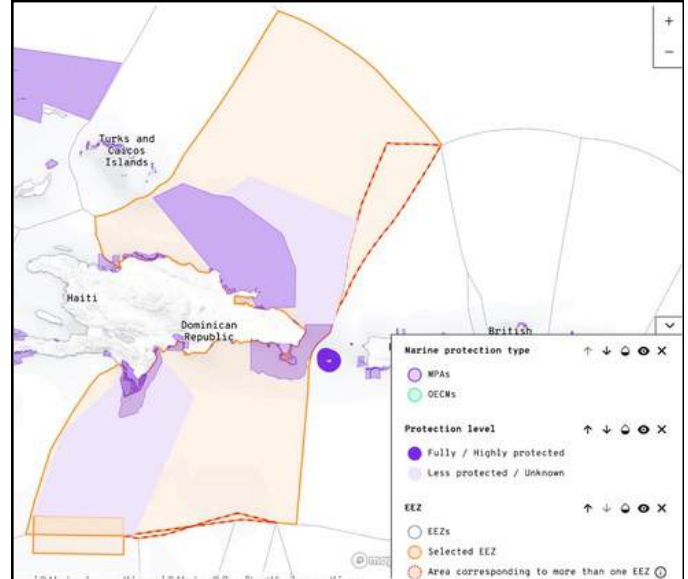


Figure 4: Dominican Republic MPAs map: fully protected and less protected areas along with the country's Exclusive Economic Zone (EEZ) (SkyTruth Org. 30x30 Progres Tracker)

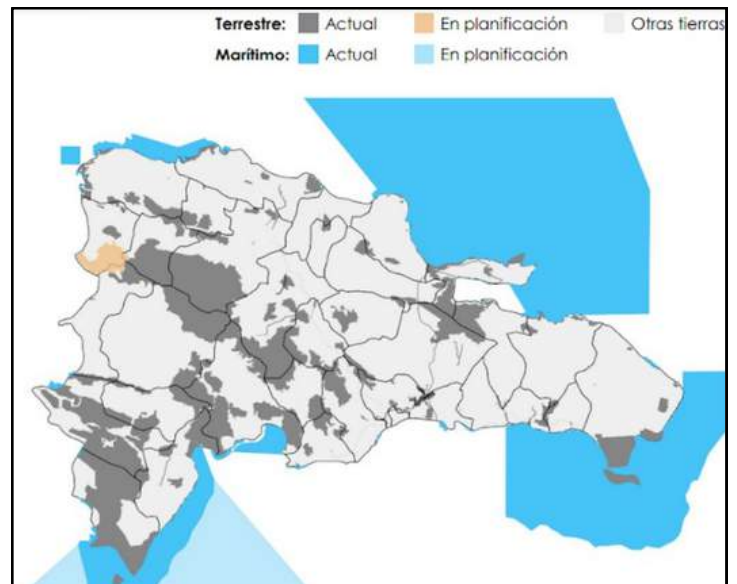


Figure 5: Current (blue) and future (light blue) of marine protected areas (Ministry of Environment and Natural Resources, 2024)

Country Profile:

Dominican Republic

Category	Description
% Coverage of MPAs	12% ((SkyTruth Organization, 2024)
Total km2 of MPAs	45,922.78 km2 (Dominicana Online, n.d.)
Location of MPAs	The MPAs are identified in the map below. The most important ones are: • Santuario de Mamíferos Marinos Banco de la Plata y la Navidad • Parque Nacional Submarino La Caleta • Parque Nacional del Este • Santuario Marino Arrecifes del Sureste • Santuario Marino Orlando Jorge Mera, en la Dorsal Beata (Marine Conservation Institute, 2024).
Co-Management	• National Park “La Caleta” • National Park “Jaragua”(Natural Areas Director) • National Park “los Haitises” • Ministry of Environment and Natural Resources • Reef Check Foundation • Karso Los Haitises Foundation • North Marine Sanctuary • Southeast Reef Marine Sanctuary (Deb, 2021)
Designation System(s)	• IUCN-protected areas and the National System of Protected Areas (SINAP)
Blue Carbon Ecosystem Coverage	• <i>Coastal mangroves</i>:184.41 km² (Meyer-Arendt, Byrd, and Hamilton, 2013). • <i>Seagrass beds</i>: <i>Not enough information available</i> • <i>Coral reefs</i>:(Universidad Autónoma de Santo Domingo): 1660 km² (Geraldès, 2003).
Marine Species Report	Common Bottlenose Dolphins (<i>Tursiops truncatus</i>) • Green Sea Turtle (<i>Chelonia mydas</i>) • Sailfish (<i>Istiophorus platypterus</i>) • Manta Ray (<i>Mobula birostris</i>)
Ecosystem Services	• Timber & fuel wood (Mangroves) • Alternate building materials (coral reefs) • Coastal Protection • Nutrient Cycling
Blended Models (YES or NO)	YES: • Example: 8,000 km MPA managed by the Blue finance Public-Private Partnership (PPP) (Pascal et al., 2018).
Other Relevant Information	• Rules to co-manage natural resources dictated by the Ministry of Environment and Natural Resources (Ministry of Environment and Natural Resources, 2015) • English Efforts being put toward establishing blue credit programs in the DR (Ocean Risk Alliance, 2024)

Country Profile: *Jamaica*

30 x 30 Program Progress

There are currently 52 MPAs in Jamaica which represents less than one percent of its marine territory. The location of these MPA areas can be seen in *Figure 6*, with the Portland Bight Protected Area encompassing the biggest area. The total marine estate that includes the Exclusive Economic Zone and territories is approximately 272,297.0 km², which can be seen in *Figure 7*. There are 80.5 km² of Implemented Highly Protected Reserves. There are currently no unimplemented MPAs, Highly Protected Reserves, or Proposed MPAs. There is also one other Marine Managed Area in Jamaica called the Palisadoes Port Royal Ramsar Site. (Atlas of Marine Protection, 2025).

Marine Conservation Management

Jamaica's marine conservation management is based on the Decree on the management of the environment and the regulation of the conduct of citizens for sustainable development established in 2006 (ELI Ocean, 2018).

52

Established MPA's

1.2%

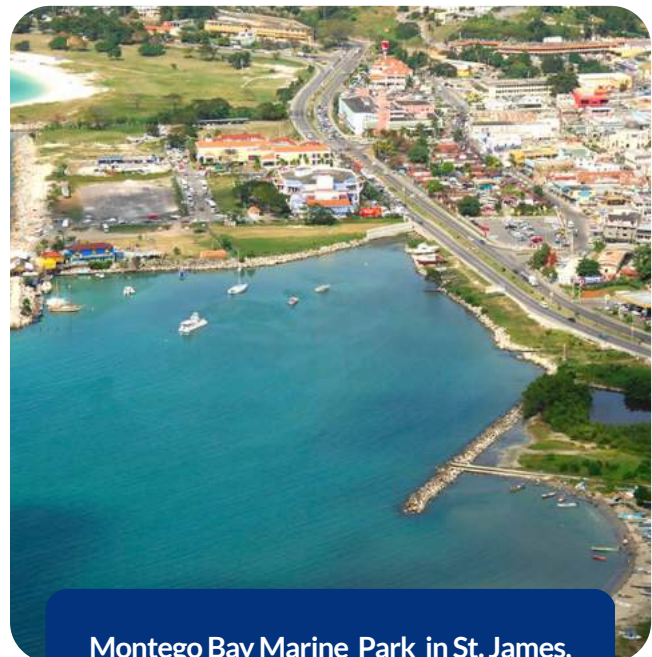
Current MPA
Coverage

1,912 km²

Total km² of MPAs



Jamaica's marine conservation management system operates through an intricate network of stakeholders and regulatory frameworks. The protected areas system is governed by 21 laws and 20 national policies, with oversight from four principal agencies: the National Environment and Planning Agency (NEPA), Fisheries Division, Forestry Department, and Jamaica National Heritage Trust. Financial sustainability is maintained through various mechanisms, including the Dollar-a-Day Initiative, equipment and infrastructure support, and the National Conservation Trust Fund of Jamaica.



Montego Bay Marine Park in St. James, Jamaica, is the country's first declared marine park and one of several designated MPAs in the country | Marinas.com

Country Profile: *Jamaica*

The regulatory framework is anchored by key legislation including the Natural Resources Conservation Authority Act, Fisheries Act (2018), Forest Act, Jamaica National Heritage Trust Act, and the Ballast Water Management Act 2019. Recent management strategies have focused on implementing 18 Special Fishery Conservation Areas (SFCAs) and expanding protected area coverage from 11% to 20%. The system emphasizes public-private partnerships and community involvement, particularly integrating local fishing communities in management decisions. However, despite these comprehensive management frameworks, the system continues to face challenges in achieving financial sustainability and effective biodiversity protection.



Figure 6: Jamaica MPAs map: fully protected and less protected areas along with the country's Exclusive Economic Zone (EEZ) (SkyTruth Org. 30x30 Progress Tracker)

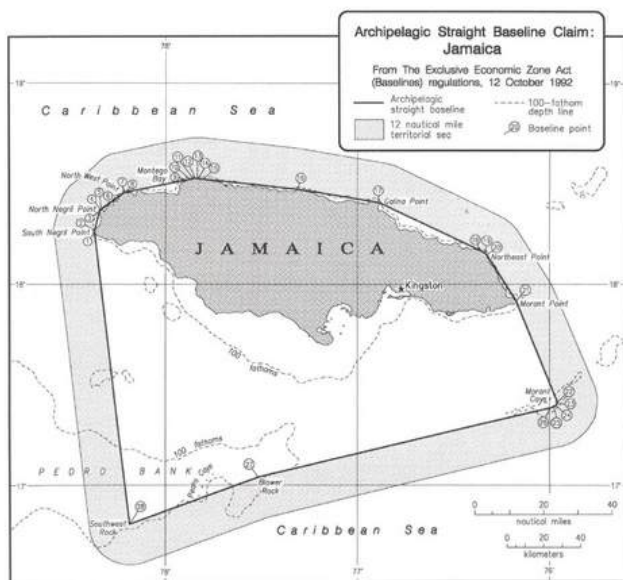


Figure 7: Map of Jamaica's Exclusive Economic Zones (USDS, 2004)

Country Profile: *Jamaica*

Category	Description
% Coverage of MPAs	1.2% ((SkyTruth Organization, 2024)
Total km2 of MPAs	1,912 km2 (MPAtlas Jamaica, 2025)
Location of MPAs	- The Montego Bay Marine Park and the Negril Environmental Protection Area - Located primarily around the coastline with notable areas including the Portland Bight Protected Area, Encompasses both marine and land environments and is the biggest MPA in Jamaica (United States Department of State, n.d.)
Co-Management	- Marine Police - Jamaica Defense Force Coast Guard - Fisheries Division - National Environment & Planning Agency (NEPA) - Natural Resources Conservation Authority - Montego Bay Marine Park Trust
Designation System(s)	- NRCA Act - Fisheries Act (2018) - Forest Act - Jamaica National Heritage Trust Act (1985)
Blue Carbon Ecosystem Coverage	- Coastal Mangroves: Represents 291 km or 30% of the 955 km of the coastline of Jamaica - Seagrass Beds: Could not find specific coverage data - Coral reefs: 1240 km2 (ICRI, 2024)
Marine Species Report	- Hawksbill Turtle (<i>Eretmochelys imbricata</i>) - Caribbean Reef Shark (<i>Carcharhinus perezii</i>) - Goliath Grouper (<i>Epinephelus itajara</i>) (NEPA, 2009)
Ecosystem Services	- Coral Reefs: Significant value to the Jamaican economy, including tourism, fisheries, and shoreline protection. - Coastal protection from storm surges - Fisheries support and fish nursery habitats - Tourism and recreation value - Carbon sequestration - Biodiversity maintenance - Shoreline stabilization (Cardillo et al., n.d.)
Blended Models (YES or NO)	YES; Example: The Jamaica Protected Areas Trust Limited (JPAT)
Other Relevant Information	- The Nature Conservancy helped establish Jamaica's first MPA, the Montego Bay Marine Park - Recent expansion of protected areas through the Caribbean Challenge Initiative - Implementation of new marine spatial planning initiatives - Development of sustainable financing mechanisms through tourism fees (Planning Institute of Jamaica, 2022)

A large sea turtle with a green and yellow patterned shell is resting on a vibrant coral reef. The reef is covered in various types of coral, including branching orange corals and a large, flat, light-colored coral in the foreground. The water is clear and blue. The title "Climate Refugia" is written in a large, white, serif font across the center of the image.

Climate Refugia

Climate Refugia

The Caribbean is confronting an accelerated warming and sea-level trend that outpaces global averages. Projections for the Greater Antilles point to hotter temperatures, erratic rainfall, and a sea that has already risen. These shifts threaten to erase coastal settlements, drain freshwater reserves, and fragment habitats that shelter one of the world's highest concentrations of endemic species.

Within this setting, the concept of climate refugia offers a strategic path forward. Refugia—areas where local oceanography, elevation, or vegetation blunt the most severe climate impacts—can serve as anchor points for both biodiversity and community resilience. Protecting and linking these areas can maintain genetic flow, buffer essential services like fisheries and freshwater, and secure the ecological foundation on which coastal economies depend as environmental pressures intensify through the century.

CLIMATE ASSESSMENT OF THE CARIBBEAN

The Greater Antilles are facing increasing climate-related challenges, with 21 coastal communities at risk of disappearance, and 98 more projected to be severely affected by floods and erosion by 2100 if no intervention is made (UNDP, 2025). To address these challenges, Cuba has taken actions to recover 11000+ ha of mangroves, 3000+ ha of swamp forest, and 900+ ha of grass swamp coastal as ecosystem restoration for a climate-resilient barrier (UNDP, 2025). However, Haiti and the Dominican Republic are in urgent need of implementing climate mitigation and conservation strategies (Mora, 2019).

According to climate predictions for the 2050s and 2080s, this region will undergo warmer temperatures and intensified variability of precipitation by the end of the 21st century, as demonstrated in *Figure 9*. This would cause disruption to water resources and agriculture from increasing extreme weather events (Herrera, 2020). These climatic changes will cause habitat loss, especially in tropical dry forests and mountainous ecosystems. Species distributions are also likely to change as a consequence of environmental pressures, which is a big challenge for conservation planning due to the large number of endemic species in the region (Anderson, 2008). In Haiti and the Dominican Republic, conservation corridors play a key role in maintaining ecological resilience since they offer an opportunity for species to migrate along with changing climate conditions. However, land degradation and resource exploitation, such as deforestation, severely threaten such natural pathways. Thus, it is essential to integrate climate predictions into water management policies, agricultural practices, and conservation area management (Anderson, 2008). Enhancing conservation strategies and implementing community-led strategies is also vital to reduce climate vulnerability, offset environmental degradation, and support local livelihoods (Brown, 2019).

Climate Refugia

CORAL REEF HABITAT DEGRADATION

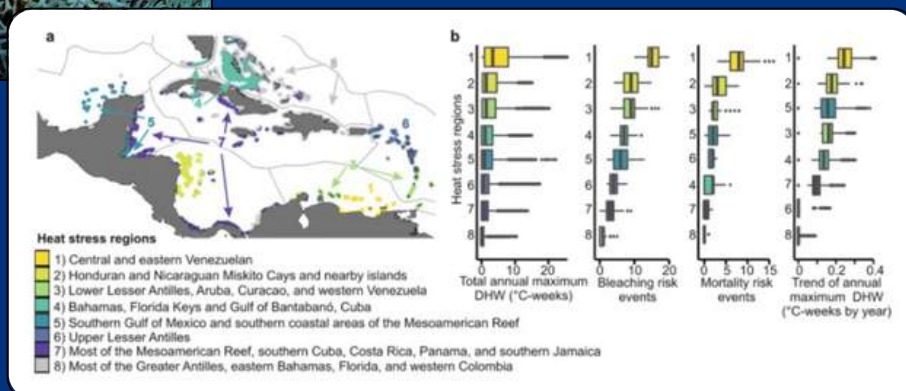
Coral reefs provide essential environmental services to human communities in the CBC. They are home to priority species and support [regional connectivity](#) (Caribbean Biological Corridor Secretariat, 2022). In the Caribbean, coral reefs have been greatly affected by ocean acidification, temperature increases, hurricanes, and other extreme weather events (Wilkinson, Clive, ed., 2008). Between 1997 and 2018, the global average percentage of coral cover was approximately 32%. However, projections indicate a global decline in coral cover of 5 to 15% by 2100, representing a relative global decline of more than 40% (Thirukanthan et al., 2023). Additionally, up to 14% of species may be in imminent danger of extinction under 1.5°C warming (Thirukanthan et al., 2023).

Local-scale variability in oceanographic conditions, such as depth, upwelling, currents, and water circulation, influence local-scale thermal stress patterns. [Heat stress regions](#) are categorized according to the temperature exposure that pose different levels of risk for the coral reefs (Muñiz-Castillo et al., 2019). [Reef-building corals](#) have declined by 50% since the 1970s. With the majority dominated by macroalgae, sponges, and/or non-reef-building invertebrates. Frequent damaging events will likely cause changes in community structure, such as a large loss of the *Acropora* coral species (Thirukanthan et al., 2023). A “white-band disease” (WBD) appeared on many reefs in the late 1970s and early 1980s, eventually killing over 80% of the populations of *Acropora palmata* and *Acropora cervicornis*. There are different hypotheses for endemic events, but the majority are connected to land-based pollution and anthropogenic ocean warming.



Figure 8 (left): Before & after depiction of a coral bleaching event in Haiti | Haiti Ocean Conservancy

Figure 9 (right): High heat stress regions for coral reefs in the Caribbean (Muñiz-Castillo et al., 2019)



Climate Refugia

THE RISKS OF RISING SEAS

A look at past warm geological periods could offer significant insights into the potential impacts of current temperature increases and sea-level rise in the CBC. According to the analysis of satellite observations, the CBC is experiencing a higher-than-average sea level rise, which is consistent with past warming models. From 1993 to 2019, [satellite altimetry](#) recorded the average rate of sea level rise near Cuba was 3.3 ± 0.4 mm/year, while the speed accelerated to 6.15 ± 0.5 mm/year after 2004 (Maitland, 2023). This trend reflects the observed changing pattern during past warm periods: sea-level rise driven by temperature originated initially by thermal expansion, and then gradually affected by glacial melting.

The transition of sea level rise dominated by thermal expansion (1993-2003) to ice-melt (2004-2019) reflects a similar change to the historical warm period (Maitland, 2024). The rate of Cuba and Hispaniola's sea level rise is already faster than the global average speed, which makes them highly vulnerable to be affected by coastal flooding. After 2004, the speed of sea level rise observed in the CBC was 6.15 ± 0.5 mm/year (shown in *figure 10*), which is 67% higher than the estimate data provided by the [Intergovernmental Panel on Climate Change \(IPCC\)](#), which exceed the global average dramatically higher (Maitland, 2024). This indicates that the localized oceanographic processes, such as thermal expansion, are intensifying climate change in the region (Maitland, 2024).

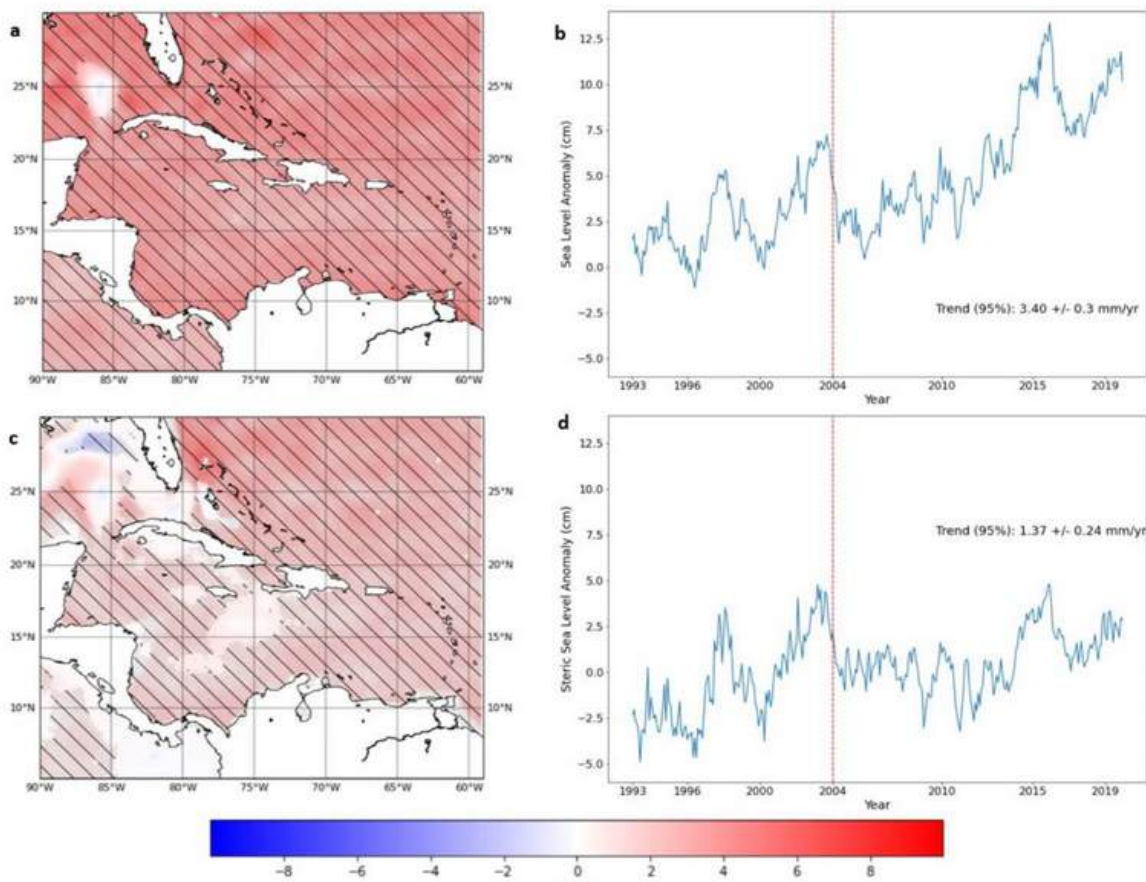


Figure 10: (a) Total steric trend map (b) Caribbean mean steric signal time series from 1993 to 2019, (c) Thermosteric sea-level trend map (d) Thermosteric sea-level time series. (Maitland, 2024)

Climate Refugia

CORAL CLIMATE REFUGIA

Coral **climate refugia** are coral reef habitats that are predicted to be more resilient to climate change and have a strong capacity to restore other nearby coral reefs with source populations able to replenish the rest of the reef (The Nature Conservancy, 2024). These refugia are characterized by their ability to provide long-term mitigation (several generations) of environmental changes that make the surrounding areas unsuitable.

Coral refugia are specific geographic locations that preserve favorable environmental conditions for corals, where the sea surface temperature is colder than the surrounding waters (Chaojiao et al., 2024). It is possible these were regions of frequent past thermal stress where surviving corals may have developed adaptation (Chaojiao et al., 2024). Corals under thermal stress escaping to refugia with cooler waters should not only be able to buffer temperatures, but also regional changes in stressors related to climate change like ocean acidity over decades or centuries (generation time for corals varies from about 4 to 40 years). (Kavousi et al., 2018).

CORAL PROTECTION

CoralCarib is a coral protection program implemented by a consortium of 6 partners: The Nature Conservancy -Caribbean Division-, Fundación Dominicana de Estudios Marinos (FUNDEMAR), Fundación Grupo Puntacana (FGPC), Alligator Head Foundation (AHF); Acuario Nacional de Cuba (ANC); Haiti Ocean Project (HOP); and Initiative for Environment and Integrated Development in Haiti (IEDIH) (International Climate Initiative, 2023).

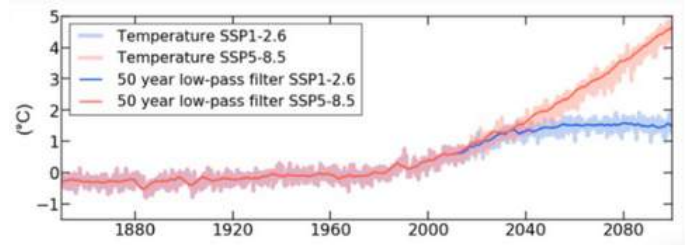


Figure 11: High-stress regions | Eakin et al., 2019

This program uses scientific modeling on historical and future temperatures, hurricane impacts, and connectivity between corals, as well as input from local stakeholders, to identify and prioritize “coral climate refugees” where CoralCarib activities will take place (The Nature Conservancy, 2024). It aims to improve marine biodiversity in 1,871 hectares of priority coral reef ecosystems in Cuba, the Dominican Republic, Haiti and Jamaica, and regionally through expansion. The project's direct interventions are expected to reduce threats to coral reef ecosystems, mobilize significant private and public funding for climate actions, support the development of new policies, and create innovative tools and knowledge products to support coral restoration at scale (The Nature Conservancy, 2024).

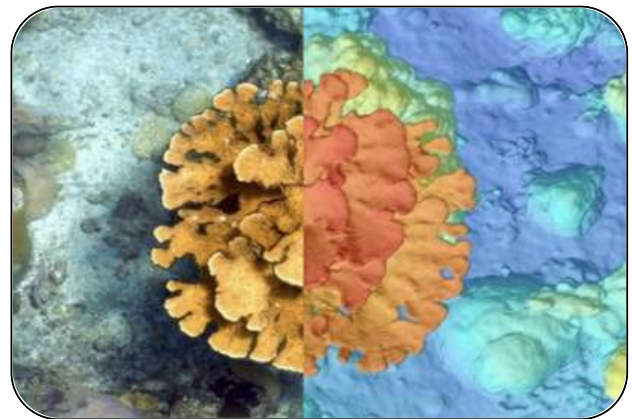


Figure 12: CoralCarib Coral Modeling (The Nature Conservancy, 2024)

A Pacific Golden Plover (Pluvialis fulva) is shown in profile, standing on a dark, moss-covered rock in shallow water. The bird has a mottled pattern of brown and white feathers, a dark beak, and long legs. The background is a blurred view of water and more rocks.

Gender Assessment

Gender Assessment

Incorporating gender perspectives into **National Biodiversity Strategies and Action Plans (NBSAPs)** is essential for achieving fair and effective conservation. This section examines how gender is addressed in biodiversity conservation strategies across the Greater Antilles, with a focus on NBSAPs and Marine Protected Area (MPA) management plans. While the Convention on Biological Diversity (CBD) urges countries to address gender equality, most Caribbean NBSAPs only mention gender in broad terms, with few concrete actions or data to guide implementation. This lack of focus limits both the participation of women and the overall success of biodiversity efforts. Our analysis highlights the progress and gaps regarding integrating gender equity, particularly in decision-making roles, data collection, and sustainable livelihood initiatives. To achieve the best conservation outcomes possible, strengthening the integration of gender-inclusive approaches allows all community members to benefit and leads to more resilient ecosystems.

NATIONAL BIODIVERSITY STRATEGIES

Gender is currently incorporated into biodiversity plans primarily through National Biodiversity Strategies and Action Plans (NBSAPs). These plans serve as frameworks for implementing the Convention on Biological Diversity (CBD), which is an international treaty adopted at the Earth Summit in Rio de Janeiro in 1992 to promote biodiversity goals (United Nations Environment Programme, 2017). The Caribbean is considered part of the CBD, as all countries in the region have ratified the treaty.

Figure 13 notes that 7% of countries consider gender equality as a primary objective or goal, which highlights the current lack of gender considerations within biodiversity conservation. There is also limited **gender-disaggregated data** within **National Biodiversity Strategies**, and 80 percent of the countries are not using sex-disaggregated data, which makes it difficult to measure the impact of biodiversity plans not only on women, but also other gender groups altogether (IUCN, 2017).

The Dominican Republic, Haiti, Cuba, and Jamaica have all mentioned gender within their NBSAP documents. While gender is mentioned in all four NBSAPs, most references are broad. There is a lack of detailed implementation strategies, monitoring frameworks, or measurable gender-related biodiversity strategies. Jamaica explicitly recognizes that the gender disparities in biodiversity access are not fully understood which relates to the lack of gender-disaggregated data across many countries. Haiti and Cuba recognize women's contributions mainly in traditional or informal roles (IUCN, 2017) such as family medicine (Haiti Libre, 2025). There is little discussion on how to empower women in decision-making or leadership within biodiversity governance.

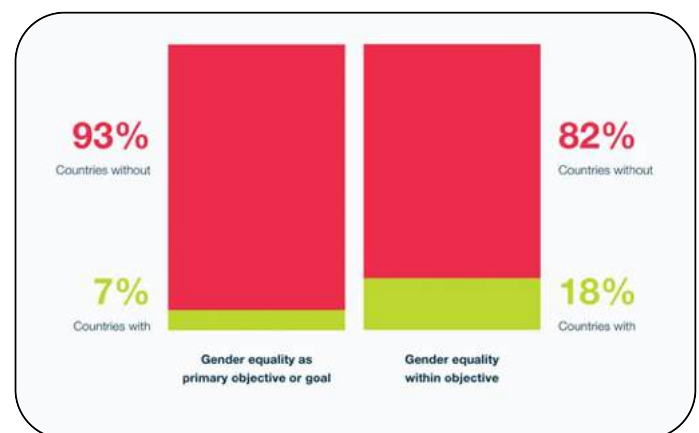


Figure 13: Analysis of women and gender equality considerations in National Biodiversity Strategies and Action Plans (NBSAPs) (B. Clabots and M. Gilligan, IUCN 2017)

Gender Assessment

MPA MANAGEMENT PLANS

According to the International Union for Conservation of Nature (IUCN), **MPA management plans** are "comprehensive frameworks that guide the design, implementation, and evaluation of conservation strategies within marine protected areas to achieve ecological sustainability and equitable resource use" (IUCN, 2017). They are essential tools for addressing threats such as overfishing, habitat destruction, and climate change impacts while promoting community participation in decision-making processes.

GENDER INTEGRATION IN MPAS IN THE CARIBBEAN

Cuba's coastal zone MPAs incorporate gender considerations through initiatives like the **Gender Action Plan** for fisheries. This plan promotes equitable resource access and leadership opportunities for women fishers, fish processors, and vendors. Additionally, women are actively involved in monitoring marine ecosystems and coastal wetlands (Environmental Defense Fund, 2021).

Jamaica, Haiti, and the Dominican Republic each make general references to gender integration within their MPA management plans, though these mentions lack specificity. Solutions for Gender Equity in MPA Management include **gender-responsive policies**, leadership and mentorship programs, and disaggregated data collection. Cuba has implemented a Gender Action Plan as part of its fisheries management strategy. This plan focuses on equitable resource access and leadership opportunities for women fishers, processors, and vendors (Environmental Defense Fund, 2021).

In Belize's Barrier Reef Reserve System women are actively involved in stakeholder consultations and co-management agreements allowing them to contribute to decisions about marine conservation and sustainable tourism policies, ensuring their perspectives are included (UNESCO World Heritage Centre, 2025). Grenada's Sandy Island/Oyster Bed Marine Protected Area (SIOBMPA) collects data on resource use patterns, which helps shape targeted policies that address the unique needs of men and women (The Nature Conservancy, 2007). The Bahamas' Exuma Cays Land and Sea Park- gathers gender-specific data to understand how conservation efforts impact local communities differently, ensuring both men and women benefit fairly from these activities (Marine Conservation Institute, 2025).

Livelihood initiatives are commonly implemented within Marine Protected Areas (MPAs) that aim for poverty alleviation or higher income opportunities. It is important to consider gender when implementing sustainable livelihood models within MPAs because different genders have different needs and require access to different resources and services (Pike et al. 2024).

There is also a general underrepresentation of women in decision-making, as women are rarely included in MPA governance, policy development, and planning processes. Institutional barriers make it extremely difficult for women to access leadership roles within MPA management. The use of 'neutral-gendered' categories to refer to resource users, such as stakeholders", "users", and "fishers" obscures the different roles and contributions of men and women in marine economies (Anariba et al. 2024).

Gender Assessment

NEED FOR GENDER-INCLUSIVE CONSERVATION APPROACHES

There is a considerable lack of consideration of gender within the sustainable livelihood models within MPAs. Haiti and Cuba have made some progress through gender awareness training within the Three Bays MPA and leadership development for women in fisheries in the Gender in Fisheries Team in Cuba (Environmental Defense Fund, 2021). However, information remains limited not only for the Dominican Republic and Jamaica, but also for the other countries, underscoring the need for further research and documentation.

Integration of gender considerations in biodiversity strategies, especially in the Marine Protected Areas management plans and sustainable livelihood models is important to equitable and effective conservation outcomes. Gender-inclusive approaches improve conservation outcomes by leveraging the unique knowledge and contributions of women, such as their roles in resource use and traditional ecological practices. This section highlights that while some progress has been made, significant gaps remain in addressing gender gaps across Caribbean countries. Women's underrepresentation in decision-making, lack of targeted policies, and limited access to leadership roles hinder inclusive governance. Addressing these issues is essential for creating resilient marine ecosystems that benefit all community members.



Women depend on the ocean for food, resources, and jobs. They are also the best at protecting these ecosystems | United Nations Development Program



National Policies

National Policies

Climate change poses challenges for small island nations, particularly in the Caribbean region, where coastal ecosystems, infrastructure, and populations are increasingly vulnerable to environmental transformations. This section aims to examine the **Nationally Determined Contributions (NDCs)**, **National Adaptation Plans (NAPs)**, **National Biodiversity Strategies and Action Plans (NBSAPs)**, and climate strategies of four key Caribbean countries: Jamaica, Dominican Republic, Cuba, and Haiti, offering a critical analysis of regional approaches to climate change adaptation.

Nationally Determined Contributions (NDCs)

Nationally Determined Contributions (NDCs) are a core element of the **Paris Agreement**, representing each country's commitment to reducing national emissions and adapting to the impacts of climate change. Each Party is required to prepare them every five years (UNFCCC, 2024).

Jamaica

Jamaica's most recent update of its 2017 NDC is from June 2020. (UNFCCC, 2022). Jamaica is expected to submit another updated NDC in 2025, which will include mangrove and seagrass conservation targets (Edwards, 2024). The implementation of Jamaica's NDC is guided by national development plans, including the Vision 2030 Jamaica - National Development Plan and the Climate Change Policy Framework for Jamaica (UNFCCC, 2022). National development plans that serve as a guidance for the NDC implementation do not contain specific activities related to marine and coastal protection. The National Mangrove and Swamp Forest Management Plan 2023-2033 (NMSFMP) was studied to review Jamaica's national vision and commitment toward restoration and protection of marine and coastal areas.

The Forestry Department has the primary administrative responsibility for the NMSFMP, overseeing its implementation and updates, with an estimated budget of \$8.7 million. Funding comes from the Government of Jamaica, grants, and co-financing initiatives (i.e. European Development Fund Budget Support Programme) (Forestry Department of Jamaica, 2023).

Dominican Republic

The Dominican Republic submitted its updated NDC in 2020. It includes mitigation components for key sectors in energy, industrial processes and product use, agriculture, forestry and other land use, and waste, as well as adaptation components. The implementation of these climate commitments is guided by key national development plans, including the National Development Strategy (Law 1-2012), Climate Change Compatible Development Plan (DECCC, 2011), and National Adaptation Plan (PNACC, 2015-2030) (NDC Partnership, 2024).

The NDC emphasizes nature-based solutions within the coastal-marine resources sector as a key adaptation priority. Specific measures include promoting sustainable management of coastal-marine systems, considering zoning and planning, and the establishment of resilient infrastructure and institutional structures that can strengthen research, management, and monitoring (NDC Partnership, 2024).

Cuba

Cuba's latest submission to the United Nations Framework Convention on Climate Change is the Nationally Determined Contribution 3.0 (CND3.0), dated February 2025. This updated NDC outlines Cuba's commitments to address climate change, building upon its previous contributions.

National Policies

The updated NDC emphasizes Cuba's significant vulnerability to climate change due to its extensive coastline and emphasizes the importance of healthy marine and coastal ecosystems, like mangroves and coral reefs for protection. However, it does not explicitly provide a dedicated section on marine and coastal protected areas as a distinct category within its contributions. Cuba's National Adaptation plan is expected to have more elaborate plans on marine and coastal areas protection (UNFCCC, 2024).

Haiti

Haiti's updated National Determined Contributions was submitted in 2022. The updated NDC proposes objectives for a cumulative reduction of over 31% of GHG. It emphasizes adaptation measures focusing on agriculture, water resources, coastal areas, and health to enhance the country's resilience. The implementation of these NDC commitments is guided by national frameworks including the National Policy on Climate Change (PNCC), the National Adaptation Action Program (PANA), the Strategy Document for Climate Resilience (DSRC), the National Adaptation Plan (NAP), and the Strategic Development Plan (PSDH) (NDC Equity Tracker, 2024).

The 2022 NDC for Haiti highlights coastal zone management as a key adaptation priority. To protect its marine environment, Haiti plans to strengthen the security of existing protected areas and identify new protected areas specifically in coastal regions. Additionally, there are intentions to restore the country's mangroves and other wetlands as a natural defense against coastal erosion (NDC Equity Tracker, 2024).



Coral reef ecosystem in the Three Bays National Park, Haiti | Instituto Dominicano de Desarrollo Integral, INC.

National Policies



Volunteers in Jamaica clean up plastic pollution during International Coastal Cleanup Day | JET/Big Up Wi Beach

National Adaptation Plans (NAPs)

National Adaptation Plans (NAP) are strategies developed by countries that aim to: a) reduce vulnerability to the impacts of climate change, by building adaptive capacity and resilience; and (b) facilitate the integration of climate change adaptation with policies, programs, and activities within all relevant sectors and at different levels. (UNFCCC).

Jamaica

Jamaica developed, with financial support from the [Green Climate Fund](#), the NAP Readiness proposal in 2021. The purpose of this is to create an inclusive, systematic, and participatory national adaptation planning and implementation framework for Jamaica by 2025. Some of the current policies that are complementary to the future NAP, are: National Communications to the United Nations Framework Convention on Climate Change, Vision 2030 Jamaica- National Development Plan, The Medium-Term Socio-economic Policy Framework, Climate Change Policy Framework for Jamaica (Green Climate Fund, 2021).

Dominican Republic

The Dominican Republic in 2015 updated its 2008 NAP. It covers the period 2015-2030 and has included the integral marine coastal preservation as one of its goals (goal n° 6), prioritizing non-protected areas, and it has the following focus areas: zoning and planning of coastal-marine systems (6.1); promoting resilient coastal infrastructure (6.2); sustainable and safe management of the coasts with a climate change focus (6.3); establishment of institutional structures for coastal-marine species and ecosystems management (6.4); prevention, mitigation, and remediation of coastal and beach pollution (6.5)

National Policies

-manage a fund for the recovery of mangroves, estuaries, coral reefs, and other coastal marine ecosystems and species (6.6); promoting the production of marine data, products, and metadata (6.7); and promoting interdisciplinary, interinstitutional, and intersectoral alliances for cooperation and focus on coastal-marine systems (6.8) (Government of the Dominican Republic, 2022). Additionally, it is worth mentioning that the main public institutions that are collaborating with this plan are: the National Council for Climate Change and the Clean Development Mechanism, the Ministry of Environment and Natural Resources, the National Institute of Hydraulic Resources, the Ministry of Economy, Planning and Development, the General Directorate of Territorial Planning and Development, the National Meteorological Office, dependent on the National Directorate of Civil Aeronautics, the National Geographic Institute “José Joaquín Hungary Morell”, the National Statistics Office, the National Emergency Commission, the Emergency Operations Center (Ministry of Environment and Natural Resources of the Dominican Republic, 2022). Finally, the Dominican Republic has received financial support to develop the NAP from the Green Climate Fund - almost 3 million dollars- (UNEP, 2019).

Cuba

Although Cuba has not released a NAP, it has worked on the “Adaptation Plan for the Havana Coastal Zone” project will contribute towards closing information and knowledge gaps, strengthening technical and technological capacities, designing adequate and effective adaptation measures that are fully incorporated into the development plans, and training and sensitizing relevant actors on climate adaptation.

This plan is currently under implementation and has financial support from the Green Climate Fund (US\$ 3,000,000). It considers climate risks and specific vulnerabilities and integrates adaptation measures and investment decisions into the development planning process with the involvement of key national and local stakeholders.

Haiti

Haiti's National Adaptation Plan recognizes the critical vulnerability of its marine and coastal ecosystems, with sea level rise being a primary concern. The marine protection strategy focuses on comprehensive coastal zone management and adaptation. Key priorities include conducting vulnerability assessments of coastal areas, protecting coastal infrastructures, and implementing integrated management approaches. The plan emphasizes developing resilient infrastructure and establishing monitoring systems to mitigate climate change impacts on marine environments and implementing a framework for increasing coastal resilience (UNFCCC, 2022).

Institutionally, the Ministry of Environment (MDE) leads marine protection efforts, coordinating with various stakeholders, including government institutions, civil society organizations, universities, and research centers. The National Climate Change Committee (CNCC) oversees the implementation and tracking of marine protection initiatives, ensuring a collaborative and transparent approach to climate adaptation (UNFCCC, 2022).



Attendees at the final Critical Ecosystem Partnership Fund workshop, Dominican Republic | Antonia Cermak-Terzian

National Policies

National Biodiversity Strategies and Action Plans (NBSAPs)

National Biodiversity Strategies and Action Plans (NBSAPs) are the tools used by countries to develop and implement strategies to protect biodiversity and ecosystem services. They outline national priorities, actions, and commitments to address biodiversity loss, aligning with global goals such as the Global Biodiversity Framework (GBF), and being submitted to the Convention on Biological Diversity (CBD) Secretariat (UNEP, 2024).



Biodiversity education initiative at Grand Bois National Park, Haiti | Haiti National Trust

Jamaica

Jamaica's most recent NBSAP (2016-2021) was developed to update its 2003 strategy but has not been revised since. The plan lacked strong alignment with global biodiversity frameworks like the Aichi Targets beyond general conservation goals, but it did have the budget (total of \$3,463,000 USD), priority (first, second and third), timeline of execution (2016-2021), and responsible entities (like National Environment and Planning Agency, Environmental Risk Management Division, Forestry Department, etc) (Jamaica Government, 2016).

Dominican Republic

The Dominican Republic's NBSAP (2011-2020) was the country's first comprehensive biodiversity conservation strategy. It is closely linked to the National Development Strategy (2010-2030), a 2012 law that ensures biodiversity considerations are integrated into national planning. From the existing gaps, the report does not consider human rights-based approaches, Indigenous community involvement, or gender-sensitive policies and lacks data-driven assessments and financial analysis (Government of the Dominican Republic, 2011).

Cuba

On July 31, 2024, Cuba published its National Program on Biological Diversity, setting objectives through 2030. The plan focuses on reducing biodiversity loss, but does not explicitly pledge to halt and reverse it by that year (WWF, 2024). As a legally recognized strategic document, the NBSAP integrates conservation, protection, and sustainable use measures in line with existing legislation. WWF's target mapping indicates that while the plan covers all 23 Global Biodiversity Framework (GBF) targets, there are gaps on human rights-based approaches and deforestation.

Haiti

Haiti submitted its first-ever NBSAP in 2020, outlining its approach to biodiversity conservation, but no further updates or national target revisions have been made since its initial release (Government of Haiti, 2020). The main gap is the lack of a monitoring and evaluation framework with a concrete implementation roadmap with clear timelines, responsibilities, and milestones.

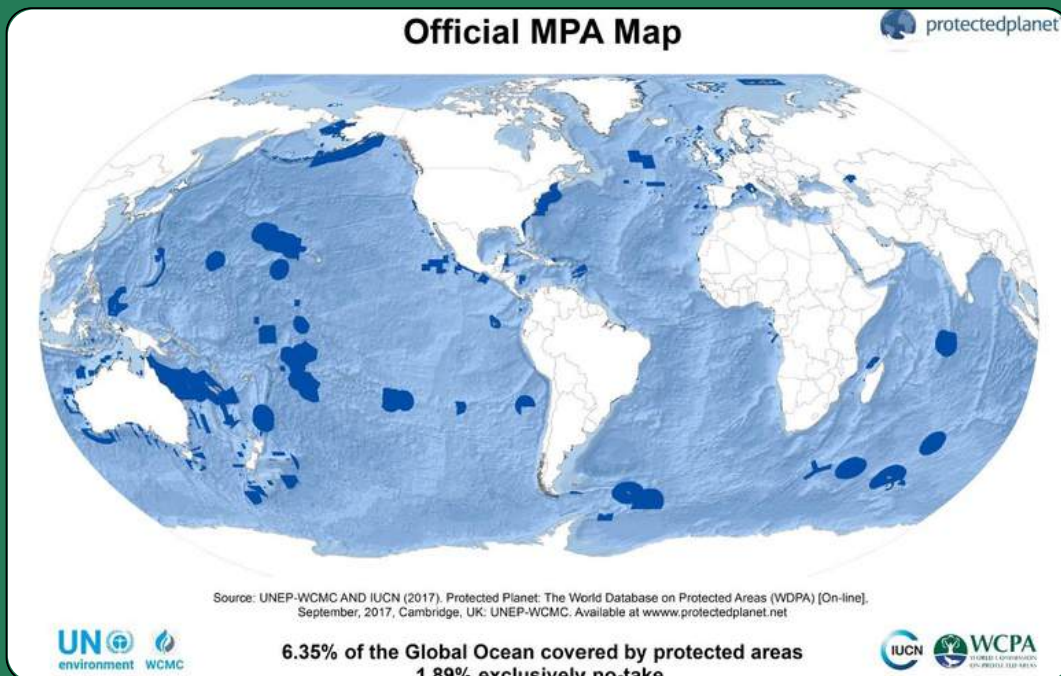


Regional and International Policies & Commitments

Regional and International Policies & Commitments

This section analyzes eight regional and international policies related to MPAs in the Insular Caribbean to illustrate the current performance of MPA integration, as well as the opportunities and gaps in policies and frameworks, using valuation criteria such as blue economy, sustainable livelihoods, health, climate change adaptation, food security, and sustainable development.

1. Kunming-Montreal Global Biodiversity Framework (GBF)
2. UNCLOS
3. CBD
4. Agenda 21
5. Sustainable Development Goals
6. FAO Code of Conduct for Responsible Fisheries
7. the SPAW Protocol
8. Caribbean Challenge Initiative (CCI)



Official MPA Map of the Global Ocean | UNEP-WCMC and IUCN

Regional and International Policies & Commitments

KUNMING-MONTREAL GLOBAL BIODIVERSITY FRAMEWORK

The Kunming-Montreal Global Biodiversity Framework (GBF) is a global agreement that was adopted following four years of negotiations leading up to COP 15 in December of 2022 (Secretariat of the Convention on Biological Diversity, n.d.). This framework was developed to build upon the CBD framework and further support the United Nations Sustainable Development Goals (SDGs), but more prominently, it was developed in response to the global failure to meet any of the twenty Aichi Biodiversity Targets set by Parties to the CBD in 2010 (IUCN, 2024). Essentially, the Kunming-Montreal framework serves as an updated, more specific set of goals and targets for global biodiversity conservation that was adopted under the CBD (Secretariat of the Convention on Biological Diversity, n.d.). In terms of structure, the Kunming-Montreal framework can be broken down into 27 primary components: “4 goals for 2050 and 23 targets for 2030” and targets a world “living in harmony with nature” (Secretariat of the Convention on Biological Diversity, n.d.). Compared to the Aichi targets, the Kunming-Montreal targets are widely recognized as more ambitious and more implementation and accountability.

Blue Economy

Target 2 calls for the restoration of “30 percent of areas of degraded terrestrial, inland water, and marine and coastal ecosystems” (Kunming-Montreal Global Biodiversity Framework, 2022).

This would have considerable impacts on biodiversity in the Greater Antilles, as its predominant marine habitats are home to “10% of the world’s coral reefs, 1,400 species of fish and marine mammals, and extensive coastal mangroves” (NOAA, n.d.). Compounding this, Target 3 also calls for the conservation of “30% of Land, Waters, and Seas” (Kunming-Montreal Global Biodiversity Framework, 2022). Aligning with sustainable ocean stewardship, a central tenet of the **blue economy**, Target 10 focuses on the sustainable management of fisheries and aquaculture alongside agriculture and forestry.

Sustainable Livelihoods

Sustainable livelihoods are a central tenant of this framework, which dictates the need for contributions from local communities and Indigenous peoples and an overall more holistic approach to biodiversity conservation. However, Target 16, which focuses on sustainable consumption at the individual level, most directly addresses sustainable livelihoods.

Health

The framework makes limited explicit references to health, primarily in Target 7’s pollution abatement goals and Target 12’s urban blue and green space goals, which aim to (among other things) improve “human health and well-being and connection to nature” (Kunming-Montreal Global Biodiversity Framework, 2022). Health is also addressed less directly by the ecosystem service preservation objectives in Targets 16 and 19.

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Target 16 focuses on managing invasive species and their impacts on ecosystem services, while Target 19 takes a financial perspective, proposing potential payment structures for ecosystem services. Given that human health fundamentally depends on numerous ecosystem services, it is reasonable to include ecosystem services within this health-related subtopic.

Climate Change Adaptations

Target 8 focuses on “minimizing the impacts of climate change and ocean acidification on biodiversity” and building resilience to future changes. Climate is also mentioned in Targets 11 and 19.

Food Security

The framework broadly notes how essential biodiversity is for global food production. It more specifically addresses this in Target 9, which covers the sustainable management of wild species, and in Target 7, which details the framework’s goals to reduce pesticide and hazardous chemical risk, with a special focus on food security and sustainable livelihoods. Food security is more indirectly addressed in Targets 8 and 11.

Sustainable Development

The framework primarily addresses sustainable development through Target 14, which calls for integrating biodiversity into decision-making processes at all levels, and Target 12, which explicitly addresses both “biodiversity-inclusive urban planning” and “sustainable urbanization” (Kunming-Montreal Global Biodiversity Framework, 2022). Sustainable development is also discussed in Target 19, which centers on expanding a range of funding sources for biodiversity conservation and Target 20 which supports technological advancements.

Opportunities & Gaps

This policy presents a major opportunity for expanding and strengthening MPAs worldwide through its 30x30 conservation goal. This can be done by incorporating National Biodiversity Strategies and Action Plans (NBSAPs) into strategies and indicators within the KM-GBF.

Challenges in implementation include funding gaps, as the estimated biodiversity conservation needs far exceed available financing. This framework relies heavily on a robust governance body to provide regulatory oversight and coordination, but the [United Nations Environment Programme](#) holds a relatively weak position within the intonation environmental governance system. This has led to limited engagement from developed countries (Zhang, 2025). However, the Kunming-Montreal GBF presents a unique opportunity to strengthen global cooperation, enhance financial mechanisms, and bridge the gaps within biodiversity targets.

UN CONVENTION ON THE LAW OF THE SEA (UNCLOS)

The [United Nations Convention on the Law of the Sea \(UNCLOS\)](#) is an additional international legal framework focused explicitly on governing the world’s marine areas, which is often referred to as the “constitution of the oceans” (Keating-Bitonti and Congressional Research Service, 2024). The convention was first proposed in 1982 and became operational twelve years later in 1994, but still has yet to be ratified by the United States (Keating-Bitonti and the Congressional Research Service 2024). UNCLOS’ main objectives are “delineating nations’ rights and responsibilities concerning marine resources, environmental protection, and navigation,” (UNCLOS, 1982).

Regional and International Policies & Commitments

Its scope also encompasses: “naval power, maritime commerce, coastal state interests, marine environment protection, marine scientific research, and international dispute settlement.” Regarding MPAs, article 194 of UNCLOS states that contracted parties have the general obligation to “protect and preserve rare or fragile ecosystems as well as the habitat of depleted, threatened or endangered species and other forms of marine life” (United Nations, n.d.), which is a provision that supports the global creation of MPAs. Additionally, UNCLOS provides the legal framework for coastal states to designate and manage MPAs in their territorial seas and EEZs (United Nations, n.d.).

Blue Economy

The UNCLOS framework addresses the blue economy in articles 55-Specific legal regime of the exclusive economic zone, 56-Rights, jurisdiction and duties of the coastal State in the exclusive economic zone and 57-Breadth of the exclusive economic zone, which all relate to EEZ establishment, regulation, and management. (United Nations, n.d). This list is not exhaustive, however, as the entire UNCLOS framework is specifically tailored to the protection of marine environments and biodiversity.

Sustainable Livelihoods

Articles 62-Utilization of the Living Resources and Article 119- Conservation of the Living Resources of the High Seas are the most relevant to sustainable livelihoods.

Health

Human health is addressed in Articles 196- Use of Technologies or Introduction of Alien or New Species, 207-212, Pollution from Land-Based Sources, Pollution from Seabed Activities Subject to National Jurisdiction, Pollution from Activities in the Area, Pollution by Dumping, Pollution from Vessels, Pollution from or through the atmosphere, respectively, and 221-Measures to avoid pollution arising from maritime casualties, mainly regarding pollution, commercial maritime activities, and invasive species.

Climate Change Adaptations

Climate change adaptation is addressed in Articles 61-Conservation of the Living Resources and 62-Utilization of the Living Resources, which focus on sustainable resource use.

Food Security

Articles 61-64, Conservation of the living resources, Utilization of the living resources, Stocks occurring within the exclusive economic zones of two or more coastal States or both within the exclusive economic zone and in an area beyond and adjacent to it, and Highly migratory species respectively, delineate the legal standing of fishery regulation and management, encapsulating food security. Article 69-Right of Land-Locked States addresses these same topics but in relation to land-locked states.

Sustainable Development

Sustainable Development is most distinctly addressed in Article 193- *The sovereign right of States to exploit their natural resources* (United Nations, n.d.).

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Opportunities & Gaps

UNCLOS does not directly address climate induced sea-level rise. With sea level rise increasing, Exclusive Economic Zones (EEZs) are also decreasing. This has a direct impact on SIDS nations that are at the forefront of climate-related issues and rely heavily on their EEZs for food, economic revenue, fishing, and more (Oral, 2023).

UNCLOS provides an opportunity for regional connectivity in the Caribbean. EEZs are established under UNCLOS, where nations can have regional connectivity and cooperation within these zones.

CONVENTION ON BIOLOGICAL DIVERSITY FRAMEWORK

The Convention on Biological Diversity (CBD) is a legally binding international treaty aimed at conserving biodiversity globally. It has been ratified by 196 nations since its inception at the Earth Summit in Rio de Janeiro, Brazil, on June 5, 1992 and became fully operational in 1993 (United Nations, n.d. ; Secretariat of the Convention on Biological Diversity, n.d.). The CBD is governed by the [Conference of the Parties \(COP\)](#), which meets biennially to analyze implementation progress and set priorities (United Nations, n.d.). On a broad scale, this framework laid the groundwork for the widespread protection of the Earth's Flora and Fauna, by requiring each member party to develop and implement National Biodiversity Strategies and Action Plans (NBSAPs) to help shape conservation efforts in each region. This convention is especially relevant in the context of biodiversity protection in the Insular Caribbean (IC), as several statutes in the framework address the widespread misuse of marine resources and the destruction of marine habitats.

*Since its establishment, the CBD has effectively been updated using the Kunming-Montreal Global Biodiversity Framework, but it remains the overarching international treaty governing biodiversity conservation. The Kunming Montreal framework is simply a tool through which progress under the CBD will be monitored and measured.

Blue Economy

The blue economy is not explicitly mentioned in the CBD, most likely given that it is a term that became popularized around 2012, twenty years after the CBD's ratification ("The Blue Economy: Origin and Concept - Commonwealth of Learning"). However, many of the CBD's central articles pertain to subjects that are extremely pertinent to the blue economy, such as Article 8- *In Situ Conservation*, which designates that each contracted party "Establish a system of protected areas or areas where special measures need to be taken to conserve biological diversity" (8[a]) and ensure "sustainable use" of biological resources, inside or outside of protected areas (8[c]) (Convention on Biological Diversity 2011). Article 8 also touches on invasive species management (8[h]), degraded ecosystem restoration (8[f]), and protecting threatened species (8[k]).

Sustainable Livelihoods

Sustainable livelihoods are mainly addressed in the CBD framework in Article 10-*Sustainable Use of Components of Biological Diversity*, which details the different components of sustainable biodiversity usage. Article 11-*Incentive Measures* also concerns sustainable livelihoods, as it requires the adoption of economic and social incentives for biodiversity conservation and, subsequently, the sustainable use of biological elements. Articles 8-*In Situ Conservation*, 15-*Access to Genetic Resources*, and 18-*Technical and Scientific Cooperation* are also relevant.

Regional and International Policies & Commitments

Health

Human health is mentioned explicitly in the CBD framework in Article 8-In Situ Conservation, in the context of the potential consequences of biotechnology misuse on human health. Generally speaking, the entire framework serves to protect human health by protecting global ecosystem health.

Climate Change Adaptations

Climate change adaptation is not explicitly mentioned anywhere in the CBD framework.

Food Security

The CBD framework addresses the necessity of biodiversity conservation for the purpose of food provision, among many other things, but none of the articles specifically address food security. Article 10-Sustainable Use of Components of Biological Diversity, relates heavily to food security, however, as it addresses the dire need for sustainable resource use in the context of biodiversity conservation.

Sustainable Development

Article 8- In Situ Conservation, subsection (e) states: “Promote environmentally sound and sustainable development in areas adjacent to protected areas with a view to furthering (the) protection of these areas,” clearly addressing the sustainable development topic. Additionally, Articles 16-Access and Transfer of Technology and 19-Handling of Biotechnology and Distribution of its Benefits both encompass sustainable development.

Opportunities & Gaps

The CBD is a legally binding treaty that requires nations to implement biodiversity measures. The Caribbean has implemented the CBD through efforts such as NBSAPs.

Cuba has also incorporated biosafety and genetic resource management into biodiversity policies.

While the CBD provides a framework for marine protected areas, it does not mandate legally binding targets for marine conservation within MPAs. (Convention on Biological Diversity, 2024).

AGENDA 21

[Agenda 21](#) is a non-binding comprehensive plan of action on the global, national, and local scale by organizations of the United Nations System, Governments and Major Groups where human activity impacts the environment. It was created at the 1992 Earth Summit in Rio de Janeiro, Brazil. The main goal of Agenda 21 is to combat environmental damage, poverty, and disease through global cooperation on common interests, mutual needs, and shared responsibilities.

Blue Economy

Agenda 21 does not specifically mention the blue economy, as this term was developed after the creation of Agenda 21, but it addresses oceans, marine resources, and coastal areas in Chapter 17. This chapter of Agenda 21 focuses on the integrated management and sustainable development of coastal areas, including economic zones, marine environmental protection, sustainable use and conservation of marine living resources of the high seas, sustainable use and conservation of marine living resources under national jurisdiction, addressing critical uncertainties for the management of the marine environment and climate change, strengthening international cooperation and coordination, and sustainable development of small islands. These are key principles of what later became the Blue Economy, which is used to describe the sustainable use of ocean resources for economic growth, improved livelihoods, and ocean ecosystem health.

Regional and International Policies & Commitments

Human Sustainable Livelihoods

Section 3 of Agenda 21 focuses on combating poverty as a requirement for sustainable development. This chapter mentions livelihood programs that provide stable incomes while conserving natural resources. The main goal of this chapter is to enable the poor to achieve sustainable livelihoods by supporting micro-enterprises, self-employment, and skill development, along with promoting fair wages and improved labor conditions.

Health

Chapter 6 of Agenda 21 is on protecting and promoting human health. The document recognizes that health and development are intimately interconnected. This chapter contains program areas such as meeting primary health care needs, particularly in rural areas, control of communicable diseases, protecting vulnerable groups, meeting the urban health challenge, and reducing health risks from environmental pollution and hazards. The need for integrated policies that promote public health are pushed in this section.

Climate Change Adaptations

Chapter 9 focuses on the protection of the atmosphere and directly addresses climate change adaptation. It recognizes the need to reduce greenhouse gas emissions and help communities adapt to climate impacts.

Food Security

Food security is a key concern in Agenda 21. It is included in chapter 14 Sustainable Agriculture & Rural Development, which addresses issues such as increased sustainable food production, integrated land-use planning, and sustainable irrigation systems.

Sustainable Development

Sustainable development is the main goal of Agenda 21. The document has the goal to achieve balance between economic growth, social equity, and environmental protection, which are the three pillars of sustainability. Agenda 21 was also one of the earliest comprehensive global action plans for sustainability, and serves as the framework for policies aimed at achieving long-term sustainability.

Workshop participants in Jamaica support SDG 6 monitoring for Caribbean SIDS | GWP Caribbean



Opportunities & Gaps

The main shortfall of Agenda 21 is that it is not a legally enforceable document that lacks measurable targets. Agenda 21 is a non-binding resolution and its implementation depends solely on voluntary national and local government action, which could lead to inconsistent results. Many nations have adopted Agenda 21 policies in principle, but have not enforced them effectively (National Academic Press, 2002). The overarching goal of this document is to achieve a balance between economic growth, social equity, and environmental protection, which are the three pillars of sustainability. Agenda 21 was also one of the earliest comprehensive global action plans for sustainability and serves as the framework for policies aimed at achieving long-term sustainability such as the later adopted Sustainable Development Goals.

Regional and International Policies & Commitments

SUSTAINABLE DEVELOPMENT GOALS

The Sustainable Development Goals are 17 global goals adopted by the United Nations in 2015 as part of the 2030 Agenda for Sustainable Development which aims to end poverty, protect the planet, and ensure prosperity for all by 2030.

Blue Economy

Several SDGs directly address the principles of the Blue Economy by focusing on marine conservation, sustainable fisheries, climate resilience, and responsible ocean-based industries. The primary goal for the blue economy is SDG 14: Life Below Water. This goal is to conserve and sustainably use the oceans, seas, and marine resources for sustainable development. Goal 14.7 is to increase economic benefits from the sustainable use of marine resources, especially for Small Island Developing States and coastal communities.

Sustainable Livelihoods

The term “sustainable livelihoods” is woven throughout multiple targets within the SDGs. SDG 1 focuses on building resilience among the poor and those in vulnerable situations by promoting economic opportunities that support sustainable livelihoods. SDG 8 addresses the creation of inclusive and sustainable economic growth, productive employment, and decent work for all so that individuals can have sustainable livelihoods.

Health

SDG goal 3 focuses on good health and well-being for all at all ages. This goal aims to improve public health by reducing mortality rates, combating diseases, strengthening healthcare systems, and ensuring access to medical services.

Climate Change Adaptations

SDG goal 13 focuses on mitigating climate change, building resilience, and strengthening climate adaptation measures. This goal emphasizes the need for policy integration and financial support - especially for developing nations - to cope with climate related challenges.

Food Security

SDG goal 2 focuses on ending hunger and achieving food security and improved nutrition. It aims to support small-scale farmers, improve agricultural productivity, and enhance the resilience of food systems against climate change and economic shocks.

Sustainable Development

All 17 SDGs contribute to sustainable development, but SDG 11 and 12 heavily focus on sustainability. SDG 11 has the goal to make cities and human settlements inclusive, safe, resilient, and sustainable. It focuses on urban sustainability such as green infrastructure. SDG 12 ensures sustainable consumption and production patterns in order to encourage sustainable supply chains.

Opportunities & Gaps

Many governments lack the capacity or financial resources to implement large-scale SDG initiatives and because these goals are voluntary, countries are not legally obliged to implement them (United Nations, 2010). Many Caribbean nations have also yet to protect 10% of their Exclusive Economic Zones (EEZs) and the countries that have often prioritized areas off the coast despite the coastal communities being more vulnerable (Agenda 2030, 2015).

Regional and International Policies & Commitments

As of 2023, the Caribbean has made progress on many of the goals such as investing in renewable energy projects to reduce dependence on fossil fuels. For example, Jamaica has set targets for increasing their renewable energy capacity by focusing on solar and wind energy. The Caribbean have also made progress in making regional collaborations. The Caribbean Community (CARICOM) has established core SDG indicators tailored to each region's context in order to provide a standardized framework for assessing SDG goals across member states (United Nations Caribbean, 2023). This provides an opportunity for individual countries to take tailored approaches and make progress on the SDG goals.

FAO CODE OF CONDUCT FOR RESPONSIBLE FISHERIES

The [FAO Code of Conduct for Responsible Fisheries](#) was adopted in 1995 by the Food and Agriculture Organization of the United Nations. This document provides a global framework to ensure sustainable fisheries management, conservation of aquatic ecosystems, and responsible fishing practices.

Blue Economy

This document does not explicitly use the term “Blue Economy” but the principles outlined in the code align with the blue economy framework. This Code emphasizes the sustainable use of marine resources to ensure long-term benefits for economies that are dependent on fishing. It also encourages the protection of marine habitats, biodiversity, and fisheries through responsible fishing practices.

Sustainable Livelihoods

The Code emphasizes the importance of ensuring that fisheries management supports the well-being of fishers, fishing communities, and future generations by promoting environmental sustainability. Some examples of the Code promoting the idea of sustainable livelihoods include their promoting of fair trade policies and improved access to markets, calling for policies that provide stable and fair income for fishers, and supporting small-scale artisanal fisheries.

Health

This document mentions health-related aspects to the fishing industry linked to fisheries, food safety, and occupational well-being. The Code promotes safe working conditions for fisheries to reduce the risk of injuries, fatalities, and poor health caused by working in hazardous work environments. It also aims to reduce pollution from fishing to protect both human health and ecosystem health.

Climate Change Adaptations

The Code recognizes that climate change impacts fishers' livelihoods and public health and encourages adaptation strategies to protect communities from health risk associated with changing fish stocks, food insecurity, and environmental degradation.

Food Security

The Code emphasizes responsible fishing and aquaculture to ensure long-term food availability and equitable access to marine and freshwater resources. Sustainable fish production and harvesting are encouraged to prevent overexploitation. It also mentions improving fish processing and storage to minimize food loss.

Regional and International Policies & Commitments

Sustainable Development

This Code is aligned with sustainable development to ensure that fisheries and aquaculture meet economic needs without degrading the environment for future generations.

Opportunities & Gaps

A shortfall of this policy is that it does not directly mention MPAs, however, it emphasizes the importance of conserving aquatic ecosystems and habitats which directly aligns with the objectives of MPAs. The FAO published a document that built off of the ideas set in The FAO Code in 2011 called “Marine Protected Areas and Fisheries”, which address the role of MPAs in biodiversity conservation and their application within fisheries management frameworks. This new document highlights the opportunity to integrate multiple stakeholders to preserve the ocean and resources for future generations.



Community leader in the Dominican Republic participates in local marine conservation efforts | UNDP Dominican Republic

SPECIAL PROTECTED AREAS AND WILDLIFE PROTOCOL

The [Special Protected Areas and Wildlife Protocol \(SPAW\)](#) is a regional agreement focused on safeguarding and sustainably utilizing coastal and marine biodiversity in the Caribbean (UN Environmental Programme, n.d.). It operates under the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region, which was established in Cartagena, Colombia, in March 1983, and was first adopted on January 18, 1990 (Protocol Concerning Specially Protected Areas and Wildlife, 1990). Its primary goal is to safeguard ecosystems, preserve biodiversity, and protect endangered species by establishing protected areas, fostering regional cooperation, and promoting sustainable ecosystem management. The protocol outlines obligations for its parties, including conserving coastal ecosystems, managing threatened species, and preventing harmful activities. Parties must also regulate or prohibit actions that could negatively impact species and ecosystems, while collaborating to enforce these protections (Protocol Concerning Specially Protected Areas and Wildlife, 1990).

Blue Economy

Although the protocol does not directly address the concept of a blue economy, it aligns with its principles of sustainably using marine and coastal resources in the wider Caribbean region. This alignment will enhance the economies of countries while also promoting environmental protection. Some of the activities supported by the protocol include sustainable practices in sectors such as fisheries, tourism, and renewable marine resources.

Regional and International Policies & Commitments

Sustainable Livelihoods

By promoting conservation, the protocol supports livelihoods through the development of eco-friendly industries. These activities include sustainable fishing methods and eco-tourism, which enable communities to benefit economically while preserving biodiversity.

Health

The protocol promotes the protection of coastal ecosystems and also supports public health. For example, preserving wetlands offers ecosystem services that are directly related to human health, such as water filtration, which helps reduce waterborne diseases in surrounding communities. Additionally, wetlands provide carbon sequestration services that improve air quality, and reduce erosion and flooding events (Value of Wetlands, n.d.).

Climate Change Adaptations

Ecosystem protection under the SWAP Protocol contributes to climate change resilience. For instance, through the protection of coral reefs and mangroves SWAP helps buffer coastal areas from storms and rising sea levels (SPREP, n.d.).

Food Security

SAWP contributes to food security by sustaining marine life and regulating fishing practices. This through the protection of spawning grounds for key fish species, which ensures long-term fish stocks available for consumption to local communities.

Sustainable Development

The protocol links economic growth with environmental preservation by requiring Environmental Impact Assessments (EIA) for development projects to assess potential impacts, including cumulative effects (Article 13). It also encourages education, scientific research, and cooperation, emphasizing the importance of sharing scientific and technical information, as well as providing training programs in ecosystem management (Article 17 & 19). Public awareness and education initiatives are also stressed to build support for Marine Protected Areas (MPAs). Cuba and the Dominican Republic are among the insular Caribbean countries that signed the protocol (The SPAW Protocol, n.d.). These specific articles enable governments to achieve conservation targets through a comprehensive approach, which enhances their impact and strengthens collaboration with various stakeholders.

Opportunities and Gaps

Cuba and the Dominican Republic are the two of the Insular Caribbean countries participating in the SPAW Protocol (SPAW-RAC, n.d.). Under this protocol, Cuba implemented a close season for harvesting sea turtles in 1998, when it ratified the protocol. Additionally, the country established catch quotas for each species of turtle and imposed restrictions on sport fishing and the harvesting of sea turtles, along with other important regulations (Vanzella-Khoury, 2006). This example illustrates the effective measurements participating countries like Cuba were able to adopt under this framework to enhance their Marine Protected Areas (MPAs).

Regional and International Policies & Commitments

By implementing these strategies, nations can better manage and preserve their marine ecosystems, ensuring sustainable use of resources while protecting biodiversity.

In May 2019, the Dominican Republic submitted a proposal to list Cotubanama National Park under the SPAW protocol for protected areas. The park is an important coastal marine ecosystem with significant national, cultural, and socio-economic value. Before the listing, the Park was impacted by the overexploitation of native species and pressure from tourism. However, the listing of the park faced challenges due to the lack of detail in the management plan and the absence of clear and thorough performance evaluation reports presented by the government (Gonzalez Delgadillo et al., 2021). This case represents an example of the shortcomings that have hindered Insular Caribbean countries from securing protected area status for their national ecosystems. It also identifies specific areas where these countries must improve to effectively safeguard Marine Protected Areas.

CARRIBEAN CONSERVATION INITIATIVE

The [Caribbean Conservation Initiative \(CCI\)](#) is a coalition of governments, companies, and public and private partners working together to conserve resources and promote sustainable development in the Caribbean. Launched in 2008, the CCI has two main goals, 1) to conserve at least 20% of marine and coastal areas by 2020, and 2) to establish sustainable financing mechanisms for long-term coastal conservation efforts (Caribbean Challenge Initiative, n.d.). To achieve these ambitious goals, the CCI created the [Caribbean Biodiversity Fund \(CBF\)](#) to provide countries with political and financial support for protecting their natural assets.

Each participating country establishes an independent conservation trust fund to aid sustainable efforts. Between 2008 and 2013, as part of CCI's Phase I, more than 50 new Marine Protected Areas (MPAs) were created in the Caribbean. This effort led to an increase in the total protected marine areas across the participating countries, going from 7% to around 10% (Caribbean Challenge Initiative, About CCI, n.d.). Countries of the Insular Caribbean that have joined the CCI are: Dominican Republic, Haiti, and Jamaica (The Nature Conservancy, "Caribbean Challenge Initiative," 2020).

Blue Economy

The Caribbean Challenge Initiative (CCI) integrates marine conservation with the blue economy by promoting sustainable management of marine resources. Through MPAs, CCI supports healthy ecosystems that are vital for industries such as fisheries and tourism, both crucial to the region's economy. By conserving at least 20% of these areas, CCI helps ensure the long-term viability of industries that depend on marine resources (Caribbean Challenge Initiative, About CCI, n.d.).

Sustainable Livelihoods

To ensure the long-term success of conservation efforts, CCI emphasizes the establishment of strong financial mechanisms that guarantee dependable funding for the sustainable management of marine and coastal areas. The initiative promotes sustainable tourism, acknowledging that many livelihoods in the Caribbean rely on this industry (Caribbean Challenge Initiative, The Nature Conservancy, n.d.).

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Health

CCI supports health in the Caribbean through the establishment and management of Marine Protected Areas (MPAs). These protected areas help maintain the health of marine ecosystems, which in turn supports the well-being of local communities by providing clean air, water, and other ecosystem services.

Climate Change Adaptations

Through the CBF's Climate Change Program, the Ecosystem-based Adaptation Facility pledged approximately US\$12 million during its first call for proposals in 2019. Out of this, US\$1.7 million has already been distributed to support 11 projects operating across 10 Caribbean countries (Caribbean Challenge Initiative, About CCI, n.d.). An example of a project supported by this initiative is the "Reef Resilience and Risk Financing in the Greater Caribbean" project, led by the Meso-American Reef Fund and ORRAA. It aimed to strengthen coastal resilience through tools like parametric reef insurance, which provides quick funding for post-hurricane recovery. Achievements include training on reef resilience and risk financing in Jamaica, Saint Lucia, and St. Vincent and the Grenadines, creating payout distribution guidelines, and identifying partners for implementation (Caribbean Biodiversity Fund, Annual Report, 2022).

Food security

The rich biodiversity of the Insular Caribbean plays a vital role in providing essential ecosystem services, including food security. However, this is often threatened by overfishing and other human activities that can damage fish habitats (Knowles et al., 2015). By safeguarding marine biodiversity, CCI helps to preserve fish populations that are crucial for the diets of local communities.

Sustainable Development

During the second phase of the Caribbean Community Initiative, the CCI launched at the Caribbean Summit of Political and Business Leaders in May 2013, the summit brought together heads of government, high-level officials, NGOs, and business leaders from companies operating in the region to discussions and agree on a shared vision for the protection of marine and coastal environments while promoting sustainable development (Summary of CCI Outcomes, 2013). This gathering of key stakeholders facilitated collaboration in achieving goals that benefit the region.

Opportunities and Gaps

Some CCI countries have surpassed their 20x20 goals, including the Dominican Republic, which has achieved 75% of its target and established 30 new protected areas, exceeding its aim to conserve at least 20% of its coastal environments (Caribbean Challenge Initiative, About CCI, n.d.). Haiti has also made progress, reaching 23% of its goal (The Nature Conservancy, Haiti, n.d.), while Jamaica has contributed significantly to marine conservation by creating eight no-take zones to protect its marine ecosystems (United Nations, Caribbean Challenge Initiative, n.d.). These achievements highlight the importance of enhancing regional and international cooperation in funding strategies. This cooperation is essential for countries to allocate the necessary resources to conserve their Marine Protected Areas (MPAs). Such conservation will help them adapt to climate change while also providing governments with the economic means to respond to emergencies caused by natural disasters.

Regional and International Policies & Commitments

Although the Insular Caribbean countries have been able to achieve and, in some cases, surpass their Marine Protected Areas (MPAs) targets thanks to initiatives like this, there are still challenges that lie ahead for these nations. For instance, due to their geographical location, Caribbean countries are highly vulnerable to natural disasters fueled by climate change. During 2019-2020, the region experienced nine hurricanes, all above Category 3, as well as a record number of storms in that same year (The World Bank in the Caribbean, Overview). The increase in these disasters has prevented governments from allocating funding to support long-term conservation programs, as they must dedicate their limited resources to immediate emergency responses.

STATUS OF INTERNATIONAL COMMITMENTS

This section reviews and evaluates the status of international commitments made by Insular Caribbean countries: Cuba, the Dominican Republic, Jamaica, and Haiti toward: 1) the Kunming-Montreal Global Biodiversity Framework, 2) Target 23, and 3) Nationally Determined Contributions (NDCs). By examining each country's progress and challenges in meeting these commitments, particularly in the management of their Marine Protected Areas (MPAs), this section aims to identify opportunities for improvement. For each framework, a table is provided summarizing the status of commitments, along with each country's respective progress and challenges.



Cayemites Marine Protected Area off the southwestern coast of Haiti | Karibiodiv

Regional and International Policies & Commitments

As mentioned previously, the Kunming-Montreal Global Biodiversity Framework was adopted at COP 15 in 2022 and outlines 23 targets aimed at aligning biodiversity conservation with sustainable development goals (Secretariat of the Convention on Biological Diversity, n.d.). Building on the Convention's earlier strategic plan (Secretariat of the Convention on Biological Diversity, 2024), Target 3 calls for conserving 30% of land and water—including coastal and marine ecosystems essential to biodiversity and ecosystem functions—by 2030, commonly known as the “30 by 30” initiative. To assess the status of international commitment to this target, we used the 2024 SkyTruth 30x30 progress tracker. This tool measures the extent of conservation efforts in various coastal ecosystems, including salt marshes, mangroves, seagrasses, warm-water corals, seamounts, and cold-water corals, and provides data on the percentage of marine areas protected by conservation measures. The most recent updates available from the tracker are from October 2024.

It is important to acknowledge that some countries, such as the Dominican Republic, may have established additional marine protected areas (MPAs) that are not yet reflected in the tracker's data. Despite this limitation, the SkyTruth 30x30 Progress Tracker was used because it is the only tool that compiles consistent data for all four countries, ensuring comparability across the study.



A fisher poles his boat through Baie Liberte, Haiti | Tim Calver

CUBA

International Commitment Status:

Cuba has a total of 4.0% of its marine areas designated as Marine Protected Areas (MPAs), with the data last updated in October 2024 on the tracker (Skytruth Organization, 2024). Out of this, only 0.5% is classified as fully protected (*Fig. 2*), meaning that extractive or destructive activities are prohibited in these regions (The MPA Guide, n.d.). This fully protected area refers specifically to Jardines de la Reina National Park.

Within the 4.0% coverage, the habitats that receive the highest levels of protection are:

Salt Marshes

89.2%

Mangroves

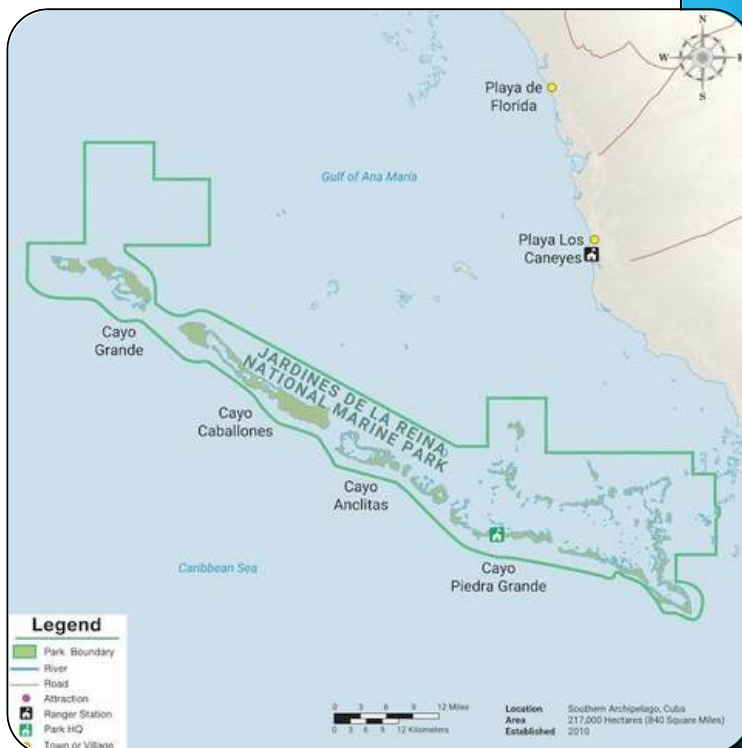
50.6 %

Seagrasses

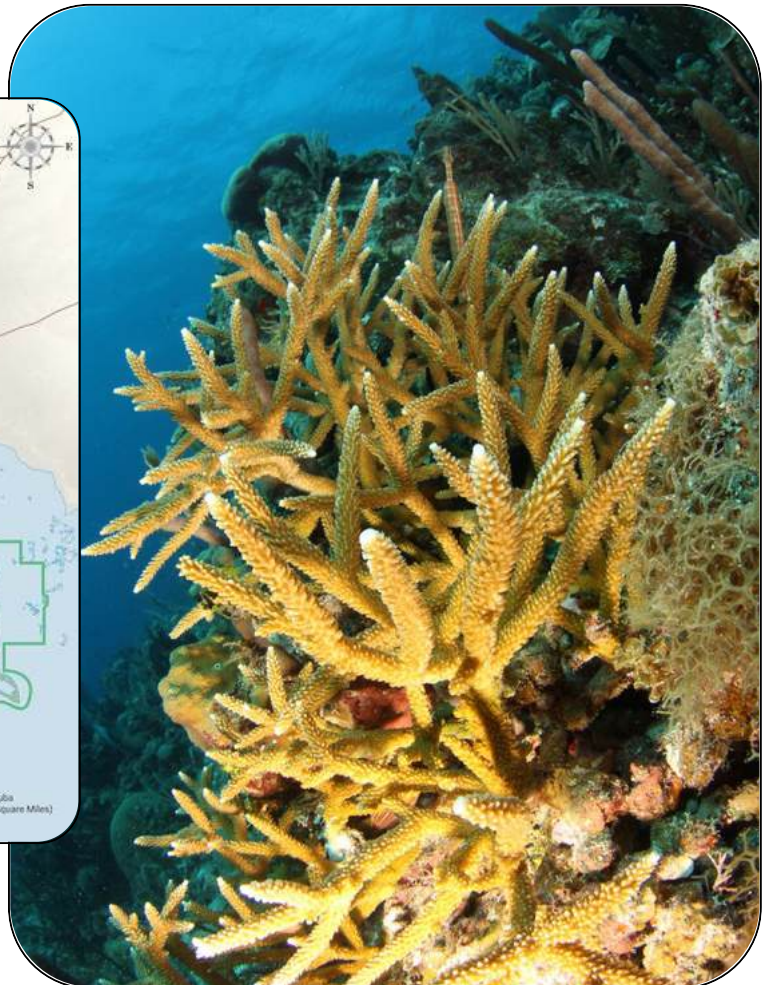
43.4%

Warm-water corals

28%



Map of Jardines de la Reina National Park, located off the southern coast of Cuba | Global Conservation



Staghorn coral in Jardines de la Reina National Park | Noel Lopez with the Marine Conservation Institute

Progress & Challenges

Jardines de la Reina National Park was designated as a protected area in 1996. Since then, reports indicate that fish populations have increased by **30-50%**. The park serves as a habitat for several IUCN-listed species, including threatened and critically endangered sharks, groupers, sea turtles, and various other marine organisms. Additionally, Jardines de la Reina is home to black corals, which are among the oldest living organisms on Earth (Jardines de la Reina, n.d.).

Although Cuba has recently added other ecosystems to its list of MPAs, such as the East of Los Colorados Archipelago in 2022, which serves as a biodiversity hotspot and an important fish spawning site supporting the livelihoods of about **10,000 people** (WCS, 2023), these ecosystems still face threats related to coastal development, overfishing, and other human impacts. The demand for fish in Cuba continues to rise due to the growing tourism industry. Since most of Cuba's fisheries have been overharvested, this situation drives illegal fishing in protected areas. It has been reported that around **300 private fishing boats illegally fish** in Jardines de la Reina National Park every day (Jardines de la Reina, n.d.).

An additional challenge arises from Cuba's geographic location. Like many countries in the Insular Caribbean, Cuba has faced several natural disasters exacerbated by human impacts on the climate. Between 2001 and 2017, the country experienced approximately **12 hurricanes**, 10 of which were classified as Category 4 or 5 (Resilient Shores, 2024). This situation places Cuba in a difficult position: it must choose between investing financial, human, infrastructure, and equipment resources to expand and protect its MPAs for climate protection and adaptation, or directing these limited resources to rebuild communities affected by natural disasters.

DOMINICAN REPUBLIC

International Commitment Status:

The marine conservation coverage reported on the tracker is 12.1%, with the data last updated in October 2024 (SkyTruth Organization, 2024). The Dominican Republic has not yet submitted data on marine conservation protection levels to the tracker. However, the tracker does provide a visual representation of other important information, such as the country's exclusive economic zone (EEZ) and its overlap with protected areas.(Fig. 4).

Within the 12% coverage, the habitats that receive the highest levels of protection are:

Cold-water
corals

86.6%

Mangroves

80.3%

Warm-water
corals

65.4%

Seamounts

37.9%

Seagrasses

24.8%



Mangrove restoration in the Dominican Republic with Seacology and 11th Hour Racing
| 11th Hour Racing

DOMINICAN REPUBLIC

Progress

The Dominican Republic has made significant progress toward achieving its 30x30 goals. It is the first Caribbean nation to protect 30% of its marine resources, reaching this milestone **six years ahead of schedule** (Advancing the Caribbean 30x30 Vision, 2024). This achievement was made possible through the support of NGOs such as Mission Blue and Blue Nature Alliance, as well as partnerships between the government, public and private sectors such as Group Punta Cana (GPC) and the regenerative ecotourism industry (Zamora, 2022), and local communities. The designation which included the creation of a new MPA called the Beata Ridge was based on two research expeditions conducted in 2024 in the southern part of the Beata Ridge. The results of these expeditions revealed that the area serves as an important connectivity zone, providing feeding grounds and travel routes for marine and seabird species (Dominican Republic Leads Global Promise, 2024). The research included photo identification of species, eDNA sampling, visual surveys, and the use of hydro-acoustic technologies (Steinhoff, 2024).

In addition to the Beata Ridge, the Dominican Republic has created a series of other marine sanctuaries, including Arrecifes del Sureste and Santuario Marino del Norte. The most recent of these sanctuaries was created under Law 313-14 in August 2014, a legislative milestone that underscored the country's commitment to marine connectivity and biodiversity. These sanctuaries offer essential habitats and feeding grounds for a variety of migrating species, including the yellow manatee, several species of dolphins, sea turtles, corals, and whales, many of which are protected by international agreements. Law 313-14 emphasizes integrated development strategies that prioritize **environmental sustainability, social equity, and a holistic, inclusive approach** (Ley No. 313-14, 2024).

The country's efforts extend beyond these marine sanctuaries. In 2014, the Dominican Republic designated the Humedales de Jaragua, a critical part of Jaragua National Park, as a Marine Protected Area. This site includes a variety of coastal wetlands that provide habitat for endangered species such as the Antillean manatee, numerous bird species, and various types of corals. These wetlands are also vital to the local economy, particularly through artisanal fishing, which sustains the livelihoods of many community members (Humedales De Jaragua, n.d.).

DOMINICAN REPUBLIC

Challenges

However, these significant strides toward conservation are not without challenges. The Humedales de Jaragua, for instance, face threats from economic activities that jeopardize their delicate ecosystems. The storage and transportation of **bauxite**, an essential ore for aluminum production along with **the movement and anchoring of boats and the development of tourism infrastructure**, pose serious risks to the wetlands (Humedales De Jaragua, n.d.). These issues highlight the ongoing tension between economic development and environmental preservation, underscoring the need for continued vigilance and sustainable practices.



Bauxite Mining Operation near the port of Cabo Rojo in Pedernales, Dominican Republic | Al Circle News

JAMAICA

International Commitment Status:

The marine conservation coverage reported on the tracker is 1.2%, with the data last updated in October 2024 (SkyTruth Organization | Jamaica). Jamaica has not yet submitted data on marine conservation protection levels to the tracker. However, the tracker does provide visual representation of other important information such as the country's exclusive economic zone (EEZ) and their overlap with protected areas (Fig. 6).

Within the 1.2% coverage, the habitats that receive the highest levels of protection are:

Mangroves

73.9%

Warm-water corals

17.5%

Seagrasses

16.8%

Cold-water corals

5.1%

Seamounts

2.5%



Hon. Parnell Charles Jr. and UNEP's Vincent Sweeney take part in mangrove replanting along the Palisadoes strip in June 2021, observed by NEPA's Peter Knight | Jamaica Information Center

JAMAICA

Progress

Jamaica has made significant strides in marine conservation, particularly with the establishment of protected areas such as the Portland Bight Protected Area (PBPA) and the Black River Protected Area (BRPA). Designated by the Jamaican government in 1999, the PBPA is the **largest protected area in the country**, encompassing a vast stretch of dry limestone forests and wetlands, which provide habitats for vulnerable and endemic species (Portland Bight Protected Area, 2020). While more than half of the land within the PBPA remains in its natural state, the remaining portion is utilized for sugar crop agriculture and human settlements. This region is also critical for local fisheries, with approximately **25% of Jamaica's 16,000 fishers** based in the coastal communities of the PBPA (Caribbean Coastal Area Management Foundation, 2010).

In addition to the PBPA, Jamaica has recently expanded its marine protection efforts with the designation of the Black River Protected Area (BRPA) in December 2021, under Section 5 of the Natural Resource Conservation Authority (NRCA) Act of 1991 (National Environment and Planning Agency, 2023). The Black River plays an essential role in controlling the flow of nutrients, sediments, and toxins into marine ecosystems, contributing to the preservation of these critical environments.

Challenges

Despite these initiatives, Jamaica faces considerable challenges in achieving its ambitious 30x30 goals. During the launch of the Great Mangrove Cleanup project in April 2024, which aims to reduce marine pollution by installing interceptors in city drainage gullies, the Ministry of Economic Growth and Job Creation acknowledged that while progress is being made, the country is currently **falling behind its targets** (Audu, 2024). This delay is largely attributed to the high costs associated with technical work, such as mapping and environmental assessments, as well as the development of security and operational plans for marine protection (Murphy, 2024). Additional challenges such as **overfishing, agricultural pollution, burning, and illegal farming** continue to hinder the effectiveness of these conservation efforts.

HAITI

International Commitment Status:

The marine conservation coverage reported on the tracker is 2.8%, with the data last updated in October 2024 (SkyTruth Organization, 2024). Haiti has not yet submitted data on marine conservation protection levels to the tracker. However, the tracker does provide visual representation of other important information such as the country's exclusive economic zone (EEZ) and their overlap with protected areas (Fig. 3).

Within the 2.8% coverage, the habitats that receive the highest levels of protection are (UNEP-WCMC, 2025):

Mangroves

44.2%

Warm-water corals

35 %

Seamounts

N/A

Seagrasses

1.45%



Mangrove restoration project of Cahouane on the coast of Haiti | Gabriel Gelin / Foto de PNUMA (UNEP)

HAITI

Progress

Haiti has made significant efforts to protect its marine ecosystems. In 2013, the Cahouane mangroves on Haiti's southern coast were declared a protected area after decades of overexploitation and degradation, which led to the disappearance of birds due to snaring, theft, and deforestation for charcoal (United Nations Environment Programme, 2020). From 2017 to 2019, the Global Environmental Facility funded a project supported by the United Nations Environment Programme (UNEP) and Haiti's Ministries of Environment and Agriculture. This initiative led to a **remarkable recovery of the mangroves**, with a significant return of birds, fish, and crustaceans. The project not only raised awareness about the importance of conserving mangroves but also provided training and short-term employment opportunities, particularly for women in the community (United Nations Environment Programme, 2020). An additional source of support for Haiti is the **Caribbean Biodiversity Fund (CBF)** which has been instrumental in supporting Haiti's efforts to protect and restore its coastal ecosystems, particularly through ongoing programs that focus on watersheds and mangroves in protected areas. These initiatives include training farmers in sustainable agriculture and equipping fishermen with skills for sustainable fisheries management (CORE Response: Community Organized Relief Effort, 2025).

Challenges

While this external support has been crucial, the country remains **heavily reliant on foreign assistance** (UNEP-WCMC, 2025). This dependency highlights the pressing need for Haiti to strengthen its governmental financial commitments in order to achieve the long-term success of its conservation efforts. Additionally, Haiti remains one of the most **vulnerable countries to natural disasters**. In 2021, a **7.2 magnitude** earthquake struck the southern region (The World Bank in Haiti, n.d.), exacerbating existing political and socio-economic instability and delaying the country's progress toward the 30x30 conservation goals. Despite these challenges, the Haitian government understands the critical importance of protecting and restoring coastal areas as part of its strategy for climate change adaptation. While several well-developed plans have been created to address these climate challenges, their implementation has been hindered by a lack of financial resources, technical expertise, and institutional capacity (UNEP-WCMC, n.d.).

Regional and International Policies & Commitments

The Kunming-Montreal Global Biodiversity Framework:

Target 23

Target 23 of the Kunming-Montreal Global Biodiversity Framework (GBF) is dedicated to ensuring gender equality and a gender-responsive approach in biodiversity action. It calls for all women and girls to have equal opportunity and capacity to contribute to the three objectives of the Convention on Biological Diversity: conservation of biological diversity, sustainable use of its components, and fair and equitable sharing of benefits from genetic resources. The target emphasizes:

- Equal opportunity, capacity, and rights for women and girls
- Participation and leadership at all levels of action, engagement, and decision-making
- Equal rights and access to land and natural resources

Progress on Target 23 supports broader biodiversity goals and aligns with the Sustainable Development Goals (SDGs), particularly SDG 5 on gender equality. The Gender Plan of Action (2022–2030) adopted alongside the GBF provides concrete actions and timelines for Parties to mainstream gender in biodiversity policy and implementation.



Hortencia Hidalgo (RMIB-LAC) speaking during capacity strengthening panel at the Achieving Target 23 event for the UN Biodiversity Conference | Mika Schroder at IISD/ENB

Regional and International Policies & Commitments

TARGET 23

CUBA

Status of International Commitment:

Cuba has signed the Convention on Biological Diversity and adopted the Kunming-Montreal Global Biodiversity Framework.

Progress and Challenges: Legislative measures have integrated SDG 5, promoting women's participation in government and addressing gender-based inequalities. For instance, UNDP initiatives have supported rural women's rights and empowerment in sustainable economies, enhancing their roles in agriculture and resource management. (UNDP, n.d.). Economic crises, persistent sexist stereotypes, insufficient agricultural inputs, and the vulnerability of women-headed households to poverty and climate shocks remain significant hurdles. The lack of a comprehensive law on violence against women and patterns of criminalization against women's rights activists further undermine progress. (UNDP, n.d.)

DOMINICAN REPUBLIC

Status of International Commitment:

Dominican Republic has formally committed to protecting over 30% of marine areas by 2030 under the Kunming-Montreal GBF. Promotes gender equality through Target 23.

Progress and Challenges:

The country's new policy aims to increase women's participation and leadership in agriculture, improve land tenure, and support rural women's economic empowerment. Institutional advances include the Ministry of Women and laws against gender violence. (USDA). Despite these steps, deep structural inequalities persist. Gender-based violence remains high, and women face barriers in political participation, access to health, and economic opportunities. In rural areas, women have less access to land and resources, and the gender wage gap and informal employment rates are significant. (USDA, n.d.)

JAMAICA

Status of International Commitment:

Engaged internationally through frameworks such as Open Government Partnerships (OGP), Vision 2030, and National Development Plan aligned with SDGs.

Progress and Challenges: Policy advancements include the establishment of gender and climate change focal point networks and efforts to mainstream gender in environmental governance. Initiatives like the Gender and Climate Change Strategy and Action Plan aim to ensure women's participation in decision-making and resource management. (GCCSAP, n.d.). Challenges include fiscal constraints, infrastructural weaknesses, violence, and limited public awareness about environmental governance hinder progress. Women remain underrepresented in leadership roles in environmental and climate-related fields (GCCSAP, n.d.).

HAITI

Status of International Commitment:

Strategic development plan aligns with the 2030 Agenda for Sustainable Development but operationalization is limited due to financial constraints and governance issues.

Progress and Challenges:

There are efforts to mainstream gender in adaptation plans, and some projects have provided training and employment opportunities for women in ecosystem restoration (e.g., mangrove restoration projects) (Ministry of Environment Haiti, n.d.). Challenges include political instability, limited financial resources, and reliance on international funding impeding progress. Women's access to land, credit, and extension services is particularly low—only 8% of rural women own land, and they receive a small fraction of agricultural credit and training. (CIF)

Regional and International Policies & Commitments

Nationally Determined Contributions (NDCs)

Nationally Determined Contributions (NDCs) outline each country's commitments to reducing emissions and adapting to climate change under the Paris Agreement. In the Insular Caribbean, the nation's commitments include reforestation, marine ecosystem restoration, and policies to protect biodiversity. However, progress varies due to financial, technical, and political challenges. While Cuba and the Dominican Republic have set ambitious land and marine conservation targets, their success depends on funding and policy alignment. Jamaica has expanded its focus on forestry but lacks clear marine conservation targets, while Haiti remains heavily reliant on external support to implement its adaptation strategies.

Status of International Commitment:

Cuba's NDCs Update from 2025 include forest expansion (50,000 ha by 2035), mangrove restoration, and a ban on construction in flood-prone areas. The expected outcome is a net carbon absorption of 150 million tonnes of CO₂. (United Nations Framework Convention on Climate Change, n.d.).

CUBA

Progress and Challenges:

Despite these commitments, Cuba faces major financial barriers. The U.S. economic embargo restricts access to international climate finance and modern conservation technology, severely limiting Cuba's ability to implement large-scale environmental programs. Additionally, climate-related disasters, including hurricanes and coastal erosion, require substantial emergency spending, diverting resources away from long-term conservation efforts (United Nations Framework Convention on Climate Change, n.d.).

Status of International Commitment:

The Dominican Republic's 2020 NDC update demonstrates a high level of policy integration with environmental laws and Sustainable Development Goal 14 (Life Below Water). Key elements include a legal national framework for biodiversity conservation, participation in the Caribbean Biological Corridor (CBC), and marine ecosystem protection (Consejo Nacional para el Cambio Climático y Mecanismo de Desarrollo Limpio, 2020).

Progress and Challenges:

Despite these policy advancements, the Dominican Republic faces significant financial and technical constraints. The country requires an estimated \$106.7 million by 2030 to:

- Improve conservation planning and data management
- Control invasive species in marine areas
- Strengthen co-management strategies for protected areas

Limited government funding and weak inter-institutional coordination hinder the effective implementation of conservation programs. Developing sustainable financing mechanisms, such as an Endowment Fund for Protected Areas, is a crucial next step to ensure the long-term success of biodiversity commitments (Consejo Nacional para el Cambio Climático y Mecanismo de Desarrollo Limpio, 2020).

DOMINICAN REPUBLIC

Regional and International Policies & Commitments

JAMAICA

Status of International Commitment:

Status of International Commitment: Jamaica's 2020 NDC update marked a shift towards land use change and forestry, incorporating the sustainable management of forest resources as a poverty reduction tool. The country's key commitments include:

- No net loss of forest cover as part of its carbon sequestration strategy
- Tree planting programs to enhance climate resilience
- Expanding focus on climate adaptation in the agriculture and forestry sectors

(Ministerio de Ciencia, n.d.)

Progress and Challenges:

Jamaica's marine conservation goals remain unclear within its NDCs. The country lacks:

- Specific data or targets for Marine Protected Areas (MPAs).
- A comprehensive plan for integrating blue carbon ecosystems into climate mitigation.
- Dedicated financial and technical resources for expanding marine conservation efforts.

While the government has publicly committed to protecting 30% of its oceans by 2030, financial constraints and the high costs associated with mapping, assessment, and security planning pose major barriers to implementation. Addressing these resource limitations is essential for accelerating marine conservation efforts.

(Ministerio de Ciencia, n.d.)

Status of International Commitment:

Haiti's 2022 NDC update recognizes climate change as one of the most significant threats to the country's economic and environmental stability. The strategy prioritizes climate adaptation over mitigation due to Haiti's high vulnerability to extreme weather events. Key commitments include mangrove and coral reef restoration, adaptation measures for the fisheries sector, and integration of climate resilience planning into broader environmental policies (Ministère de l'Environnement, n.d.).

Progress and Challenges:

Haiti remains highly dependent on external funding. The estimated \$700 million required for adaptation projects is largely contingent on international assistance. Additional challenges include weak institutional capacity, lack of technical expertise and infrastructure for marine ecosystem management, and political instability (Ministère de l'Environnement, n.d.).

HAITI

Regional and International Policies & Commitments

Key Observations on NDC Implementation: Blue Carbon Ecosystems

Despite the critical role of blue carbon ecosystems—including mangroves, seagrasses, and coral reefs—in carbon sequestration, coastal protection, and biodiversity conservation, none of the four Insular Caribbean countries have fully integrated them into their Nationally Determined Contributions (NDCs) as climate mitigation strategies. While some restoration efforts exist, these ecosystems remain largely underfunded and absent from formal national climate commitments. One of the major gaps in NDC implementation across Cuba, the Dominican Republic, Jamaica, and Haiti is the lack of formal recognition of blue carbon ecosystems as carbon sinks. While these countries acknowledge the importance of mangroves and coral reefs for coastal protection and adaptation, their carbon sequestration potential is not reflected in emission reduction targets.

A significant missed opportunity in these countries is the potential to leverage blue carbon ecosystems in the global carbon market. Countries such as Kenya and Seychelles have successfully integrated blue carbon initiatives into carbon credit programs—through community-based projects like Kenya's Mikoko Pamoja and Vanga Blue Forest, and Seychelles' national Blue Carbon Roadmap—attracting international investment while linking mangrove and seagrass restoration to climate commitments and long-term ecosystem protection (Reach Alliance; Blue Carbon Lab). However, none of the four Insular Caribbean nations have explored carbon financing mechanisms for their mangroves or seagrasses, despite the growing interest in nature-based climate solutions (Herrera-Madueño et al.).

An aerial photograph of a small, weathered wooden boat beached on a white sand shore. The water transitions from a deep blue to a clear turquoise near the shore. The boat is tilted, and its mast is visible. Various items, including a large white tarp and some debris, are scattered on the sand around the boat.

Multilateral Aid Support

Multilateral Aid Support

Table 1: Summary of Recent Multilateral Environmental Aid Allocated to the Greater Antilles

Organization	Aid Category (Mechanism)	Recent Aid Summary	Total Funding (USD)
CIF	Renewable Energy (Scaling Up Renewable Energy Program (SREP))	Haiti : 8 projects (\$60.35M), co-financing (\$264.48M) DR : 2 projects (\$31M), co-financing (\$54M) Jamaica : 3 projects (\$28.5M), co-financing (\$2.67M) Cuba : No funding	\$119.8M
GCF	Climate Adaptation & Readiness Activities (Supports countries in climate planning, resilience, and governance)	Haiti : 4 adaptation + 11 readiness (\$36.3M) Cuba : 2 adaptation + 12 readiness (\$62.1M) DR : 9 adaptation + 10 readiness (\$103.3M) Jamaica : 6 adaptation + 16 readiness (\$55.9M)	\$257.6M
GEF	Adaptation & Resilience Projects (Least Developed Countries Fund (LDCF) & Adaptation Funds(AF))	Haiti : 7 projects (LDCF, \$33.5M) + 1 (AF, \$9.9M) Cuba : 1 project (AF, \$6M) DR : 1 project (AF, \$9.9M) Jamaica : 1 project (AF, \$9.9M)	\$69.2M
CEPF	Biodiversity (Hotspot Project)	DR : 4 projects (\$909K) Jamaica : 2 projects (\$436K) Haiti & Cuba : No funding	\$1.34M

Multilateral aid consolidates resources from countries and organizations to expand the available funding pool and foster substantial cross-border collaboration for targeted projects and initiatives. This enhanced resource capacity and collaborative approach provides a significant advantage in addressing environmental challenges, particularly in biodiversity conservation and climate adaptation—areas that inherently demand comprehensive, large-scale solutions. Several key organizations consistently contribute to multilateral environmental funding, including the United Nations (UN), the United Nations Environment Programme (UNEP), Climate Investment Funds (CIF), the Global Environment Facility (GEF), the Green Climate Fund (GCF), and the Critical Ecosystem Partnership Fund (CEPF). The following chart illustrates the above entities' most significant recent multilateral aid contributions to environmental projects in our target countries.

Multilateral Aid Support

Table 2: GEF-Funded Projects Supporting MPAs and Marine Resilience in the Greater Antilles

GEF MPA Project	Focus Areas	Countries	Funding Total
<u>Jamaica Mangroves Plus</u> (2020–present)	Mangrove management, biodiversity, sustainability	Jamaica	\$1,648,630
<u>PROCARIBE+</u> (2021–present)	MPAs, blue economy, climate resilience, regional collaboration	Cuba, DR, Haiti, Jamaica	\$15,429,817
<u>Caribbean BlueFin</u> (2021–present)	Nature-based blue finance	Nature-based blue economy finance	\$6,000,000
<u>GBF Early Action Support (LAC-2)</u> (2022–present)	CBD alignment, NBSAPs, policy/monitoring support	Cuba & DR	\$1,917,811
<u>SargMarine</u> (2024–present)	Sargassum management, tourism/fisheries resilience, capacity building	DR	\$10,000,000
<u>Source-to-Sea Governance (SICA)</u> (2024–present)	Marine-freshwater linkage, climate and economic resilience	DR	\$18,048,624
Total GEF Funding for MPA Projects			\$53.05 million

GEF's Funding Landscape Breakdown

While the Table 1 provides a general overview of the multilateral funding landscape in the Greater Antilles, it is also crucial to examine the types of projects these organizations are supporting, particularly those related to marine conservation and, more specifically, MPA implementation and maintenance. To explore how GEF funding has been distributed across MPA-related efforts in the region from 2020 to 2025, the following Table 2 breaks down GEF's investments by project type. Although none of the identified projects explicitly mention or allocate funding to MPAs, discretion was used to determine which initiatives are relevant to MPA development and networks. It is also important to note that GEF is just one of several multilateral aid organizations active in marine conservation in the Greater Antilles. Therefore, this table should not be considered representative of the funding allocation patterns of the other three multilateral organizations referenced above or of multilateral donors more broadly. Many of these projects are still ongoing, so the total value of GEF support for MPA-related initiatives in the region is subject to change. Additionally, because GEF does not disaggregate regional funding by individual country, it is not currently possible to calculate the share of funding directed to MPA-related projects relative to GEF's total investment in the Greater Antilles, as originally requested.

Multilateral Aid Support

Table 3: Regional Share of Multilateral Environmental Aid Allocated to the Greater Antilles

Org	Total Global Environmental Multilateral Aid Allocation To Date (USD)	Total Multilateral Environmental Aid in the Greater Antilles (from Figure 1)	Antilles' Share of Total Global Environmental Aid
CIF	\$12.1B	\$119.8M	0.99%
GCF	\$16.64B	\$257.6M	1.55%
GEF	\$24.89B	\$69.2M	0.28%
CEPF	\$296M	\$1.34M	0.45%

Table 4: Regional Breakdown of Multilateral Aid to the Insular Caribbean by Organization and Project Type

Org	Tot. Multilateral Environmental Aid in the Insular Caribbean (USD)	Funding Allocated to Regional Cooperation Projects (USD)	Percentage of Funding Allocated to Regional Cooperation Projects (%)	Funding Allocated to transboundary MPA/Marine Conservation Projects (USD)	Percentage of Funding Allocated to transboundary MPA/Marine Conservation Projects (%)
IW (GEF)	\$332.25M	\$332.25M	100%	\$134.26M	40.40%
IDB	2.89M	N/A	N/A	N/A	N/A
KfW	N/A	N/A	N/A	N/A	N/A
CBF	\$28.28M	2M	1%	28.26M	99.90%
CAF	2.48B	N/A	N/A	1.25B	50.40%
GCF	1.21B	995.98M	82.31%	148.93M	12.31%

Multilateral Aid Allocation in the Greater Antilles vs. Other Regions

Given the species richness and diversity of the Greater Antilles region, it is no surprise that this region has been the focus of many conservation efforts. The table below shows the Greater Antilles' share of global environmental funding. It presents each major environmental organization's investment in the region as a percentage of their total worldwide allocations, demonstrating the relative priority these funders place on Greater Antilles environmental initiatives.

Multilateral Aid Support

Building on the insights from *Table 2*, *Table 3* shifts the focus to how much funding is allocated to regional cooperation and transboundary marine conservation efforts (including MPAs) within the Insular Caribbean region. This table highlights the degree to which major organizations prioritize cross-border collaboration. It reveals notable differences in funding strategies between the organizations: for example, the GCF devotes a small share of funding to marine conservation compared to the IW. This breakdown helps clarify which funders are currently investing in integrated, regional approaches that could be beneficial for initiatives like the CBC. It is important to note that these projects include countries outside of the Insular Caribbean, and Haiti is not involved in any of these four projects. Each of these initiatives are regional cooperation projects, as they involve multiple countries working together to address shared environmental changes, and IWECo, BluEFin, and Reducing Marine Plastics and Plastic Pollution in Latin America fall under funding that could be allocated to marine conservation projects.

CGF also has a full country funding allocation breakdown, with 1.21 billion dollars allocated to the countries within the Insular Caribbean spread over 14 different projects. Of these 1.21 billion dollars, 995.98 million dollars are allocated to regional

cooperation projects, and 148.93 million are allocated to marine conservation projects. The marine conservation projects include Cuba's Coastal Resilience to Climate Change Through Ecosystem-Based Adaptation, which is only within Cuba, and a Global Fund for Coral Reefs Investment Window, which is a collaboration between 17 countries (including Jamaica).

Funding for the IDB, KfW, and CBF was not as accessible on a country-by-country breakdown. The IDB's website contains a breakdown of projects by country (excluding Cuba), which was filtered to only contain projects funded within the Environment and Natural Disaster Sector and projects funded within the last year. No projects were present for Haiti, but the 1 project in Jamaica and 4 in the Dominican Republic totaled 2.89 million dollars. The CBF has funded 8 projects within the last year in the Insular Caribbean, excluding Jamaica.

The information for KfW's funding allocation to the countries within the Insular Caribbean is not accessible, but it is noted that KfW Development Bank's 2024 commitments for the Latin America/Caribbean region amount to 1.02 billion Euros, which is approximately 1.09 billion USD. There is also no funding information that is more detailed than the greater Caribbean and Latin America available for the CAF.

Multilateral Aid Support

CBC'S SHARE OF MULTILATERAL AID ALLOCATIONS

The CBC reports an [annual operating budget](#) of approximately \$330,000 plus an ecological monitoring budget of \$120,000, totaling about \$450,000 annually. According to the [2022 strategic plan](#), an additional \$550,000 is projected for on-the-ground project implementation (CBC, 2022). In total, the CBC requires \$1M annually to effectively operate and implement conservation projects throughout the Caribbean region.

Regarding funding sources, the CBC identifies UNEP and the EU as its primary funders. [UNEP](#) contributed an initial €2,774,835 (approximately \$3,029,010 USD) during the CBC's first phase (2010-2014), followed by €300,000 (\$327,495 USD) during the transitional phase (2015-2016) (UNEP, 2016). For the current phase (2017-present), UNEP's exact financial contribution remains unclear. The EU, the other major funder, contributed \$3.94 million

from 2017 to mid-2021, averaging approximately \$1M annually (CBC, 2022). While the CBC's conservation objectives align closely with those of all these organizations, particularly the CEPF, no documentation indicates that the CBC receives funding from any of the four focus organizations previously mentioned. Consequently, the CBC is currently capturing 0% of the available environmental multilateral funding from these prominent organizations. In terms of existing funding, the CBC presently receives only a small fraction of the EU and UNEP's environmental aid allocations annually, as illustrated in the table below.

Table 5: Regional Breakdown of Multilateral Aid to the Insular Caribbean by Organization and Project Type

Org	Total Funding Allocated to Environmental Projects (Latest Single-Year Data: 2023-2024) (USD)	Total Funding Allocated to the CBC Since Establishment (2010)(USD)	Percentage
EU	\$64.35B (2023)	\$3.94M	0.0061%
UNEP	\$95.2M (2024)	\$3.36M	3.53%

Multilateral Aid Support

Based on our analysis of funding patterns from major environmental multilateral organizations (CIF, GCF, GEF, and CEPF), approximately 1-2% of total multilateral environmental aid is directed toward regional cooperation initiatives, with the vast majority (98-99%) allocated to country-specific or site-specific projects. Of the limited funding devoted to regional efforts, the Caribbean Biological Corridor (CBC) currently captures 0% from these four major organizations, relying instead on the EU (0.0061% of their environmental budget) and UNEP (3.53% of their environmental funding). The Greater Antilles region as a whole receives minimal attention from global environmental funding, capturing only 0.99% from CIF, 2.09% from GCF, 0.29% from GEF, and 0.45% from CEPF. This funding pattern appears consistent across different global regions, suggesting a systematic preference for country-specific approaches despite the transboundary nature of many environmental challenges.

For the CBC, these findings represent both a challenge and a significant opportunity. The organization faces an uphill battle competing against the entrenched funding model that heavily favors country-specific projects. However, this also highlights an untapped potential for the CBC to position itself as a pioneering regional initiative that bridges conservation gaps between individual country efforts.

By demonstrating how its regional approach creates unique ecological and economic benefits that country-specific projects cannot achieve alone, the CBC could make a compelling case to diversify its funding sources beyond its current EU and UNEP partnerships. This would not only bolster the CBC's financial resilience—a priority area they have identified for substantial improvement—but also potentially catalyze a shift in the broader funding landscape toward greater recognition of the essential role of regional cooperation in tackling cross-border environmental challenges.

A photograph of a tropical building with arched windows and a palm tree trunk in the foreground. The building is constructed from light-colored stone blocks and features two arched windows with metal grates. A large palm tree trunk is visible on the right side of the frame, and various tropical plants, including banana leaves and smaller palm fronds, are scattered around the building. The sky is overcast with grey clouds.

Policy Recommendations

Policy Recommendations

Drawing on extensive research and analysis of regional marine conservation challenges, ten targeted policy recommendations have been developed. These are grouped into three categories: Finance, Technology and Science, and Social, to address critical gaps and support marine protection efforts across the CBC region in achieving the 30x30 goals. Each recommendation responds to specific needs and considers key subtopics. Key topics include, strategic alignment, institutional capacity, required financial resources, technical expertise, regional coordination, model policy frameworks, and anticipated benefits. Further details regarding our recommendation framework are shown on the next page.



40 students practice environmental sustainability through a recycling workshop in the San Pedro de Macorís province of the Dominican Republic
| Recreate

Policy Recommendations

Assessment Overview

Recommendation #:

What is the policy?

Strategic Alignment

Does it reflect Target 3 of the Kunming-Montreal Global Biodiversity Framework (GBF)?

What other targets does this policy align with?

How does this policy mainstream MPAs in regional policy agendas? / How does it strengthen and expand MPA protections?

Institutional Capacity

- Cuba
- Dominican Republic
- Haiti
- Jamaica

Who are the governing bodies or where are the opportunities for inter-agency collaboration? Regionally, what government agencies can oversee/work together on implementation of the policy?

Financial Resources

Access to or development of potential funding sources (existing or new?)

Technical Expertise

- Private
- Public
- Non-profit
- Local communities

Potential of blended models for MPAs and project management?

What stakeholders or organizations are involved in MPA management or co-management? (i.e. collaborative partnerships)

Policy Recommendations

Assessment Overview

Regional Coordination

How can existing regional policy coordination platforms (CBC) be leveraged to promote regional collaboration in MPA management for CBC countries?

Model Frameworks

What other policies, projects, or frameworks can be imitated for this policy?

Benefits

What are the intended benefits when implementing this policy?

Recommendation #1:

Encourage partnerships between national environmental agencies, MPA managers, and local NGOs to develop educational outreach programs that highlight the importance of marine protected areas (MPAs). This policy can mainstream MPAs in national and transboundary biodiversity strategies by implementing education programs into existing NGO-led conservation efforts. These programs are essential for building local support and encouraging active community involvement in marine conservation efforts.

Strategic Alignment

This policy recommendation aligns closely with Target 3 of the Kunming-Montreal Framework, which calls for effective conservation and management of at least 30% of marine and coastal areas through the implementation of protected areas. The main goal of these outreach programs is to strengthen the foundation for equitable and participatory MLOPA governance. It also aligns with:

- Target 20 - through promoting partnerships and participation by multiple stakeholder groups
- Target 21 - by creating access to information, awareness, and education for biodiversity



The Caribbean Coastal Area Management Foundation is a Jamaican nonprofit organization that co-manages the Portland Bight Protected Area and put on a school tour to educate children about coastal conservation. | C-CAM Foundation

Institutional Capacity

- Cuba
 - Ministry of Science, Technology, and Environment (CITMA); Wildlife Conservation Society (Active in Parque Nacional Jardines de la Reina)
- Dominican Republic
 - Ministry of Environment and Natural Resources; Grupo Jaragua
- Haiti
 - Ministry of Environment; Fondation pour la Protection de la Biodiversité Marine (FoProBim)
- Jamaica
 - National Environment and Planning Agency; Jamaica Environment Trust

Financial Resources

- GEF - PROCARIBE+: Focus on regional collaboration and sustainable blue economy development
- GEF - Safmarine: Focus on capacity building and knowledge sharing
- National Trust Funds via Caribbean Biodiversity Fund (CBF)
- Critical Ecosystem Partnership Fund (CEPF): Historically funded community-based conservation and environmental education
- A travel cost method to better research the economic value of MPAs can lead to further funding and expansion of MPAs within the CBC

Technical Expertise

- Schools, STEM afterschool programs, local governments, and regional conservation organizations can benefit from multi-sector partnerships
- Local marine-focused research hubs uniquely positioned with the tools and resources to effectively educate local communities about MPA maintenance

Regional Coordination

The CBC could be leveraged as a regional platform to coordinate outreach and education in Cuba, the Dominican Republic, and Haiti. CBC uses funding from UNEP and the EU to facilitate regional collaboration within MPA management and is well-aligned to take on future projects that support marine ecosystem education and protection. There is not publicly documented evidence of formal collaborations between the CBC and the Ministries of education in its member countries, but the CBC's Strategic Plan for 2022-2030 emphasises the importance of multi-actor partnerships. This is a potential avenue for future collaboration with education institutions to promote environmental awareness and education. For this policy, CBC can:

- Encourage Jamaica to join as a member and include the country in transboundary marine conservation projects (Jamaica is not a current member, but does participate in many GEF and GCF funded regional projects with CBC countries)
- Facilitate collaboration between the CBC Inter-Ministerial Committee and the Ministries of Education with focus on implementing environmental education into the national science curriculum
- Work with each country's Ministry of Education to embed MPA and biodiversity content into science curriculum.
- Be a data and information hub for educational content

Model Frameworks

- *Sustainable Development Goals*
 - [4] Quality Education
 - [14] Life Below Water
 - [16] Peace, Justice, and Strong Institutions
- *M/V Oceans for Youth within Cuba's Gardens of the Queen National Park*
- *Seacology Project in Montecristi Province, Dominican Republic*

Some of these projects received funding from organizations like the Oceans for Youth Foundation and Seacology. It is reasonable to consider that these same funders could potentially support future educational outreach programs that align with their conservation and community engagement missions.

Benefits

The benefits of this policy recommendation are twofold. First, policies focused on community engagement and education can truly enrich local communities, fostering an appreciation and sense of responsibility toward the environment. A sense of ownership rooted in community cultivates inclusion of sustainability in the very systems by which towns, cities, and entire countries operate. Second, this kind of policy strengthens the institutions that facilitate and enhance its implementation. For example, when a research hub with extensive infrastructure and expertise opens its doors to community members, opportunities emerge for volunteer recruitment, increased funding through broader public support, enhanced data collection through citizen science initiatives, and greater political backing for conservation efforts. These institutions can also benefit from fresh perspectives and local ecological knowledge, creating a mutually beneficial relationship that strengthens both the research capacity and community investment in marine protection goals. This policy recommendation offers a powerful means of bridging a gap. Likewise, it gives community members the chance to invest in their local environment and the marine life that inhabits it, creating a meaningful partnership with lasting impact. More tangibly, a policy like this offers the potential for job creation, revenue generation, and ecosystem service valuation.

Successful Citizen Science Project

The Billion Oyster Project (BOP): BOP is an initiative started by two graduates of the New York Harbor School following the devastation of Hurricane Sandy in 2012. The organization educates local students and provides them and other volunteers with the resources and tools needed to construct oyster reefs in the waters surrounding New York City. This initiative has already made significant progress in the New York harbor, having established “122 million oysters across 19 acres of harbor in all 5 boroughs.” (Billion Oyster Project, n.d.), but their ultimate goal is to restore one billion oysters (hence the name) into the harbor to have the greatest impact possible in the waters surrounding the city. In my opinion, this organization accomplishes two major positive effects: one, improving the stability and water quality in New York’s harbors, and two, mobilizing and empowering the city’s youth to learn about nature-based solutions and fight climate change in their own communities.

Recommendation #2:

Investing in and supporting women-led fisheries and women in conservation leadership roles, which includes leadership in decision-making roles, policy positions, and MPA/ocean conservation projects. In addition, investing in women's environmental awareness and stewardship as a conservation approach in the effort to expand MPAs and promote sustainable fisheries and better livelihoods that are highly dependent on the ecosystem services provided by a healthy and resilient marine environment.

Strategic Alignment

This policy recommendation contributes directly to Target 3 of the Kunming-Montreal Framework by strategically putting women at the forefront of conservation efforts, projects and decision-making to support sustainable livelihoods, industry practices and management of MPAs. It also supports:

- Target 5, 9, 10 and 11 - by reducing overexploitation of fish, especially impacts on wild and vulnerable fish, promotion of sustainable industry practices and conservation of marine habitats
- Target 21 - through community participation in management projects and providing data collection to guide management and assessment of fishing resources
- Target 22 and 23 - via equitable participation and representation of women on conservation projects and wider access to gender-disaggregated data



Women Ocean Guardians in Coasta Rica participating in a regional marine conservation workshop | Claudia Novelo Alpuche at WCS

Institutional Capacity

- Cuba
 - National Center for Protected Areas (CNAP); Cuba's Ministry of Trade and Foreign Investment; Cuban Institutions from Ministry of Science, Technology and Environment (CITMA)
- Dominican Republic
 - National System of Protected Areas (SINAP); Dominican Fisheries and Aquaculture Council (Codopesca)
- Haiti
 - Ministry of Environment and the National Protected Areas Agency (ANAP); Ministry of Agriculture, Natural Resources and Rural Development (MARNDR)
- Jamaica
 - National Environment and Planning Agency (NEPA); National Fisheries Authority

Financial Resources

- Environmental Defense Fund (EDF): Worked on the SOS Pesca project to fund and support healthy and sustainable fisheries (Miller et al., 2018)
- Caribbean Biodiversity Fund (CBF)
- World Wildlife Fund (WWF)
- MacArthur Foundation
- European Union (EU)

Technical Expertise

- Environmental Defense Fund providing technical and scientific expertise and trainings based on previous work with SOS Pesca project
- Fondation pour la Protection de la Biodiversité Marine (FoProBiM) and other NGOs providing facilities, educational resources, research initiatives, and facilitating project planning and training with women
- Women and local communities developing goals, activities and success indicators, and leading on MPA project development, monitoring and management
- Scientists and MPA managers overseeing data collection and assessments and leading field expeditions and trainings
- Local governments acting as additional resource to provide expertise in environmental education, data collection and monitoring and protected areas management



SOS Pesca project participants using a chart to see the vulnerability of finfish in Cuba | SSF Hub

Regional Coordination

Regional Coordination

The CBC can be leveraged as a project coordination platform at the regional level to maintain constant communication between stakeholders at project sites, conduct training, and facilitate regional exchanges that highlight communities successes, lessons learned and co-management projects. The CBC can use these community experiences to promote shared vision of the importance of protected areas for healthy ecosystems, fisheries and community livelihoods. For this policy, CBC can:

- Be a hub for scientific, technical and administrative support for fishery focused activities
- Provide facilities for training workshops, delivering tools and planning
- Facilitate regional exchanges between community members, local government representatives, and national and international institutions
- Encourage expansion of MPAs and update national plans to include ocean conservation initiatives

Model Frameworks

- *Caribbean Community Regional Gender Equality Strategy (CRGES)*
- *Gender Analysis Strategy and Action Plan (Gender ASAP)*
- *SPAW Protocol*
- *UN Sustainable Development Goals, specifically SDG 23*
- *SOS Pesca Project* (Miller et al., 2018)

Benefits

Investing in women creates a roadmap and long-term solution for regional protection and management of MPAs. Women in the Greater Antilles face compounding challenges, especially as it relates to environment and economic issues, at different and greater rates than men (Pena et al., 2023). In countries where poverty and inequality are so interconnected with environmental degradation, women can play a vital role in conservation efforts to protect both the ocean and livelihoods. This policy builds capacity for women to engage in development, implementation, monitoring and evaluation of conservation policies and projects. Women can also become community representatives or ambassadors for sustainable fisheries, marine conservation, and MPA management, to share their experiences. When women are leaders in conservation, ecosystems and communities thrive.

- Increased employment through socioeconomic alternatives
- Wider recognition of the need to shift to more sustainable aquaculture and fishing practices and maintain ecosystem integrity
- Awareness and knowledge of conservation and sustainable resource management
- Improved food security and livelihoods due to healthier ecosystems
- Integration of MPAs in fisheries
- Strengthened marine and coastal management
- Community-led initiatives
- Protection of key species through updated national plans
- Reduced pressure on fish populations
- Networking and regional connectivity
- Continued legacy of conservation work as knowledge is shared for generations
- Fills major gaps in fisheries management, ecosystem resources and gender-disaggregated data

Recommendation #3:

Include MPAs in the National Food Security Program, acting similarly to safe nurseries that help fish populations grow. Livelihoods and food sources are strongly correlated with healthy fish stocks provided by ocean ecosystems. Healthier fish stocks could mean more food and income for coastal communities. In addition, government recognition of such connections could build political will to protect and fund MPAs, in order to support the health of their residents.

Strategic Alignment

This policy recommendation supports Target 3 of the Kunming-Montreal Framework by linking marine protected areas (MPAs) to sustainable and healthy livelihoods and expansion of MPAs into the National Food Security Program. It also supports:

- Target 10 - through promoting more sustainable practices in Aquaculture and fisheries and, in turn, enhancing biodiversity in these industries
- Target 22 - by ensuring inclusive decision-making and equitable access to biodiversity information



Former president Danilo Medina visits Value Aquaculture's sutchi farm in the Kopejito region, highlighting growing investment in sustainable fish farming in the Dominican Republic | Global Seafood Alliance

Institutional Capacity

- Cuba
 - Ministry of Environment; Ministry of Fisheries
- Dominican Republic
 - Ministry of Environment
- Haiti
 - National Protected Areas Agency; Ministry of Environment; Fisheries Service
- Jamaica
 - NEPA; Fisheries Division

Financial Resources

- GCF and GEF fund nature projects that help with food and climate problems
- CBF helps fund MPAs in the region
- Inclusion of MPAs into existing food and climate budgets offer possibilities of new funding

Technical Expertise

- Local fishing groups and other groups, like the Montego Bay Marine Park Trust, providing knowledge on ecosystems and fishing industries
- NGOs like Reef Check helping manage MPAs
- Governments and scientists collaborating and sharing technical skills and experience on managing MPAs to protect food security and provide employment opportunities

Regional Coordination

As a coordinating platform for funding and science sharing, CBC could play a key role in implementing this policy in each country. Since the CBC has already linked environment ministries and NGOs in the Greater Antilles countries, these countries could work together to examine how MPAs could support fish stocks and food security. For this policy, CBC can:

- Act as a hub and enforcement platform coordinating with countries to develop up-to-date guidelines and research on supporting fisheries and biodiversity through sustainable practices and MPAs
- Promote exchange of monitoring tools, fish stock data, and knowledge throughout the Greater Antilles region

Model Frameworks

- *SOS Pesca*
- *CoralCarib*
- *SPAW Protocol*

Benefits

By connecting MPAs to National Food Security programs, it encourages local stakeholders, such as fishers, community members, and Indigenous communities to participate in the initiative. These groups depend on the coastal ecosystems directly, but are often ignored and excluded from the formal policy-making process. Including their voices and knowledge to make sure MPA planning can reflect people's real needs who will directly be affected by its implementation. Countries such as Haiti have already begun exploring the use of mangroves and fish conservation to increase coastal resilience to climate change and food security (Forbes, 2024). Based on this, integrating MPAs into national food security programs formerly will enhance their importance in the government's agenda, which helps gain more financial support and regional cooperation for MPAs' expansion and management.

- More fish population offers better income, healthier livelihoods and more resilient ecosystems for local communities
- Wider range for governments to get financial support for MPAs from climate funds and food security programs, since food security-related MPAs could address both conservation and development goals
- Helps countries meet global conservation goals and targets
- Builds stronger regional teamwork and shared learning
- Includes marine conservation as part of the national food and economic plans
- Promotes equity and transparency of marine resources management

Financial

Recommendation #4:

Create a four-stage regional finance readiness strategy to unlock investment in blue carbon ecosystems by conducting technical assessments, piloting credit methodologies, building a regional investment package, and establishing a dedicated blue carbon finance facility within the Caribbean Biodiversity Fund (CBF).

Strategic Alignment

This policy recommendation contributes directly to Target 3 of the Kunming-Montreal Framework by linking Marine Protected Areas (MPAs) to long-term, sustainable finance. It also supports:

- Target 2 – through ecosystem restoration efforts (e.g., mangroves, coral reefs)
- Target 19 – by establishing sustainable finance mechanisms
- Target 23 – via inclusive benefit-sharing models and engagement with women-led coastal cooperatives in Haiti and DR



Students from Abaco Central High School collected mangrove leaves and propagules while participating in the Bahamian Awareness of Mangrove (B.A.M.) Project | Living Ocean Foundation

Institutional Capacity

- Cuba
 - Ministry of Science, Technology and Environment (CITMA); National Center for Protected Areas (CNAP)
- Dominican Republic
 - Ministry of Environment and Natural Resources (MIMARENA); National Council for Climate Change and Clean Development Mechanism (CNCCMDL)
- Haiti
 - Ministry of Environment (MDE); National Climate Change Committee (CNCC)
- Jamaica
 - Ministry of Economic Growth and Job Creation (MEGJC); National Environment and Planning Agency (NEPA)

Financial Resources

- Caribbean Biodiversity Fund (CBF): supporting Haiti and DR restoration efforts
- Global Environmental Facility (GEF) grants and Green Climate Fund (GCF) Readiness Facility (e.g., Jamaica NAP, Cuba coastal adaptation)
- UNESCO/UNEP marine partnerships in the Caribbean
- Blue bonds for corridor/MPA expansion
- Donor co-investments: Blue Nature Alliance, Bloomberg Philanthropies
- Tourism-based conservation fees (already used in DR)

Financial

Technical Expertise

- Ministries of Environment, Climate Change Councils, Protected Area Authorities
- WCS, EDF, Pew, FoProBiM, Blue Nature Alliance providing technical, legal, and financial expertise
- Local Fisher associations, cooperatives, and women's groups engaging in restoration and monitoring
- Ecotourism operators (e.g., Grupo Punta Cana), resorts investing in reef protection
- Marine research institutes in DR and Cuba, regional universities, and international bodies (e.g., Smithsonian, NOAA)

Regional Coordination

The CBC and the Caribbean Biodiversity Fund (CBF) can be central to coordinating the Regional Blue Carbon Finance Readiness Program. For this policy, CBC can:

- Host a Regional Blue Carbon Taskforce to guide MRV standards, data sharing, and financing strategies
- Coordinate joint submissions to the Green Climate Fund (GCF) or other donors
- Develop shared legal templates for recognizing blue carbon in NDCs
- Facilitate exchanges with countries like Belize and Costa Rica that have experience with marine carbon markets

Model Frameworks

- *Eastern Tropical Pacific Marine Corridor (CMAR)*
- *Blue Natural Capital Financing Facility (BNCFF)*
- *Indonesia's Blue Carbon Program*
- *Seychelles Blue Bond Model*

Benefits

This policy brings clear, practical benefits. It creates jobs—from mangrove planting and monitoring to guiding eco-tourism. It expands MPAs and strengthens how they're managed. It helps protect ecosystems that matter—mangroves, coral reefs, seagrasses—and keeps fisheries more stable. By working across borders, it makes sure countries aren't duplicating efforts and are pushing toward shared goals. It brings in communities—especially women and local fishers—not just as participants but as partners. It also makes the whole region more connected, both ecologically and financially, by opening up access to carbon markets and blended finance, and giving countries the tools to keep these projects running long after donor funding ends.

Blue Carbon Ecosystem Project Examples

Existing blue carbon projects provide a valuable foundation for understanding the structural conditions that enable effective blue carbon finance in the Caribbean and Latin America (Appendix xx). Effective instruments, such as the *Belize Blue Bonds* and *The Bahamas' Debt-for-Nature Swap* exemplify how fiscally constrained nations can leverage debt restructuring to secure long-term conservation funding. These mechanisms were successful because of their scale and because they used financial governance into the conservation planning, including conservation trust funds, legally binding performance milestones, and formalized stakeholder participation (The Nature Conservancy, n.d.) (Inter-American Development Bank, n.d.). On the carbon finance side, the *Cispatá Bay* project in Colombia was the first in Latin America to generate Verra-certified blue carbon credits from mangrove restoration. They did so through joint stewardship between communities and government (Verra, n.d.). It demonstrates that by combining financial innovation with robust institutional ownership, measurable ecological assets, and policy, then blue carbon initiatives can have stronger systems. The *Caribbean BlueFin* project further reinforces this by focusing on pre-investment readiness. It targets a critical bottleneck that has impeded scale across the region, positioning itself as a replicable regional public good (Caribbean Biodiversity Fund, n.d.).

However, these cases highlight structural constraints that continue to limit replicability and scalability. Many initiatives remain reliant on technical assistance or temporary donor finance, which undermines long-term financial independence (Global Environment Facility, n.d.). While countries like Belize and the Bahamas benefitted from high-level political and external capacity support, these conditions are not universally present. Especially in small island states where institutional capacity is limited and MRV systems are still developing (UNEP; EDF). Even successful projects have faced delays in funding, reflecting the broader challenge of standardizing legal enforcement of blue carbon and aligning methodologies (Verra, n.d.) (Edwards, 2024).

Financial

Recommendation #5:

Organize an immediate regional task force under the Caribbean Biodiversity Fund to address urgent targets of the Kunming–Montreal Global Biodiversity Framework.

Strategic Alignment

This policy recommendation directly contributes to Target 3 of the framework, which aims to conserve at least 30% of the planet by 2030. The policy explicitly seeks to establish national-level pilot teams to implement targeted conservation actions in biodiversity-critical marine hotspots. This aligns with the GBF's overall mission to halt and reverse biodiversity loss. Beyond Target 3, this policy aligns with several other GBF targets:

- Target 22 - by full, equitable, inclusive, effective and gender-responsive participation of indigenous peoples and local communities in decision-making related to biodiversity (CBD, 2022)
- Target 19 - through developing sustainable financing mechanisms (CBD, 2022)
- Target 14 - via integration of GBF goals into national development plans and marine spatial planning into policies, regulations, planning and development processes (CBD, 2022)



First Meeting of the Caribbean SIDS Task Force under the Forum of Ministers of Environment of Latin America and the Caribbean | Ministry of Tourism, Civil Aviation, Sustainable Development, and Culture

Institutional Capacity

- Cuba
 - Cuba does not have a national trust fund, however, CBF jointly with UNDP - are implementing community based projects focused on biodiversity conservation (UNDP, 2023)
- Dominican Republic
 - Dominica National Conservation Trust Fund
- Haiti
 - Haiti National Trust
- Jamaica
 - National Conservation Trust Fund of Jamaica

Financial Resources

- Existing institutions that fund CBF:
- French Agency for Development (Afd)
- Blue Nature Alliance (BNA)
- Fonds français pour l'environnement mondial (FFEM)
- Global Affairs Canada (GAC) Global Environment Facility (GEF) implemented through the United Nations Environment Programme (UNEP)

Financial

Technical Expertise

- National level ministries and agencies, like Ministries of the Environment, Forestry Departments, Fisheries Divisions of target nations
- CBF and National Conservation Trust funds provide sustainable financing for biodiversity conservation initiatives
- WCS and The Nature Conservancy (TNC)
- World Commission on Protected Areas (WCPA), Commission on Environmental and Economic and Social Policy (CEESP)
- Local community members involved in co-management arrangements and sustainable livelihood strategies

Regional Coordination

Utilizing the CBF as an umbrella and National Conservation Trust Funds (NCTFs) as national focal points, stems from their established roles and existing network within the Caribbean region. The NCTFs, like in Haiti and the Dominican Republic, are already actively involved in supporting projects in marine ecosystems, including MPAs and biodiversity hotspots requiring urgent action. This existing financial and operational infrastructure provides a practical and efficient foundation for directing resources and coordinating efforts towards urgent GBF targets. For this policy, CBC can:

- Provide a vital political and technical platform for the proposed regional task force through their established governance model, including its Ministerial Committee, Secretariat (CBC, 2022), and national Focal Points
- Ensure coordinated efforts across participating nations and align national actions with regional goals
- Promotes South-South cooperation and facilitates the exchange of technical expertise, lessons learned, and best practices (CBC, 2022) enhancing their effectiveness

Model Frameworks

- *UN Sustainable Development Goals*, specifically SDG 14 (Life Below Water), SDG 13 (Climate Action), SDG 15 (Life on Land) and SDG 17 (Partnerships for the Goals)

Financial

Benefits

- Improved integration of marine conservation into national development plans and policies through guiding framework developed by the pilots
- Access to and development of diverse funding sources, leveraging existing national trust funds and exploring new mechanisms like blue bonds
- Creation of a guiding framework for long-term marine conservation beyond 2030, informed by pilot project outcomes
- Improved monitoring and evaluation of MPA effectiveness through the development of M&E frameworks aligned with the GBF



Environment ministers from the Caribbean at a debriefing session for coordination on multilateral environmental issues in 2025 | Caricom Caribbean Community

Technology and Science

Recommendation #6:

Develop and/or strengthen research partnerships with academic institutions to implement advanced monitoring technologies such as GIS and AI for MPA management, while fostering awareness and participation for interested students and researchers.

Strategic Alignment

This policy recommendation directly supports Target 3 of the Kunming-Montreal Framework by improving data collection and enhancing local and regional capacity to manage MPAs through science-based tools. It also supports:

- Target 1 - through implementation of spatial planning efforts
- Target 21 - by knowledge sharing and capacity building with innovative technologies and strengthened partnerships



AI-generated map of building footprints in Salisbury, Dominica which can be used to inform rebuilding efforts post-hurricane | The World Bank

Technology and Science

Institutional Capacity

- Cuba
 - Ministry of Science, Technology and Environment (CITMA); National Center for Protected Areas (CNAP)
- Dominican Republic
 - Ministry of Environment and Natural Resources; National Council for Climate Change and the Clean Development Mechanism
- Haiti
 - Ministry of Environment; Agency Nationale des Aires Protégées (ANAP)
- Jamaica
 - National Environment and Planning Agency (NEPA); Caribbean Coastal Area Management Foundation (C-CAM)

Financial Resources

- Caribbean Biodiversity Fund (CBF) which is an existing funding platform for regional biodiversity initiatives
- Blue Bonds provide innovative financial tools for sustainable ocean financing (NDC FI Investment Forum, 2025).
- UN agencies and multilateral donors, such as UNDP, GEF, UNEP
- In-kind support from universities for access to software, data labs, and training programs

Technical Expertise

- Columbia University's Earth Institute and Tufts University providing emergency response mapping and data collection and expertise in expanding mapping and data analysis to Marine Protected Areas (MPAs)
- University of Havana's Center for Marine Studies playing a key role in regional efforts by supplying advanced tools and training in GIS and AI (Smith, 2014)
- Scientists and marine experts supporting the design of monitoring systems and the interpretation of environmental data

Technology and Science

Regional Coordination

Collaborating with national and international institutions allows the Insular Caribbean countries to share expertise, reduce costs, and standardize data collection. The CBC can be a unifier of countries in the development of regionally consistent tools and methodologies, making it easier to align conservation goals and track progress toward their shared 30x30 targets.

Model Frameworks

- *UN Sustainable Development Goals*, especially SDG 14 (Life Below Water)
- *Caribbean Challenge Initiative (CCI)*
- *Blue Nature Alliance* (Blue Nature Alliance, n.d.)
- *The Caribbean Marine Atlas* (Caribbean Marine Atlas, 2023)

Benefits

This policy supports a collaborative management model that brings together governments, research institutions, NGOs, and local communities. Through implementation, it can mainstream MPAs into regional policy agendas by promoting collaboration through research institutions and regional platforms, ensuring that MPAs are not isolated efforts, but integral components of broader conservation and climate adaptation strategies.

- Strengthened regional capacity for data-driven and adaptive MPA management
- Job creation in tech-enabled conservation, research, and local training
- Expanded and better-managed MPAs, protecting key species and habitats
- Greater community participation and stakeholder engagement
- Improved ecological connectivity and marine biodiversity outcomes
- Enhanced collaboration across countries and sectors
- Innovation through the use of AI and GIS in conservation practices
- Reduced costs of investing in technologies/training for countries

Technology and Science

Recommendation #7:

Develop interconnected MPA networks across national jurisdictions to protect migratory species (e.g., sea turtles, whales) through CBC-coordinated habitat mapping, harmonized enforcement, and joint management committees.

Strategic Alignment

This policy directly aligns with Target 3 of the Kunming-Montreal Framework by enhancing ecological connectivity and governance across borders. It also supports:

- Target 1 - through reduction of biodiversity loss through spatial planning
- Target 4 - by protecting important stop-over habitats along species migratory routes



Figure 14: Map of the Eastern Tropical Pacific Marine Corridor (CMAR), a voluntary regional cooperation mechanism created in 2004 by Costa Rica, Panama, Colombia, and Ecuador to conserve marine biodiversity and protect migratory species across their exclusive economic zones (EEZs), and high seas (Enright et al., 2021)

Technology and Science

Institutional Capacity

- Cuba
 - National Center for Protected Area (CNAP); Ministry of Science, Technology and Environment (CITMA)
- Dominican Republic
 - Ministry of Environment and Natural Resources
- Haiti
 - Ministry of Environment; National Agency for Protected Areas; Haiti National Trust
- Jamaica
 - National Environmental and Planning Agency (NEPA)

Financial Resources

Same institutions as mentioned in recommendation #4

Technical Expertise

- NGOs, like Caribbean Marine Protected Area Management Work (CaMPAM) and TNC for capacity building
- UNEP - The Caribbean Environment Program (CEP)
- Local communities in co-managed patrols and monitoring
- Scientists using GIS/AI for habitat mapping
- Indigenous groups contributing traditional ecological knowledge on local species and marine ecosystems

Technology and Science

Regional Coordination

The CBC can leverage the CLME+ Strategic Action Programme to harmonize MPA governance across the Greater Antilles nations. For this policy, CBC can:

- Use existing platforms like The Eastern Tropical Pacific Marine Corridor and Grenadines Network of Marine Protected Areas as templates to data share and enforce of interconnected MPAs
- Host ministerial summits and workshops inviting country leaders to align national policies, share knowledge and practices and incorporate MPA corridors into plans

Model Frameworks

- *The Eastern Tropical Pacific Marine Corridor (CMAR) Initiative* in Colombia, Costa Rica, Ecuador and Panama
- *Coral Triangle Initiative on Coral Reefs, Fisheries, and Food Security (CTI-CFF)*
- *The Kenya-Tanzania Marine Transboundary Conservation Area (TBCA)*

Benefits

By mainstreaming transboundary MPAs into regional level policies, it addresses a critical gap in migratory route protection, while strengthening compliance with the SPAW Protocol.

- Protects critical migratory corridors for key species of sea turtles (hawksbill, green, Kemp's ridley, loggerhead), as well as for multiple species of sharks, whales, and rays and pelagic fishes
- Expands and connects MPAs, improving ecological resilience and biodiversity outcomes
- Builds MPA management capacity
- Fosters regional collaboration and unified enforcement
- Reduces illegal fishing and resource overexploitation
- Supports sustainable fisheries, food security, and eco-tourism livelihoods
- Establishes a data sharing platform and regional joint enforcement task force
- Promotes stakeholder engagement and local job creation

Technology and Science

Recommendation #8:

Enhance enforcement and management of MPAs by establishing community-based marine patrols with a collaborative management approach involving local community, organizations and government. Expanding the use of low-cost technologies, integrating free software, like the SMART system, unmanned aerial vehicles, and electronic monitoring fosters stronger compliance, better data and empowered local communities. Ultimately, it improves both biodiversity and local livelihoods.

Strategic Alignment

This policy recommendation supports Target 3 by improving the effective management of MPAs. It also supports:

- Target 1 - by implementing spatial planning initiatives for biodiversity and ecosystem services
- Target 2 - through promoting sustainable harvesting and trade of wild species with monitoring mechanisms
- Target 20 - via equitable and participatory decision-making with local communities



The Saint-Martin Nature Reserve conducted 356 sea and land patrols to enforce environmental regulations | Faxinfo

Technology and Science

Institutional Capacity

Same institutions mentioned in recommendation #6

- Cuba
 - Ministry of Science, Technology and Environment (CITMA); National Center for Protected Areas (CNAP)
- Dominican Republic
 - Ministry of Environment and Natural Resources; National Council for Climate Change and the Clean Development Mechanism
- Haiti
 - Ministry of Environment; Agency Nationale des Aires Protégées (ANAP)
- Jamaica
 - National Environment and Planning Agency (NEPA); Caribbean Coastal Area Management Foundation (C-CAM)

Financial Resources

In addition to resources mentioned in recommendation #6:

- Public-private partnerships for maintaining patrol infrastructure
- UNODC regional support for law enforcement

Technical Expertise

- Government agencies enforcing rules and offering resources to get things moving, the private sector brings in the tech for surveillance tools, drones, and mobile apps
- NGOs giving expertise, funding, and deep ties to coastal communities
- Fishermen, Indigenous communities, and village leaders key to making sure enforcement is both fair and effective
- UN Environment Programme (UNEP), UN Development Programme (UNDP), and UN Office on Drugs and Crime (UNODC) (provides maritime law enforcement combining technology)
- Food and Agriculture Organization monitoring fisheries
- CARICOM IMPACS gathering, sharing and analyzing data information

Technology and Science

Regional Coordination

The CBC is a central platform to keep countries on the same page and support enforcement that works across borders. For this policy, CBC can:

- Work with other existing coordination platforms, like CARICOM IMPACS to support cross-border enforcement and better information-sharing
- Coordinate training for local teams, support pilot programs, and align licensing systems across countries

Model Frameworks

- *Marine Protected Area Governance*
- *Belize community-led resource allocation and enforcement*
- *Global Fisheries Transparency Initiative*

Benefits

This policy recommendation promotes a blended governance model where local communities, NGOs and national authorities collaboratively manage surveillance and enforcement efforts. By tapping into regional efforts, countries can make their surveillance systems work better together and create a more unified approach to protecting marine areas.

- Increased cooperation between communities and governments
- Enhanced biodiversity protection
- Strengthened local livelihoods (sustainable fishing)
- Greater data availability for adaptive MPA
- Cost-effective and scalable enforcement mechanisms
- Builds on existing platforms to expand MPA management and monitoring across the region

Technology and Science

Recommendation #9:

Develop standardized data reporting systems to provide clear and detailed guidelines for businesses, institutions, and communities to report their progress in a unified format. This data standardization will form the basis for data collection and analysis. As an official tool, it would facilitate systematic data sharing and collaboration, and strengthen regional cooperation on MPA management. Audited reports and data should be submitted to CBC yearly, and CBC would be the official organization that provides validated information regarding MPA management in the area.

Strategic Alignment

This policy recommendation directly supports Target 3 of the Kunming-Montreal Framework by providing a set of clear standards for data reporting. It would enhance the capacity of consistent, high-quality data collection in the Insular Caribbean area. With unified guidelines, businesses and organizations are able to adapt and contribute to the monitoring and evaluation systems that support the adjustment and refining of policy goals. It also supports:

- Target 21 and 23 - through incorporating local communities and businesses and ensuring reporting framework is accessible, practical, and inclusive



A solar-powered oceanographic buoy deployed in the Caribbean collects real-time climate and water quality data, supporting regional efforts to build climate resilience through sustainable monitoring technologies | Albert Jones / Caribbean Community Climate Change Centre (CCCCC) (Fondriest Environmental)

Technology and Science

Institutional Capacity

Same institutions mentioned in recommendation #6

- Cuba
 - Ministry of Science, Technology and the Environment (CITMA)
- Dominican Republic
 - National Council for Climate Change and the Clean Development Mechanism
- Haiti
 - Ministry of Environment
- Jamaica
 - Ministry of Housing, Urban Renewal, Environment and Climate Change (MHURECC)

Financial Resources

- CBF
- United Nations agencies (e.g., UNEP, UNDP)
- National government contributions for standards development
- International climate and biodiversity grants

Technical Expertise

- CBC officials lead on standard building process
- Local communities, businesses and NGOs giving advice and participating in data collection
- Government agencies releasing their capacities and putting more work towards identifying gaps, allocating funds, and rearranging resources

Technology and Science

Regional Coordination

The CBC would serve as the principal platform for developing, publishing, and updating the official guidelines for standardized MPA data reporting. Each member country should submit draft proposals and feedback for CBC to modify the regional reporting guidelines, making it comprehensive, and applicable to all member countries. By promoting this single standard as the region's official guideline for MPA data monitoring and evaluation, CBC would significantly improve intergovernmental assessment, facilitate non-sensitive data communication, and strengthen the 30 x 30 progress measuring capability on a regional level.

Model Frameworks

- *Global Reporting Initiative Standards*
- *European Sustainability Reporting Directive*
- *Task Force on Climate-related Financial Disclosures Framework*

Benefits

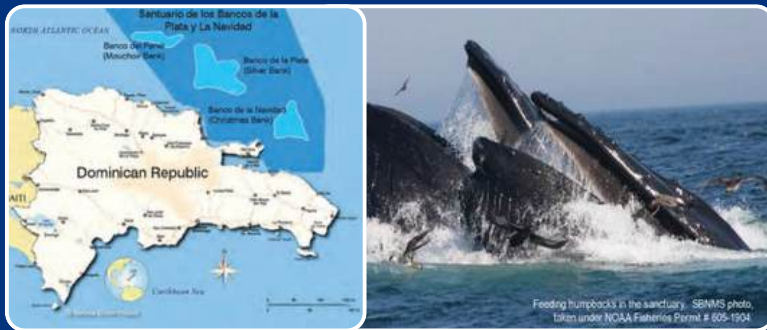
The lack of standardized data reporting threatens the effectiveness of the monitoring and assessments, which are critical for the improvement of MPA management procedures across the Caribbean. This recommendation promotes the creation of a regionally recognized MPA data reporting standard under the leadership of the CBC. These data reporting systems could create a positive feedback loop, where sufficient standardized data leads to better-targeted support to stronger conservation outcomes, and stronger conservation outcomes leads to better management of data.

- Easier and more consistent reporting processes for stakeholders
- Official, regionally unified MPA reporting framework
- Increased volume and quality of MPA-related information
- More accurate data analysis, which leads to clearer identification of conservation needs
- Greater efficiency in evaluating and adjusting management strategies and fund allocations
- Stronger regional communication and cooperation in achieving the 30 x 30 goals
- Encouragement of more research approaches and studies on MPA management provided by clear, audited, and easily accessible data

Dominican Republic Case Study

BANCOS DE LA PLATA Y LA NAVIDAD MARINE MAMMAL SANCTUARY

Established in 1986, the Bancos de la Plata y La Navidad Marine Protected Area (MPA) was one of the first marine sanctuaries of its kind globally and the first in the Atlantic Ocean. Located off the northeast coast of the Dominican Republic, the sanctuary was created to protect one of the most important breeding and calving grounds for the North Atlantic humpback whale (*Megaptera novaeangliae*) and to conserve the broader marine biodiversity supported by the region's coral reefs and submerged banks (UNESCO World Heritage Centre, n.d.).



Bancos de La Plata y La Navidad Marine Mammal Sanctuary in the DR | United Nations Environment Program, 2016

The early establishment of the MPA set a global precedent for whale conservation and sustainable marine management. Effective regulations were implemented, including controlled whale-watching tourism and restrictions on fishing and shipping in critical areas, which have contributed significantly to the recovery of the humpback whale population, historically devastated by commercial whaling (UNESCO World Heritage Centre, n.d.). Ongoing monitoring and collaborative management efforts have strengthened the sanctuary's resilience against emerging threats like climate change and marine pollution.

Management of the sanctuary is overseen by the Dominican Republic's Ministry of Environment and Natural Resources, which enforces zoning regulations, monitoring programs, and strong community engagement initiatives. These efforts have also promoted sustainable whale-watching tourism, providing stable income for coastal communities while maintaining minimal disturbance to marine life (UNESCO World Heritage Centre, n.d.).

Most importantly, Bancos de la Plata y La Navidad has been recognized as a regional leader in marine mammal conservation. In a comparative study assessing cetacean integration into MPA management plans across the Americas, the sanctuary achieved the highest score due to its comprehensive management plan, which includes designated zones for sensitive habitats and targeted strategies to mitigate human-induced threats (Soñes & Szteren, 2024).

The success of Bancos de la Plata y La Navidad demonstrates the critical importance of early action, strong governance, and community involvement in marine conservation. It stands as a model for balancing biodiversity protection with sustainable economic development, highlighting the broader potential of MPAs to enhance environmental and social resilience in a changing world. This success also presents an opportunity to expand similar models across other Insular Caribbean countries to increase the coverage and effectiveness of marine protected areas.



Limitations

Limitations

RESEACH LIMITATIONS

Our analysis was constrained by the disproportionate availability of data. Several government agencies in the Insular Caribbean either do not publish scientific findings or data and budget figures or release them only in summary form, citing security or commercial sensitivities. These gaps required us to rely on secondary sources such as SkyTruth, and multilateral-project reports, which—although helpful—vary in resolution and update frequency. This report presents the percentages of marine areas under protection in the four targeted countries, according to the SkyTruth 30x30 Progress Tracker: Cuba (4%), Dominican Republic (12%), Jamaica (1.2%), and Haiti (2.8%). This tool measures the extent of conservation efforts in various coastal ecosystems, including salt marshes, mangroves, seagrasses, warm-water corals, seamounts, and cold-water corals. It provides data on the proportion of marine areas protected by official conservation measures (“30x30 Progress Tracker”). The most recent updates available from the tracker are from October 2024. It is important to acknowledge that some countries, such as the Dominican Republic, may have established additional marine protected areas (MPAs) that are not yet reflected in the tracker’s data. Despite this limitation, the SkyTruth 30x30 Progress Tracker was used because it is the only

tool that compiles consistent data for all four countries, ensuring comparability across the study. A second limitation involves the reliability and comparability of the information that is publicly available. National reports often use different habitat classifications, time-series baselines or definitions of “effective” protection, making consolidating cross-country data challenging. Where possible we normalized units, traced figures back to primary legislation or official news outlets, and compared numbers against peer-reviewed literature. Still, inconsistencies persist, particularly for financial disclosures and gender-disaggregated participation data.

Finally, the study was completed within a single academic semester, leaving limited scope for primary data collection. Internal ethics protocols required formal clearance before conducting interviews with government officials, community leaders or NGO staff; obtaining that approval would have exceeded our timeline. As a result, insights into on-the-ground enforcement, traditional ecological knowledge and community perceptions are drawn from earlier case studies. Future work that pairs stakeholder engagement with the quantitative framework presented here would provide a more well-rounded and clearer picture of marine conservation realities in the Caribbean.



Data
Accessibility



Information
Reliability



Access to
Stakeholder
Input

Limitations

Implementing policies across Caribbean nations is constrained by a combination of socioeconomic, political and climate-related factors. These limitations vary by country as shown in the table below:

Table 6: Summary of Socioeconomic, political, and climate limitations

Country	Population (World Bank, 2023)	Net Migration* (World Bank, 2024)	GDP per capita (usd) (World Bank, 2020)	Global Freedom (Freedom House, nd.)	GDP Loss By Storm Damages (UNDP , nd.)
Cuba	11,019,931	-22,356	9,605.30	10 out of 100 (Not Free)	3%
Dominican Republic	11,331,265	-34,806	10,717.60	68 out of 100 (Partly Free)	2%
Haiti	11,637,398	-31,747	1,705.80	24 out of 100 (Not Free)	12%
Jamaica	2,839,786	-10,506	6,839.70	80 out of 100 (Free)	3%

*Net migration is the net total of migrants during the period, that is, the number of immigrants minus the number of emigrants, including both citizens and noncitizens

Limitations

Socio-economic and Political

Haiti is not only the poorest country in the region but also the Western Hemisphere, and it is heavily reliant on external funding (such as from multilateral organizations) (Council on Foreign Relations, 2024).

Additionally, the score of Global Freedom for each of the countries has shown the disparity of freedom levels: Cuba and Haiti have been categorized as “Not Free”. Cuba has one of the most restrictive media environments in the world, and the state owns and controls the formal media sector (Freedom House, 2024). Haiti has high levels of insecurity, repressive authorities, and criminal violence that impair political activity; armed groups are often affiliated with political actors, and political actors have employed criminal gangs to impede their opponents, and armed groups apply pressure to achieve their desired political outcomes (Freedom House, 2024). These realities must be taken into account when designing and implementing policies. In particular, WCS has to carefully assess the reliability of government-generated data and official communications, often relying instead on independent NGOs and local organizations for trustworthy information. In parallel, it is recommended that financial support be given to governments only if transparent systems to control and audit the policies are implemented.

Net migration is a significant challenge (World Bank, 2024); the trend in LAC has been for countries in the region with the highest economic levels to be those with an excess of immigrants over emigrants, on the contrary, the poorest are the ones who are losing more population due to the low quality of life (Thomas-Hope, 2023). The population reduction has to be considered when implementing a policy, not only to understand the

distribution and willingness to stay, but also as an indicator. A shrinking population could eventually complicate local policy implementation, as a declining and mobile population may undermine policy stability. However, migration patterns also offer an opportunity to improve local living conditions with the implementation of the policies recommended in this document could serve as a compelling argument to local governments to invest in resilience-building initiatives.

Finally, in general, these governments have limited technical and administrative capacity to monitor complex policies due to weak governance structure. This is why many regulations and policies can end with poor enforcement or mismanagement (IDB, 2018).

Climate Change and Extreme Weather Events

Climate effects are common in the region and could be considered a pattern. The loss of GDP due to storm damage has been a historic consequence of climate change. Despite having only 6 percent of the region's population, the Caribbean accounts for the majority of the people affected by storms, 30.5 million out of a total of 50 million in the Caribbean, people left homeless, 483 K out of 910 K, and deaths, 5.5 K out of 9.5 K (UNDRR, 2023).

Limitations

In particular, Haiti has experienced 12% of loss on average between 1963 to 2017 (UNDP, nd); it accounts for approximately 60% of deaths from storms and hurricanes in the region, although the number decreased from 85% in 2019 (UNDRR, 2023). This percentage is also tied to the lack of existing infrastructure to combat extreme weather worsens the consequences and increases the vulnerability (UNDRR, 2023).

Policy implementation across the Caribbean faces profound structural limitations rooted in economic fragility, political instability, and the

intensifying impacts of climate change. Efforts to design and implement policies must consider these contextual realities: weak governance, unreliable official data, and the pressures of population loss cannot be ignored. But these same challenges offer opportunities: policies that enhance resilience, improving living standards, and address governance gaps cannot only strengthen local communities but also help reduce vulnerabilities to future disasters. Effective climate adaptation in the region will depend on understanding these socioeconomic and political landscapes while building partnerships with trusted local actors.

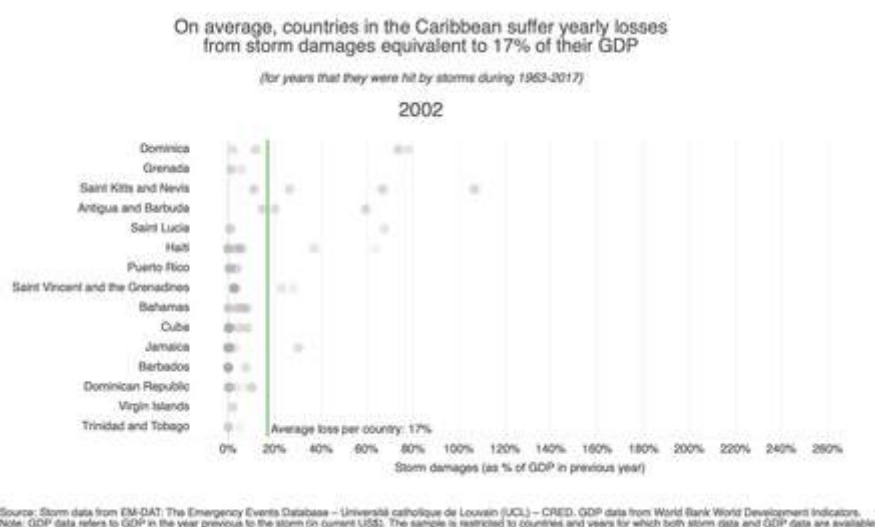
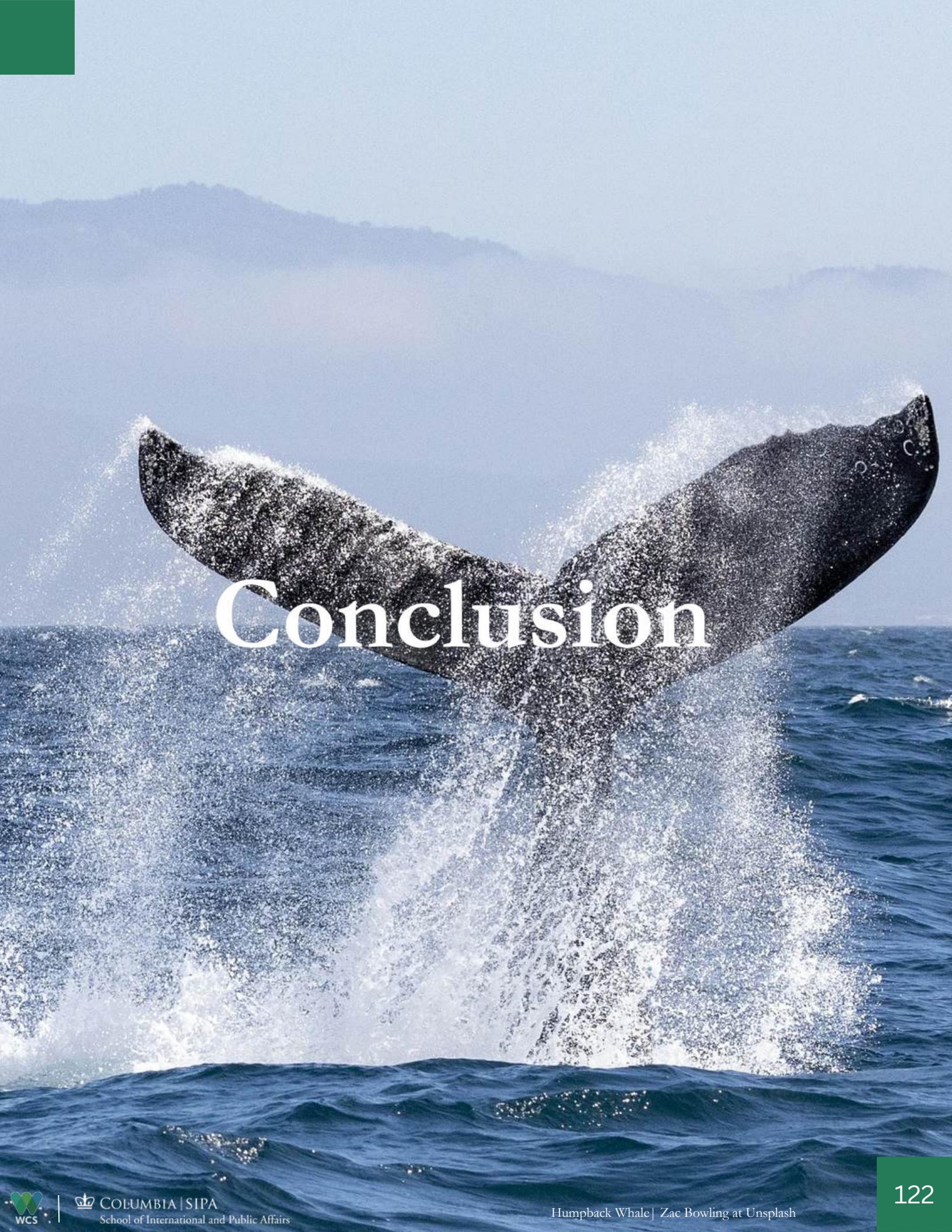


Figure 15: The graph shows that, on average, countries in the Caribbean suffer yearly losses from storm damages equivalent to 17% of their GDP (UNDP, nd.)

Type of extreme weather event	Region	Collective indirect impact (million \$)		Storm indirect impact (million \$)		Flood indirect impact (million \$)	
		Total	Attributable	Total	Attributable	Total	Attributable
Typical event	AIS	595	217	302	130	36	11
	Caribbean	15,786	5,762	12,155	5,227	1,234	370
	Pacific	2,035	743	885	381	181	54
Severe event	AIS	3,457	1,262	2,036	875	298	89
	Caribbean	91,765	33,494	81,940	35,234	10,282	3,085
	Pacific	11,827	4,317	5,969	2,567	1507	452

Figure 16: This table shows the estimated indirect economic loss and damage in the Small Island Developing States (SIDS) regions from 2000 to 2022. This shows the total and the attributable to human-driven climate change (ODI, 2024).



Conclusion

Conclusion

This report, focusing on mainstreaming MPAs in the Insular Caribbean, showcases a comprehensive analysis through assessing the distinct social, political, and environmental conditions across four targeted countries (Cuba, Haiti, the Dominican Republic and Jamaica). It identifies how these efforts contribute to twenty existing national and regional conservation policies. Based on this analysis, the report developed nine policy recommendations designed to address shortfalls and capitalize on opportunities for enhancing marine conservation at the regional level. A key output was the creation of a Multi-Country Matrix, which compares fifty-one variables, providing valuable insights into the current state of marine protection and conservation priorities of these countries.

The report also presents the percentages of marine areas under protection, according to the SkyTruth 30x30 Progress Tracker: Cuba (4%), Dominican Republic (12%), Jamaica (1.2%), and Haiti (2.8%). This tool measures the extent of conservation efforts in various coastal ecosystems, including salt marshes, mangroves, seagrasses, warm-water corals, seamounts, and cold-water corals. It provides data on the proportion of marine areas protected by official conservation measures (“30×30 Progress Tracker”). The most recent updates available from the tracker are from October 2024. It is important to acknowledge that some countries, such as the Dominican Republic, may have established additional marine protected areas (MPAs) that are not yet reflected in the tracker’s data. Despite this limitation, the 30x30 tracker is the only tool found that compiles consistent data for all four countries, ensuring comparability across the study.

The policy recommendations presented outline how the CBC can effectively mainstream marine protected areas, emphasizing regional cooperation among the nations. They offer a strategic, regional coordinated, and evidence-based roadmaps to advance marine conservation efforts across the Insular Caribbean. By addressing key gaps in finance, technology and science, and social engagements, these policies support the



Artisanal fishers at work in Cuba | Jay Fleming

implementation of the 30x30 target, while also strengthening institutional capacity, enhancing community participation, and improving ecological and environmental resilience.

The Insular Caribbean is facing increasing threats from climate change, particularly sea level rise and loss of ecosystems such as coral reefs, which poses a serious threat to biodiversity and local livelihoods. Moving forward, sustained investment in scientific research to fill knowledge gaps, particularly in understudied areas is essential. An example of a research gap would be how to create resilient ecosystems with active Indigenous and local community involvement. Likewise, significant efforts in ecosystem conservation and ensuring policy integration across sectors will be vital for safeguarding the region’s ecological health and securing economic stability. The integration of gender considerations in biodiversity strategies, specifically within MPA management plans and sustainable livelihood models, is highlighted as important for achieving equitable and effective conservation outcomes. Gender-inclusive approaches improve conservation effectiveness by leveraging the unique knowledge and

Conclusion

contributions of women, including their roles in resource use and traditional ecological practices. While some progress has been made in acknowledging gender, significant gaps remain in addressing gender disparities across Caribbean countries. These include women's underrepresentation in decision-making processes, a lack of targeted policies, and limited access to leadership roles in conservation initiatives and policy-making. Addressing these critical issues is essential for promoting resilient marine ecosystems that provide benefits to all community members. Financially, there is an untapped potential for the CBC to position itself as a pioneering regional initiative capable of bridging conservation gaps between individual country efforts. The CBC can effectively demonstrate how its regional approach delivers unique ecological, social and economic benefits that

country-specific projects cannot achieve alone. This could make a compelling case to diversify its funding sources beyond its current European Union and UNEP partnerships to support the longevity of the platform. It also could shift the funding landscape toward a greater recognition of the essential role regional cooperation has in tackling shared environmental challenges for a more equitable and sustainable future.



Appendix



Appendix A

Climate Refugia

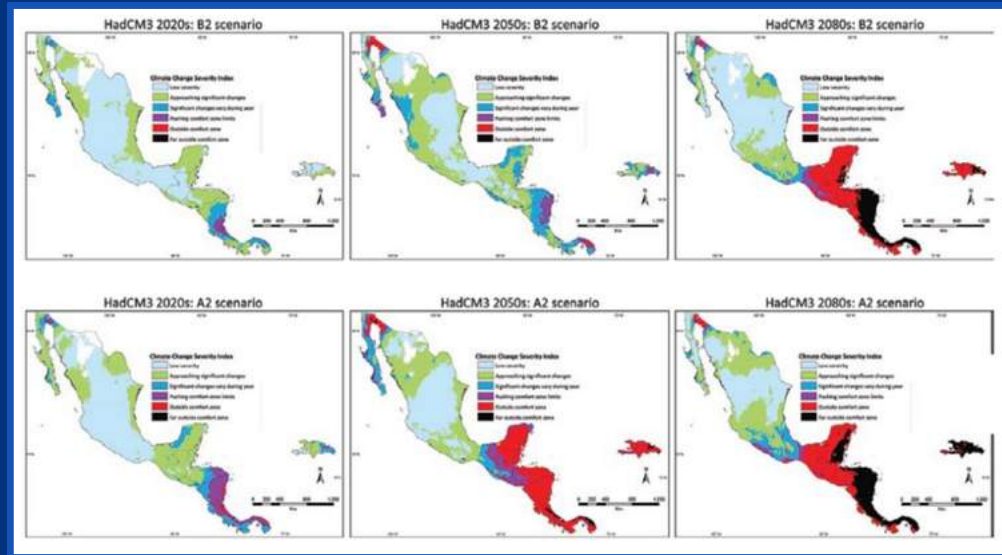


Figure A1: Projected climate change severity index maps for different time period scenarios, all at 1-kilometer resolution. Hadley Center Coupled Model Version 3 (HADCM3), UK (Herrera, 2020) (Cathalac et al., 2008.)

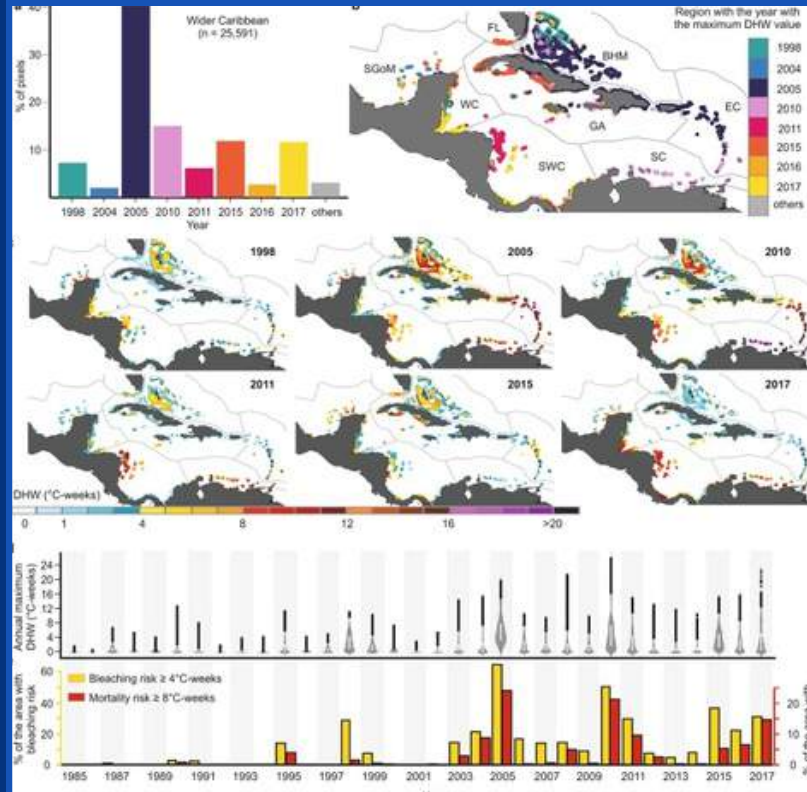


Figure A2: The graph shows that, on average, countries in the Caribbean suffer yearly losses from storm damages equivalent to 17% of their GDP (UNDP, nd.)

Appendix A

Climate Refugia

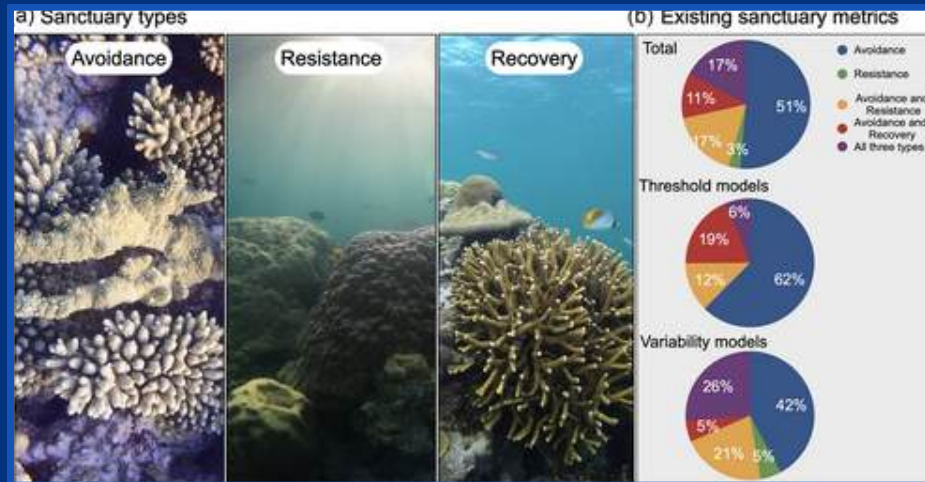


Figure A3: Types of Climate refugia. (a) The main types (three types) of climate refugia are characterized by unique environments and taxa that represent different coral life histories and community responses to climate change. Left side are avoidance refugia, locations that avoid physical exposures; the middle are resistance, locations that are less sensitive to climate change; and the right side are recovery locations, which can recover rapidly after exposure. (b) Classification of 35 published studies showing the percentages identified falling within the 5 possible coral reef refuge categories (McClanahan et al, 2023).

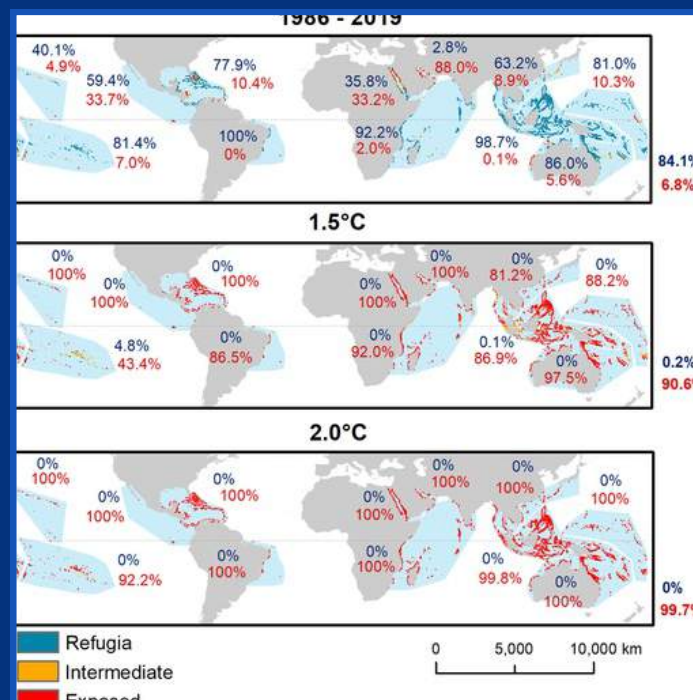


Figure A4: Global distribution of exposure from 1986–2019 climate and at 1.5 and 2.0°C of future global warming. Exposure categories are thermal refugia. Percentages show the regional (on the map) and global (right side of map) proportion of thermal refugia (in blue) and exposed reefs (in red). The 12 coral reef regions (in light blue) (Dixon, 2022).

Appendix B

National Policies

Table B1: Conclusion Table of National Policies by Country

Country	NDCs	NAPs	NBSAPs
Jamaica	Updated in 2020; covers energy, forestry, land use; 2025 update may add mangrove/seagrass targets.	No NAP yet; developing with Green Climate Fund; has a Protected Areas System Master Plan.	NBSAP (2016-2021); lacks alignment with global biodiversity frameworks.
Dominican Republic	Updated in 2020; includes nature-based solutions for coastal-marine areas.	NAP (2015-2030); adds marine-coastal management, ecosystem restoration, funded by Green Climate Fund (\$2.99M).	NBSAP (2011-2020); integrates biodiversity in planning but lacks Indigenous and community involvement.
Cuba	NDC 3.0 (2025); highlights coastal vulnerability but lacks a marine conservation section.	No national NAP; Adaptation Plan for Havana Coastal Zone funded (\$3M).	NBSAP (2024-2030); focuses on conservation but lacks human rights and deforestation targets.
Haiti	Updated in 2022; targets 31% GHG reduction, coastal protection.	NAP prioritizes coastal resilience, infrastructure protection, marine monitoring.	NBSAP (2020); lacks monitoring, evaluation, and clear implementation.

Appendix C

Status of International Commitments

Table C1: Summary Table of International Commitments

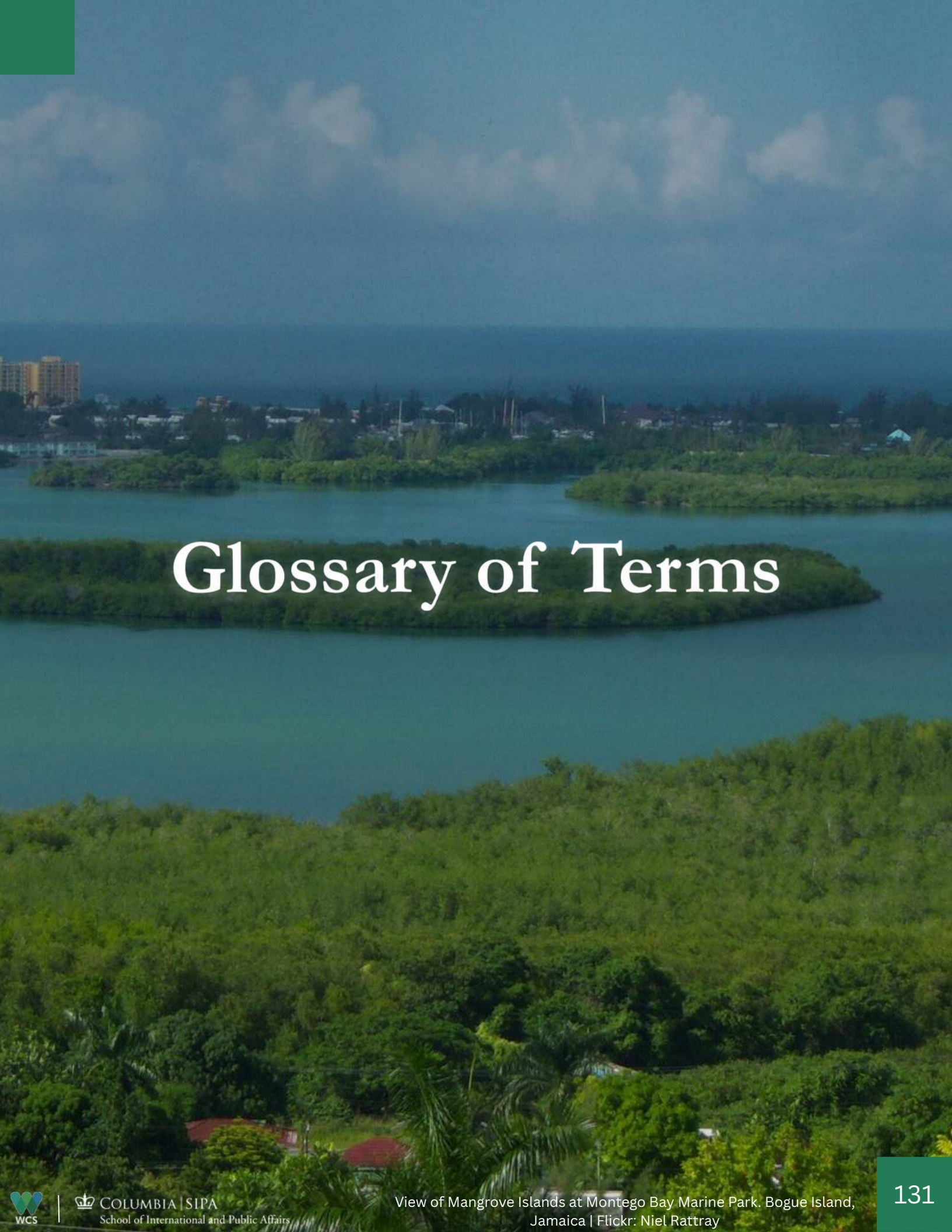
Country	MPAs	Progress on Target 3	NDC Commitments	Progress on Target 23	Blue Carbon Ecosystems & Mitigation
Cuba	4%	Expanding MPA network despite economic and climate-related challenges	Increase forest coverage by 50,000 ha, restore mangroves, beaches, and coral reefs, prohibit new construction in flood areas. Requires \$420M (unconditional) and \$437M (conditional)	Legislative progress in gender equality, promoting women's participation in government. Challenges: economic crises, sexist stereotypes, and vulnerability of women-headed households	Blue carbon ecosystems are not included in carbon mitigation strategies. Economic blockade limits access to financing and technology
Dominican Republic	12%	Achieved 30x30 target ahead of schedule; leading the region in marine conservation	Achieved 30x30 target; mentions the CBC, has legal instruments (Laws 64-00, 202-04, 333-15), requires \$106.7M by 2030 for biodiversity	Formally committed to gender equality in biodiversity policy but faces challenges in aligning policies with SDGs, securing financing, and increasing women's	Despite achieving 30x30 goals, lacks integration of blue carbon ecosystems for carbon mitigation
Jamaica	1.20%	Some progress, but falling behind due to high technical costs for mapping and assessment	Expanded NDC to include land use and forestry, aims for no net loss of forest cover and tree planting, lacks marine conservation targets	Policy integration of gender considerations exists but suffers from weak public awareness and financial/resource constraints	Focuses mainly on forestry and agriculture. Marine conservation efforts remain underfunded, and blue carbon is not
Haiti	2.80%	Facing multiple challenges due to economic instability and natural disasters, making conservation efforts difficult	Recognizes climate change challenges, focus on adaptation in agriculture, forestry, and fisheries. Plans to protect mangroves, coral reefs, seagrass. \$700M for adaptation measures	Acknowledges gender-responsive approaches but struggles with financial instability, governance issues, and inter-institutional coordination	Acknowledges importance of coastal ecosystems but lacks comprehensive marine conservation strategy. Heavy reliance on external funding

Appendix D

Policy Recommendations

Table D1: Examples of Blue Carbon Ecosystem Projects (Recommendation #4)

Case Study	Country/ Region	Mechanism Type	Ecosystem Focus	Key Features
Caribbean BLUEFin Project	Caribbean Region	Blended Finance + Technical Assistance	Mangroves, Seagrasses	Regional investment readiness
Belize Blue Bonds for Ocean Conservation	Belize	Sovereign Blue Bond + Debt Swap	Marine Protected Areas	\$364M debt conversion; creates endowment for conservation
Bahamas Debt-for-Nature Swap	The Bahamas	Debt-for-Nature + Blue Bonds	MPAs, Coral Reefs	\$300M debt refinancing; generates \$120M over 15 years for marine protection
Cispatá Bay Blue Carbon Project	Colombia (Caribbean coast)	Voluntary Carbon Market (Verra VCS)	Mangrove Forests	First Latin American blue carbon project certified under Verra; community and government-led
T&T Blue Carbon Credit Pilot	Trinidad and Tobago	MRV & Credit Readiness Pilot	Mangroves	Led by Institute of Marine Affairs; focuses on mapping, monitoring, and credit development
World Bank Blue Carbon Readiness Framework	Global (guidance tool)	Policy & Investment Framework	All Coastal Blue Carbon	Blueprint for national blue carbon finance pathways and project design



Glossary of Terms

Glossary of Terms

Agenda 21: A comprehensive plan of action to be taken globally, nationally and locally by organizations of the United Nations System, Governments, and Major Groups in every area in which human impacts on the environment (UN, n.d.).

Aichi Targets: 20 biodiversity targets were set by the UN Convention of Biological Diversity in 2011 to offer a framework in which the world and individual countries can address the growing rates of biodiversity loss. These targets work in tandem to meet five overarching goals: address the underlying causes of biodiversity loss by making it a priority in government agendas; curtail the direct pressures on biodiversity and promote sustainable use; safeguarding ecosystems, species and diversity; highlight and improve the benefits we derive from ecosystem services; and expand efforts in knowledge management and capacity building (Lai, 2021).

Biological Diversity (Biodiversity): Refers to the wide variety of living organisms in a given area—including animals, plants, fungi, and microscopic life like bacteria. These organisms interact in complex ecosystems that help maintain natural balance and support life on Earth. This rich diversity is essential for human survival, providing vital resources such as food, clean water, medicine, and materials for shelter, while also supporting healthy, resilient environments. (WWF, n.d.).

Blue Carbon: Represents the carbon that is captured and stored by coastal ecosystems such as mangroves, salt marshes, and seagrasses. These ecosystems absorb large amounts of carbon dioxide from the atmosphere, which is faster and more efficient than forests on land, and then store it in plants and soil for hundreds to thousands of years. Protecting and restoring these areas could help reduce greenhouse gas emissions and support solutions to climate change (NOAA, n.d.).

Blue Economy: The sustainable use of ocean resources for economic growth, improved livelihoods and jobs, and ocean ecosystem health. The Blue Economy encompasses many types of activities, including maritime transportation, fisheries, waste management, renewable energy, tourism, and climate change. According to the United Nations, the Blue Economy has an estimated value at US\$ 2.5 trillion, being equal to the world's 7th largest economy (World Bank, 2017).

Caribbean Biological Corridor (CBC): A joint conservation initiative between Cuba, Haiti, and the Dominican Republic, established under the United Nations Environment Programme (UNEP). It focuses on three main areas: biodiversity conservation, environmental restoration, and sustainable development across these Caribbean nations. The Dominican Republic's Ministry of Environment and Natural Resources leads capacity-building efforts to strengthen regional conservation planning and implementation. The three countries collaborate closely due to their shared geography and common vulnerability to natural disasters, particularly in ecosystem restoration and climate resilience projects (UN Environment Programme, n.d.).

Glossary of Terms

Caribbean Biodiversity Fund (CBF): A regional environmental financing institution dedicated to supporting long-term conservation and sustainable development across the Caribbean. Established to address the region's critical biodiversity and ecosystem challenges, the CBF serves as an umbrella fund, coordinating multiple financial mechanisms and donor contributions to ensure the consistent flow of resources for environmental initiatives (Caribbean Biodiversity Fund, n.d.).

Climate Refugia: Areas which help provide shelter for biodiversity during periods of environmental stress that are caused by climate change. These habitats could relatively keep stable environmental conditions that allow organisms to survive while the surrounding area becomes unsuitable for them to live. It's important to identify and protect these refuges for conservation efforts, since they could become resources for recovering degraded areas and maintaining marine biodiversity in the warming global environment (Oxford Academic, n.d.).

Conference of the Parties (COP): The supreme decision-making body of the Convention. All States that are Parties to the Convention are represented at the COP, at which they review the implementation of the Convention and any other legal instruments that the COP adopts and take decisions necessary to promote the effective implementation of the Convention, including institutional and administrative arrangements (UN, n.d.).

Convention on Biological Diversity (CBD): An international treaty adopted at the Earth Summit in Rio de Janeiro in 1992 to promote biodiversity goals. The Caribbean is considered part of the CBD, as all countries in the region have ratified the treaty. (United Nations Environment Programme, 2017).

CoralCarib: A project that aims to use advanced strategies to improve marine biodiversity in priority coral reef ecosystems in Cuba, Dominican Republic, Haiti and Jamaica, mainly through a new modeling approach to identify and prioritize coral climate refugia sites (The Nature Conservancy, n.d.).

Ecological Connectivity: The degree of connection between the various natural environments present within a landscape, in terms of their components, spatial distribution, and ecological functions (Ecological Connectivity, n.d.).

Ecosystem: A geographic area where plants, animals and other organisms, as well as weather and landscape, work together to form a bubble of life. Ecosystems contain biotic (living) factors, as well as abiotic (nonliving) factors. Biotic factors include plants, animals and other organisms. Abiotic factors include rocks, temperature, and humidity (National Geographic, n.d.).

Glossary of Terms

Exclusive Economic Zones (EEZs): After negotiations during the 1982 United Nations Convention on the Law of the Sea (UNCLOS), the international treaty created Exclusive Economic Zones or EEZs. In this agreement, each nation with territorial sea also has economic authority over the marine resources (living and nonliving) at an extended 200 nautical miles beyond its shoreline. Within the EEZs, nations have the right to freedom of navigation, exploit, conserve and regulate those resources (NOAA). The biggest concern of EEZs is climate change and sea level rise shrinking these zones (through shrinking coastlines), especially for small island nations that rely on the resources, work, and eco-tourism the zones provide (Mead, 2021). The treaty was signed before sea level rise was recognized as a global concern. There are arguments on both sides arguing for the re-evaluation of EEZs to expand or keep them fixed at 200 nautical miles.

Gender Action Plan (GAP): A strategic framework that outlines specific actions to integrate gender equality considerations into conservation and environmental programs. It aims to promote the full and effective participation of women and men in all aspects of conservation, including policy-making, program design, implementation, and monitoring (CBD, n.d.).

Gender-Disaggregated Data: Data that is collected and presented separately for different genders (typically women and men) to reveal differences in their roles, experiences, access to resources, decision-making power, and impact of environmental policies or conservation actions (UNEP, n.d.).

Gender-Responsive Policies: Policies that intentionally consider and address gender inequalities and aim to promote gender equity in all aspects of design, implementation, and evaluation. In conservation, this means incorporating the unique needs, knowledge, and contributions of all genders into policies affecting biodiversity and ecosystems (UNDP, n.d.).

Insular Caribbean: Three distinctive groups of islands: The Bahamas, the Great Antilles conformed by Cuba, the Dominican Republic, Haiti, Jamaica, and Puerto Rico; and the Lesser Antilles, consisting of smaller islands. The sub-region comprises 13 independent nations and several French, British, U.S, and Dutch jurisdictions (Heileman, 2007).

Kunming-Montreal Global Biodiversity Framework (GBF): The Kunming-Montreal Global Biodiversity Framework was adopted during COP 15, and based on a theory of change that recognizes the need for urgent policy action at all levels to achieve sustainable development. It aims to reduce and reverse the drivers of biodiversity loss, allowing ecosystem recovery. The ultimate goal is to achieve the vision of living in harmony with nature by 2050. There are 23 action-oriented targets. The actions set out need to be initiated immediately and completed by 2030. Actions to reach these targets should be implemented in harmony with the CBD and its protocols, and other relevant international obligations, taking into account national circumstances, priorities and socioeconomic conditions (CBD, 2022).

Glossary of Terms

Marine Protected Areas (MPAs): A defined region designated and managed for the long-term conservation of marine resources, ecosystem services, or cultural heritage. The focus, legal authority, level of protection, management approaches, and regulations for each MPA can vary significantly from one site to another. One example of an MPA is a “marine reserve” or “no-take” area. They restrict extractive activities like fishing, offshore oil and gas extraction and deep-sea mining in an effort to protect and maintain sensitive habitats, subsequently protecting biodiversity. Other examples include “multi-use” MPAs, national parks, national wildlife refuges, state parks, and locally protected areas (NOAA Office of Ocean Exploration and Research, n.d.).

Marine Reserves: Also known as a “no-take” MPA, is a highly protected area where the removal or disturbance of natural or cultural resources is strictly prohibited. These reserves are relatively uncommon in the United States, with only about 3 percent of U.S. waters designated as no-take zones (NOAA, n.d.).

MPA Management Plans: Structured, site-specific strategies developed to guide the sustainable management of Marine Protected Areas (MPAs). They define objectives, allowable activities, zoning, enforcement, monitoring, and stakeholder roles to conserve marine biodiversity while supporting local livelihoods. (IUCN- WCPA, n.d.).

Multilateral Aid: Refers to financial assistance provided by multiple governments through international organizations to support development projects in recipient countries. This form of aid is typically pooled, meaning that individual contributions lose their identity and are managed collectively by the multilateral institution (OCED, n.d.).

National Adaptation Plans (NAPs): Outlines how countries will adapt to climate change in the medium- and long-term. These plans allow governments at all levels – national, regional and local – to take action to protect people, livelihoods, infrastructure, economic activity and ecosystems. They are designed to fit the unique challenges and climate risks that countries are facing, helping them reduce vulnerabilities and better prepare for climate change impacts (UNDP, n.d.).

National Biodiversity Strategies and Action Plans (NBSAPs): An important tool to implement the Convention on Biological Diversity, which helps to guide each country to develop strategies for the conservation and sustainability of biodiversity, with corresponding actions depends on their national circumstances (NBSAP, n.d.).

Glossary of Terms

National System of Protected Areas of Cuba (SNAP): A comprehensive framework established to safeguard the Cuba's rich biodiversity and natural heritage. Managed by the Centro Nacional de Áreas Protegidas (CNAP) under the Ministry of Science, Technology, and Environment (CITMA), SNAP encompasses a network of terrestrial and marine areas designated for conservation and sustainable use. SNAP classifies protected areas into eight categories which include natural reserves, national parks, and ecological reserves. EDF has worked with SNAP to strengthen the design and management of marine reserves as well (EDF, n.d.).

Other Effective Area-based Conservation Measures (OECMs): Geographic areas that are governed and managed to conserve biodiversity over the long term, even though they are not protected areas. They are governed by various actors, including local communities, Indigenous peoples, government agencies, and private organizations, and can be used to preserve biodiversity while also allowing the land to be used for other purposes (IUCN, n.d.).

Reef-building Corals: Also known as hard corals, are specific types of corals that secrete calcium carbonate skeletons to form coral reefs, which help provide significant habitats for marine life (NOAA, n.d.).

Regional Intergovernmental Collaboration: The interaction between different levels of government—local, state, provincial, and sometimes national—as they come together to tackle common challenges and share resources. By joining forces in a specific area, they can more effectively address large-scale issues like transportation, environmental protection, and public health, which often cross traditional jurisdictional boundaries. These partnerships are usually supported by formal agreements (British Columbia, n.d.).

Regional Connectivity: Regional connectivity, in studies, is regarded as “the level and effectiveness of regional networks to facilitate flows of goods, services, people and knowledge.” It encompasses both physical and non-physical dimensions, including economical and social development on a regional scale through trade, transportation, energy, and people. One example of an important base for regional connectivity is the adaptation of global statistical standards, so that official data could be used to track progress (UNESCAP, n.d.).

Satellite Altimetry: Using satellites to measure the height of the sea surface, which could provide accurate data about ocean topography, sea level rise, as well as the oceans' dynamics (GGOS, n.d.).

Glossary of Terms

SOS Pesca Project: Under the National System of Protected Areas (SNAP) with support from the Environmental Defense Fund, this program gives Cuban fishermen an opportunity to plan and manage the local fisheries and marine areas. It is the government's first co-management project that is community-led. In a collaborative effort, fishermen, local government, scientists, managers and other organizations worked to develop long-term sustainable fishery practices. Under this project, new marine reserves were protected and management systems were strengthened to better protect and sustain fish populations (Environmental Defense Fund, n.d.).

The Caribbean Conservation Initiative (CCI): A regional conservation initiative, which aims to protect the Caribbean's biodiversity and increase resilience to climate change through collaborative, scientific action (CCI, n.d.).

The Environmental Defense Fund (EDF): A nonprofit organization with a focus on climate change, ecosystems, oceans, and human health. EDF committed to create practical and sustainable solutions by combining science, economics, collaboration, and advocacy, so as to address some of the world's most critical environmental concerns (EDF, n.d.).

FAO Code of Conduct for Responsible Fisheries: An international framework that helps provide principles and standards for the sustainable management of fisheries and the aquatic ecosystems conservation (FAO, n.d.).

The Paris Agreement: As an international climate change agreement that is legally binding, it sets a global goal to limit global warming within 2 °C and works hard to limit it to 1.5 °C (UNCC, n.d.).

The Special Protected Areas and Wildlife Protocol (SPAW): Serves as part of the Cartagena Convention, which aims to conserve the Caribbean region's marine and coastal biodiversity by establishing conservation areas and wildlife management systems (UNEP, n.d.).

The United Nations Convention on the Law of the Sea (UNCLOS): An international agreement, that aims to establish a legal framework for ocean and maritime activities, including issues such as the territorial sea and the management of marine resources. (IMO, n.d.).

The United Nations Development Program (UNDP): The UN's global development network, which helps to eliminate poverty and reduce inequality in various countries from a series of sustainable development projects and policy assistance (UNDP, n.d.).

Glossary of Terms

The United Nations Environment Programme (UNEP): Responsible for coordinating the international efforts to protect the environment, with a focus on sustainable development, climate change, biodiversity, and contamination control (UN, n.d.).

Tropical Eastern Pacific Marine Corridor (CMAR): A voluntary regional cooperation mechanism created by the coastal States of Ecuador, Costa Rica, Colombia, and Panama. It was formally established by the San Jose Declaration in 2004 in response to anthropogenic pressures in the Eastern Tropical Pacific, which is one of the most productive and biodiverse oceans in the world (Enright, 2021). The creation of the CMAR has a strong base on scientific and technical information provided by scientific institutions from Colombia (INVEMAR), Costa Rica (CIMAR), Ecuador (Charles Darwin Scientific Station), and Panama (Smithsonian Tropical Research Institute) (Garcia Leon et al., 2021).

Wildlife Conservation Society (WCS): A nonprofit organization headquartered at the Bronx Zoo in New York City that saves wildlife and wild places worldwide through science, conservation action, education and inspiring people to value nature. WCS tackles global conservation in over 50 countries and manages five New York City zoos and aquariums. Founded in 1895, WCS uses veterinary expertise to protect wildlife and ecosystems, caring for over 16,000 animals and addressing health challenges at the intersection of wildlife, domestic animals, and human health (Wildlife Conservation Society, n.d.).

Intergovernmental Panel on Climate Change (IPCC): A program established by the UN in 1988, which aims to assess the scientific knowledge on climate change and provide authoritative reports covering its risks, impacts, and strategies of mitigation to policymakers. The IPCC doesn't do its own research, instead it reviews global scientific research through its three working groups and helps to develop international climate policy, such as the Paris Agreement (IPCC, n.d.).

Heat Stress Regions (HSRs): Regions categorized according to the temperature exposure that poses different levels of risk for different species (Muñiz-Castillo et al., 2019).

Habitat Destruction and Degradation: The elimination (destruction) or alteration (degradation) of the conditions necessary for animals and plants to survive, not only impacting individual species but the health of the global ecosystem (National Geographic, n.d.).

Nationally Determined Contributions (NDCs): A core element of the Paris Agreement, representing each country's commitment to reducing national emissions and adapting to the impacts of climate change. Under the Paris Agreement, each Party is required to prepare, communicate, and maintain successive NDCs that it intends to achieve. These NDCs are submitted to the UNFCCC every five years and are expected to become progressively more ambitious over time (UNFCCC, 2024).

Glossary of Terms

Sustainable Development Goals (SDGs): Also known as the Global Goals, are a set of 17 interconnected objectives established by the United Nations in 2015. They serve as a universal call to action to end poverty, protect the planet, and ensure that all people enjoy peace and prosperity by 2030. These goals are designed to address a broad range of global challenges, including those related to poverty, inequality, climate change, environmental degradation, peace, and justice (UNDP, n.d.).

Climate Investment Fund (CIF): A multilateral climate finance partnership that provides scalable, predictable, and flexible funding to initiate and support country-wide transitions toward climate-smart development. Established in 2008, CIF collaborates with six multilateral development banks (MDBs) to channel finance for both advisory and investment activities aimed at combating climate change. CIF is composed of two funds: Clean Technology Fund (CTF), which focuses on large-scale financial resources for investing in clean technology projects in low- and middle-income countries and Strategic Climate Fund (SCF), which serves as an overarching framework for programs aimed at specific climate change challenges (CIF, n.d.).

Global Environment Facility (GEF): A multilateral family of funds dedicated to addressing global environmental challenges, including biodiversity loss, climate change, and pollution, while supporting the health of land and ocean ecosystems. Established in 1991, the GEF provides financing to developing countries, enabling them to tackle complex environmental issues and work toward international environmental goals. Its partnership includes 186 member governments, civil society, Indigenous Peoples, women, and youth, with a focus on integration and inclusivity (GEF, n.d.).

Green Climate Fund (GCF): The world's largest dedicated climate fund, established to support developing countries in achieving their climate ambitions under the Paris Agreement. Its mission is to promote a shift toward low-emission, climate-resilient development pathways. GCF provides a diverse range of financial instruments including grants, loans, equity, and guarantees in order to address specific investment barriers (GCF, n.d.).

Critical Ecosystem Partnership Fund (CEPF): A global initiative established in 2000 to help organizations in developing and transitional countries to conserve biodiversity hotspots. CEPF provides grants and technical support to non-governmental organizations, community groups, academic institutions, and private sector entities to implement locally driven conservation strategies. CEPF is a joint initiative of l'Agence Française de Développement, Conservation International, the European Union, Fondation Hans Wilsdorf, the Global Environment Facility, the Government of Canada, the Government of Japan, and the World Bank (CEPF, n.d.).

An aerial photograph of a coastal town in Haiti. The foreground shows a small peninsula with a sandy beach and turquoise water. The middle ground is a densely populated town with many small houses and lush green trees. In the background, there are large, rugged mountains under a blue sky with white clouds. The word "References" is written in a large, white, serif font across the center of the image.

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Multi-Country Matrix

Finding and reviewing documents regarding the social, political, and environmental conditions of the four targeted countries (Cuba, Haiti, the Dominican Republic, and Jamaica) requires extensive research and data. To be able to formulate our research, we compiled all the information into a multi-country matrix. It compares 51 variables on various topics, such as gender assessment, climate refugia, and national and international policies. Further analyzing the variables, we explored the shortfalls and opportunities. Shortfalls being an analysis of the current conditions of each country to understand where data gaps and limitations exist, hindering the expansion and effective conservation of marine protected areas (MPAs). On the otherhand, opportunities are the areas that can be improved upon or useful mediums/platforms to mainstream MPAs at the regional level and promote connectivity amongst the Caribbean nations. The information gained from the matrix helped inform our policy recommendations as you see them.

*Please use the QR code to see the multi-country matrix

Methodology



Literature Review

1



Multicountry Matrix

2



Policy Analysis

3



Recommendations

4





3