

POLICY BRIEF

Panama's Marine-Coastal Systems ambitions in its Nationally Determined Contributions (NDC)

A Blueprint for Coastal Resilience and Biodiversity

Tea Mangrove flower (*Pelliciera rhizophorae*), Parita Bay

Saskia Santamaría / National Audubon Society

INTRODUCTION

Nationally Determined Contributions (NDCs) are national climate action plans under the Paris Agreement, which establish country commitments for reducing greenhouse gas emissions and adapting to the impacts of climate change. These plans are essential for achieving the global goal of limiting temperature rise to 1.5°C in order to avoid the worst impacts of climate change.

Panama recently reaffirmed its commitment to the fight against the climate crisis by presenting its second Nationally Determined Contribution (NDC2), standing out as the first country in the region to do so. The comprehensive process of national and sectoral consultation and formulation was supported by the European Union Euroclima program, the NDC Partnership, Spanish agency FIIAPP and UNDP.

Specifically, for the priority sector “Marine-Coastal Systems” Panama’s second NDC represents a significant step toward a more sustainable and resilient future for people and biodiversity along Panama’s coasts. Through its sectoral achievements from NDC1 and its updated ambitions, Panama continues to demonstrate its commitment to conservation of biodiversity and protection of vulnerable species — such as migratory and resident shorebirds whose habitats are threatened by rising sea levels, pollution, and other effects of climate change.

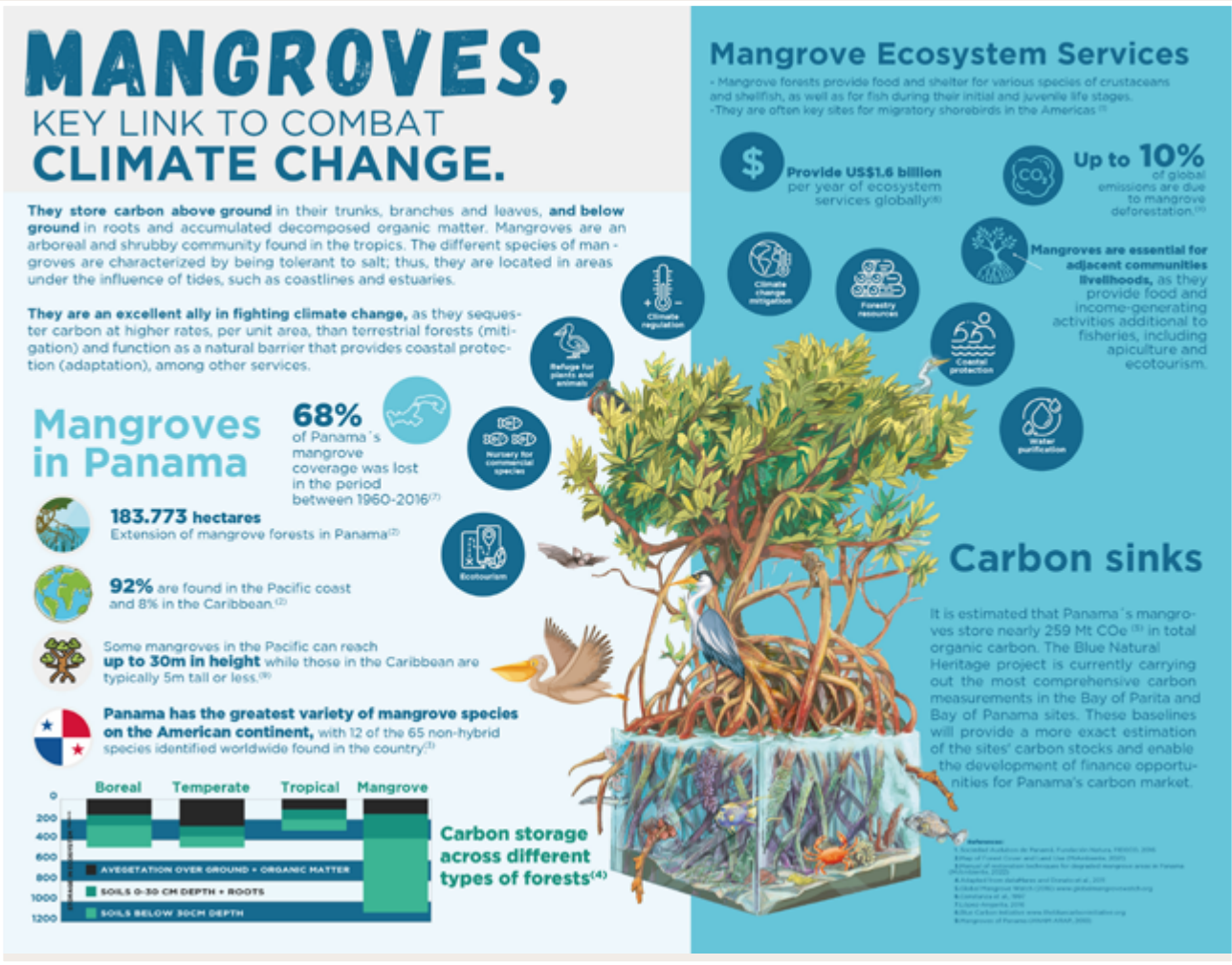
Conservation of mangrove ecosystems such as Parita Bay’s is key for achieving climate goals.



The role of mangroves in fighting climate change

A large body of scientific research supports mangroves’ important role in mitigating climate change. These ecosystems are climate superstars because they sequester large amounts of carbon, helping to maintain the global climate balance.

Mangroves also have an important role in climate change adaptation. Panama’s mangrove forests act as natural buffers for coastal areas, protecting communities from the impacts of rising sea levels, storm surges, and erosion. Their complex root systems stabilize coastlines, reducing the risk of flooding and infrastructure. As a warming climate increases the frequency and intensity of storms, mangroves are critical to reducing vulnerabilities for millions of people living in coastal regions.



Blue Natural Heritage infographic: Mangroves, key link to combat climate change.



Support from the Blue Natural Heritage (BNH) Project

Implemented between 2020-2025 the BNH project developed a wealth of scientific information to support the Panama government’s climate agenda, as the country carries out a rigorous review and update of its climate policies. By developing comprehensive baselines for blue carbon stock and complementary studies at its two pilot sites (Bay of Panama and Bay of Parita) the mitigation potential and value of mangroves was demonstrated and mangrove restoration opportunities identified. Improved and increased information also helps justify more ambitious climate-related efforts by supporting current policies and management capacities; while helping identify more detailed policy and planning instruments.

The project also made the case for the contribution of carbon-rich ecosystems including mangroves and peatlands to climate change mitigation through a Letter to Science. This high-impact journal letter highlighted Panama’s active role in advancing its climate policies as well as its ambitions to improve capacities and mangrove protection instruments.



Mangroves show resilience even under extreme conditions



Francisco Málaga / National Audubon Society

PANAMA’S AMBITIOUS ENVIRONMENTAL EFFORTS: PROTECTING MANGROVE ECOSYSTEMS TO PROTECT OUR FUTURE

Panama’s ambitious environmental efforts reflect its deep understanding of the critical role that healthy ecosystems play in supporting not just wildlife but also human communities and the broader economy. One of the few carbon-negative countries in the world, Panama is not resting on its laurels. Instead, it is pushing its ambition even further . This initiative not only benefits Panama but also serves as an example for other nations in the region and globally.

Panama made firm advances on its NDC1 commitments in the Marine-Coastal Systems sector. In the process of formulation of NDC2, previous goals were revised to adapt to present conditions while achievements enabled the setting of more ambitious goals. Among Panama’s NDC2 commitments is the development of a comprehensive adaptation plan for marine-coastal systems by 2025, which will include mitigation co-benefits. Furthermore, by 2026, Panama aims to incorporate at least 50 percent of its mangrove forests into the National System of Protected Areas (SINAP). With adequate financial support, the country plans to restore 1,800 hectares of mangroves by 2028, sequestering an estimated 210,000 tons of carbon dioxide. It also intends to enhance mangrove management and ensure that 50 percent of the mangroves within National Protected Areas System (SINAP) are effectively protected by 2028.



Completion of an adaptation plan for the marine coastal sector.



Increase and/or restore at least 1,800 hectares of mangrove cover nationwide.



Evaluation and improvement of effective mangrove management.



Integration of at least 50% of the mangrove coverage into the National System of Protected Areas (SINAP).



Protection and effective management of at least 50% of the mangroves within SINAP.



Completion of an update to the National Inventory of Wetlands, focused on marine-coastal wetlands, including the determination of their biodiversity and the evaluation of the ecosystem services they provide.

Sectoral Commitments for Marine-Coastal Systems in Panama’s NDCs		
NDC1 (2020 Update)	Adjustment or Result	NDC2 (2024)
By 2025, Panama will have the Climate Change Technical Guide for the Marine-Coastal Systems sector with adaptation and mitigation components.	Adjusted Commitment for the NDC2.	By 2025, Panama will have an Adaptation Plan for the Marine-Coastal Systems sector with mitigation co-benefits.
Starting in 2022, national greenhouse gas inventories will integrate blue carbon, applying chapter 4 of the 2013 IPCC supplement that emphasizes coastal wetlands.	<ul style="list-style-type: none">The country included the disaggregation of mangroves along with an average annual increase factor specific to the country in the 2022 National Inventory Report. Annex to the Fourth National Communication of Panama.A preliminary report on the implementation of chapter 4 of the 2013 IPCC Wetlands Supplement.	By 2027, Panama will develop an updated national map of Seagrass and Coral Reef coverage and the Wetlands Action Plan will have been strengthened with an emphasis on seagrasses and coral reefs. Additionally, by 2028, a Coral Reef and Seagrass Monitoring System will have been implemented.
By 2025, Panama will have developed the Manual of Restoration Techniques for Degraded Mangrove Areas.	Developed and published, May 6, 2021.	<ul style="list-style-type: none">By 2028, Panama will have increased mangrove coverage and/or restored 1,800 hectares nationwide, representing 210 k ton CO₂e sequestered (based on the financial support received).The country is committed to integrating at least 50% of mangrove cover into the National System of Protected Areas (SINAP) by 2026, using the 2021 Forest Cover and Land Use Map as a basis. In addition, Panama will take actions to evaluate and improve effective mangrove management at the national level by 2027; and to the extent of the support acquired, to achieve the protection and effective management of at least 50% of the mangroves within SINAP by 2028.By 2028, there will be an operational National Sea Turtle Monitoring System, which reports information on progress and results of Protection and Conservation projects.By 2030, Panama is committed to having completed the update of the national wetland inventory focused on marine-coastal wetlands, including the determination of their biodiversity and the evaluation of the ecosystem services they provide. The inventory will be strengthened with environmental monitoring and evaluation systems, the expansion of sampling units to adequately cover the different types of marine-coastal wetlands in the national territory, in coordination with the Directorate of Coasts and Seas and Directorate of Protected Areas and Biodiversity.



Support for the NDC2 formulation process and future implementation

The Blue Natural Heritage project, with its integral approach, incorporating science, services valuation, communications and education, and policy was a timely event in the lead-up to the Panama NDC update started in 2023. Its development of technical and scientific information, capacity building, awareness raising and connection to the marine-coastal national and international policy environment fed directly into Ministry of Environment priorities, and will contribute to the future implementation of increased ambitions.

In parallel, Pew Charitable Trusts’ Coastal Wetlands Conservation program brought its expertise on NDC processes to advise the Panama revision, while implementing an initiative on gathering of national scientific data to inform the policy process in conjunction with Smithsonian Environmental Research Center (SERC). Blue Natural Heritage and Pew Charitable Trusts coordinated their efforts in inventorying carbon stock at national level and created synergies for strengthening Panama’s climate policy framework related to marine-coastal ecosystems. See Figure 1.

NDC SUPPORT ACTIVITIES

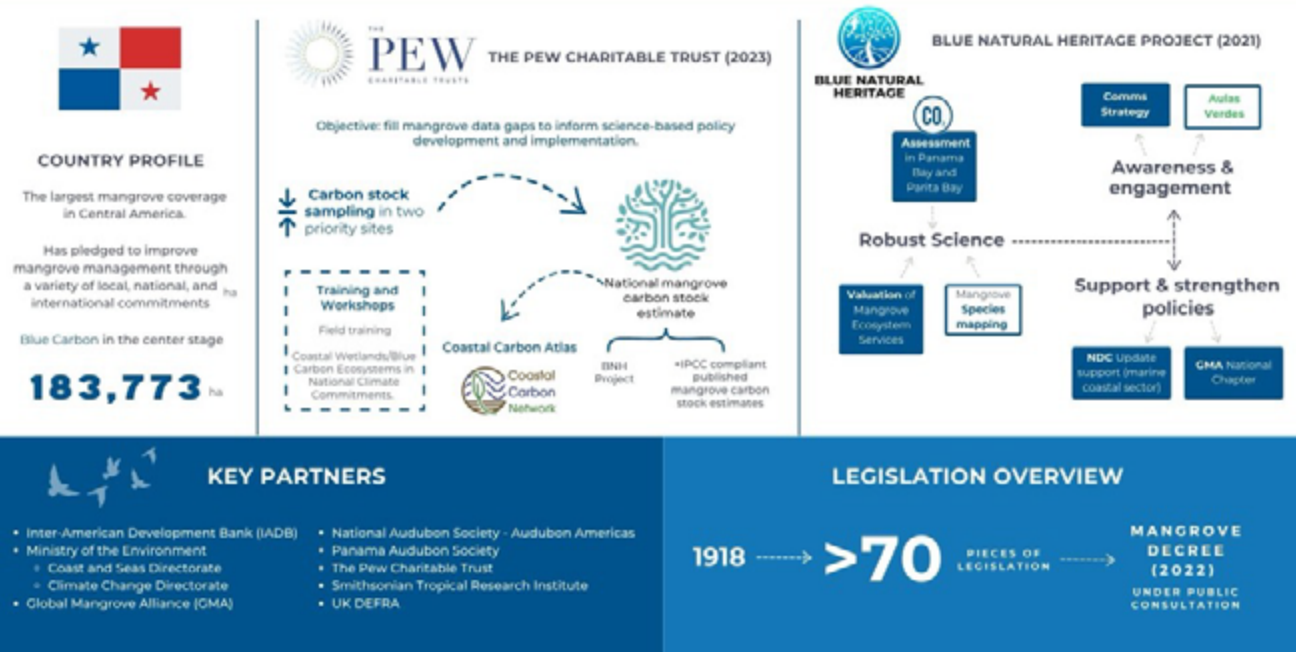


Figure 1: Initiatives supporting NDC2 development.

Hydrological rehabilitation efforts in and around abandoned shrimp ponds where natural regeneration is already occurring will be strategic for achieving mangrove restoration targets under the NDC2 as illustrated in this ongoing Wetlands International initiative in Bay of Parita BNH carbon baseline site

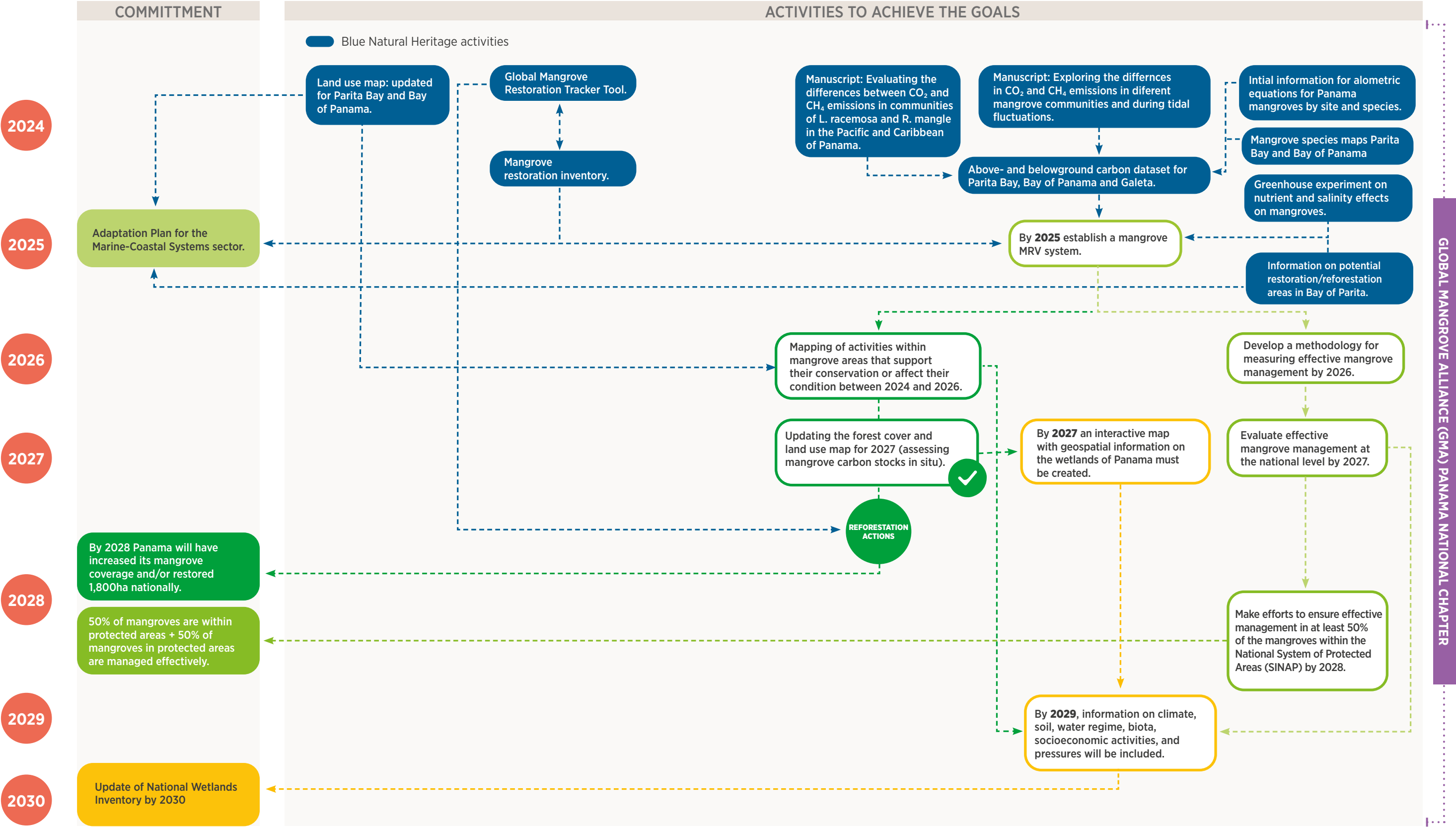


Alfredo Quarto / Mangrove Action Project



Antonio Clemente / Wetlands International Panamá

NDC Implementation Roadmap





The Global Mangrove Alliance: Panama National Chapter

The Global Mangrove Alliance (GMA) is an international community of technical experts, civil society organizations, governments, local communities, businesses, funding agencies and foundations working to restore and protect mangroves.

GMA GOALS FOR 2030



HALT LOSS

Reduce net mangrove losses driven by direct human actions to zero, saving approximately 16,800 hectares of mangroves that would otherwise be lost annually.



DOUBLE PROTECTION

Increase areas under conservation measures from 40% to 80%, protecting approximately 5.1 million additional hectares of mangroves.



RESTORE HALF

Conduct science-based restoration to bring back half of all restorable mangroves lost since 1996, approximately 408,300 hectares.

www.mangrovealliance.org

contact@mangrovealliance.org

GMA ROLES

UNITE SECTORS AND ALIGN STRATEGIES

Collaboration that prioritizes knowledge-sharing of science, experiences and funding opportunities for scalable solutions.

ACCELERATE SCALABLE RESTORATION

Research, monitoring and data tools that ensure restoration activities align with best practices and can be scaled.

TRANSFORM GLOBAL POLICY

Government stakeholder coordination that brings national voices to the global stage and national policies and targets in line with best practices.

STRENGTHEN FINANCIAL ACCESS

Provide financial readiness to our members and chapters to prepare them for philanthropic, private and public funding opportunities.

With the support of the Blue Natural Heritage project and through coordination efforts of Panama Audubon Society and the Ministry of Environment's Directorate of Coasts and Seas (DICOMAR) the GMA Panama National Chapter was created. The Chapter's standing was elevated by its incorporation as a sub-committee of the National Wetlands Committee, which enhances its ability to provide direct technical advice towards mangrove policy issues.

The Panama Chapter also brought together the most relevant stakeholders concerned with mangrove conservation in the country, including authorities, local and indigenous community groups, academics, and

non-government organizations, among others. Based on a national scoping of current actions and policies, the Chapter formulated and validated an Implementation Plan aimed at improving coordination of actions and creation of synergies between communities, practitioners, researchers and decision makers. An active and participatory Chapter will also support promotion and sharing of Panama's mangrove conservation efforts through the GMA platform, while enabling improved access to technical expertise and finance opportunities. Thus the Panama National Chapter will be a key platform for supporting the future achievement of Panama's Nationally Determined Contributions.



Panama GMA National Chapter Implementation Plan validation



Julio Montes de Oca / National Audubon Society

View of Panama City from Bay of Panama Wetlands

Julio Montes de Oca
Coastal Resilience Director
Audubon Americas
julio.montesdeoca@audubon.org

Rosabel Miró
Executive Director
Sociedad Audubon de Panamá
dir_ejecutiva@audubonpanama.org

Esperanza González
Climate Change and Sustainability Senior Specialist
Inter-American Development Bank (IDB)
rosago@iadb.org