



A RAIA profile on: **Minister of Environment of the Republic of Panama**

Juan Carlos Navarro

Fourth part of a six-part series on climate leaders ahead of the 2026 United Nations Climate Change Conference

IE School of Politics, Economics & Global Affairs, IE School of Science & Technology and RAIA NOW's Summer Research Programme 2026

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Sponsorship: This report is a collaboration between the IE School of Politics, Economics and Global Affairs, the IE School of Science and Technology and RAIA NOW gUG. The funding for this project solely comes from IE University.

List of Abbreviations

- COP: Conference of the Parties
- UN: United Nations
- NGO: Non-governmental organisation
- B.A.: Bachelor of Arts
- ANCON: Asociación Nacional para la Conservación de la Naturaleza (National Association for the Conservation of Nature)
- IUCN: International Union for Conservation of Nature
- PAGIRH: Plan de Acción para la Gestión Integrada de los Recursos Hídricos (Integrated Water Resources Management Action Plan)
- GDP: Gross domestic product
- IMF: International Monetary Fund
- EIA: Environmental Impact Assessment
- UNESCO: United Nations Educational, Scientific and Cultural Organization
- CDN: Contribución Determinada a Nivel Nacional (Nationally Determined Contribution)
- ENBSAP: Estrategia Nacional de Biodiversidad y Plan de Acción (National Biodiversity Strategy and Action Plan)
- NDT: Neutralidad de la Degradación de las Tierras (Land Degradation Neutrality)
- CONACLABIT: Comité Nacional de Clima, Biodiversidad y Tierra (National Committee on Climate, Biodiversity and Land)
- UNCCD: United Nations Convention to Combat Desertification
- UNFCCC: United Nations Framework Convention on Climate Change
- LDN: Land Degradation Neutrality
- UNEP: United Nations Environment Programme
- IWRM: Integrated Water Resources Management
- SDG: Sustainable Development Goal
- PNGIRH: Plan Nacional de Gestión Integrada de Recursos Hídricos (National Integrated Water Resources Management Plan)
- IMHPA: Instituto de Meteorología e Hidrología de Panamá (Institute of Meteorology and Hydrology of Panama)
- MiAMBIENTE: Ministerio de Ambiente de Panamá (Ministry of Environment of Panama)
- PFP: Project Finance for Permanence
- SINAP: Sistema Nacional de Áreas Protegidas (National System of Protected Areas)
- IoF: Internet of Forests
- LiDAR: Light Detection and Ranging
- NBSAP: National Biodiversity Strategy and Action Plan
- ACP: Autoridad del Canal de Panamá (Panama Canal Authority)

- GIRH: Gestión Integrada de los Recursos Hídricos (Integrated Water Resources Management)
- PCDC: Plan de Conservación y Desarrollo Comunitario (Community Conservation and Development Plan)
- PET: Polyethylene terephthalate
- HDPE: High-density polyethylene
- PP: Polypropylene
- LDPE: Low-density polyethylene
- PS: Polystyrene
- CIM: Comitê Interministerial sobre Mudança do Clima (Interministerial Committee on Climate Change)

Juan Carlos Navarro

Introduction Juan Carlos Navarro

Juan Carlos Navarro is the current Minister of Environment of the Republic of Panama, serving under President José Raúl Mulino since July 1st of 2024. He is also the current President of the Forum of Environment Ministers of Latin America and the Caribbean,¹ a position that allows him to be at the forefront of regional coordination on environmental matters in the context of the COP 30 negotiations and other UN frameworks. Nonetheless, this involvement in international environmental governance is not recent as he has been a central figure in the field for decades. His relevance stems from a career that spans NGO leadership, environmental diplomacy, two terms as Mayor of Panama City, solar energy entrepreneurship, and now the highest environmental office in Panama.

Born on October 19th 1961 in Panama City into an influential and economically privileged family, his father Eduardo Navarro Chiari was a prominent businessman and president of the energy conglomerate TRENCO/TROPIGAS.² Such a background exposed him early to the world of energy but Navarro chose a different path as he developed a deep and lasting interest in the natural world, an interest that would shape his entire career. It first led him to pursue a B.A. in Geography and Government at Dartmouth College, which he completed in 1983, before finishing a Master's in Public Policy at Harvard University's Kennedy School in 1985.³ During his time at Dartmouth, he began writing a book on the systematic geography of Panama, a project that reflects how environmental knowledge became a personal and intellectual mission from the very beginning of his career.⁴ Upon returning to Panama in 1985, rather than entering business or conventional politics, Navarro co-founded the National Association for the Conservation of Nature (ANCON) and became its first executive director,⁵ effectively shaping it to become one of the most influential Panamanian environmental NGOs. This decision marks the beginning of his environmental career, first as an activist, which would define the trajectory of everything that followed. In 1990 he was appointed Regional Director for Latin America for the

¹ UN Environment, "About the Forum" (*UNEP - UN Environment Programme* 2024) <<https://www.unep.org/regions/latin-america-and-caribbean/forum-ministers-environment-latin-america-and-caribbean/about>> accessed July 5, 2026.

² La Estrella de Panamá, "Fallece Don Eduardo Navarro Chiari, Presidente Del Grupo Energético Trenco" (*www.laestrella.com.pa* December 2, 2025) <<https://www.laestrella.com.pa/panama/nacional/fallece-don-eduardo-navarro-chiari-presidente-del-grupo-energetico-trenco-BM18055994>> accessed June 8, 2026.

³ Juan Carlos Navarro, "Biography - Juan Carlos Navarro" (*Juan Carlos Navarro - Sitio Web Oficial* March 21, 2019) <<https://www.juancarlosnavarro.com/biography/>> accessed June 8, 2026.

⁴ World Economic Forum, "Panama 2014 - A Conversation with Juan Carlos Navarro" (*YouTube* April 2, 2014) <<https://www.youtube.com/watch?v=NnxoYNzZaQ4>> accessed June 8, 2026.

⁵ Biography - Juan Carlos Navarro

International Union for Conservation of Nature (IUCN),⁶ one of his first international environmental positions and one of the most significant in global conservation governance. As a member of this organisation, he contributed to setting the Union's worldwide conservation policy and was responsible for overseeing the implementation of its programme across the Latin American region.⁷ He also was the youngest person to ever hold this position.⁸ A year later, due to his environmental background, President Ernesto Pérez Balladares named him Panama's first Environmental Ambassador,⁹ a role created to support state institutions in formulating and implementing national and international environmental policy.

Backed by his professional experience, Navarro successfully ran for the Mayoral position of Panama City in 1999, a position that he would hold for ten years across two consecutive terms until 2009.¹⁰ This first sustained political experience gave him broad national exposure as an important political figure of the biggest city in the country, ultimately leading him to seek higher office. In 2013, he entered the Democratic Revolutionary Party's presidential primary, competing against seventeen other candidates and winning with 94% of the vote to secure the party's nomination. He ran in the 2014 general election but finished third, receiving 521,842 votes, 28% of the total, behind Juan Carlos Varela (39%) and José Domingo Arias (31%). Rather than retreating from public life, he founded NSOLAR,¹¹ one of Panama's leading solar energy startups, and served as the founding president of the Solar Energy Association of Panama. He channelled his entrepreneurial mindset into the green economy before being appointed by President Mulino as the Minister of Environment of Panama.

Juan Carlos Navarro is leading the environmental policy of a particularly biodiverse country, which is also acutely exposed to several challenges. Indeed, Panama sits at one of the planet's most biodiverse crossroads as it hosts more than 10,000 plant species¹² and over 1,000 bird species.¹³ Its forests absorb more carbon than the country emits, making it one of only a handful of carbon-negative nations in the world. Yet this natural wealth is under mounting pressure. Water scarcity, intensified by more frequent and intense El Niño events,

⁶ IUCN, "Juan Carlos NAVARRO" (*IUCN World Conservation Congress2025*) <<https://iucncongress2025.org/speakers/juan-carlos-navarro-0>>.

⁷ Patrick Porchet, "Regional Director - Mexico, Central America and the Caribbean" (*IUCN.org2025*) <<https://hrms.iucn.org/vacancy/5551>> accessed July 5, 2026.

⁸ MiAmbiente, 'MINISTRO de AMBIENTE - MiAmbiente' (*MiAmbiente - Ministerio de Ambiente* July 2024) <<https://miambiente.gob.pa/ministro-de-ambiente/>> accessed 8 June 2026.

⁹ Ibid

¹⁰ Biography - Juan Carlos Navarro

¹¹ Ibid

¹² Canopy Family, 'Plant Database - the Canopy Family' (*Canopy Family* 10 June 2020) <<https://canopytower.com/resources/plant-database/>>.

¹³ D. Lepage, "Avibase - Bird Checklists of the World - Panama" (June 24, 2025) <<https://avibase.bsc-eoc.org/checklist.jsp?lang=EN&p2=1&list=clements&synlang=®ion=PA&version=text&lifelist=&highlight=0>>

deforestation, and mining threats to communities are putting the Panamanian government in a situation where it needs to balance between resource extraction and environmental protection issues.

This report argues that Juan Carlos Navarro is a conviction-driven climate leader with deep activist roots whose policies aim to tackle Panama's environmental challenges by addressing institutional issues and ensuring the economic security of the country. He positions climate action not only as an ecological necessity but also as a foundation for a resilient and economically strong and sustainable Panama.

The report proceeds as follows: Section 2 (Their Stake) identifies the environmental challenges facing the country of Panama, focusing on mining threats, deforestation, and water scarcity and pollution. For each challenge, it examines how Panama is affected and why Juan Carlos Navarro is motivated to act. Section 3 (Their Defining Moment) identifies the catalytic event, the founding of ANCON in 1985, as the stepping stone that launched Navarro's career, when his personal convictions and ideas became a public environmental mission. This section explains how this moment has shaped all the decisions he has taken ever since, and how it effectively shaped his political path and personal convictions. Section 4 (Their Solutions) analyses three major policies launched or advanced under his ministry, but also actions he undertook long before that: the Pacto de Panamá con la Naturaleza, the PAGIRH 2022-2026, and ANCON's work. Section 5 (The Impact) assesses these solutions for the effectiveness in addressing the environmental challenges outlined in Section 3. Section 6 (Recommendations) offers actionable proposals that deepen their impact and tackle their shortcomings, always considering the constraints Navarro faces. Section 7 (Conclusion) returns to the thesis by offering a final assessment of his legacy and leadership as a climate leader.

Juan Carlos Navarro's Environmental Stake

Despite being directly responsible for only 0.045% of global greenhouse gas emissions,¹⁴ Panama plays a major role in international environmental policy. It has made several efforts on mitigation of the effects of climate change and to promote effective environmental policies.¹⁵ Indeed, the country is home to remarkable ecological biodiversity and is home to some of the most intact tropical forests in Central America, which allows it to be considered as carbon negative.¹⁶ Yet this natural wealth exists alongside a set of structural

¹⁴ MiAmbiente and UNDP, 'SEGUNDO INFORME BIENAL de ACTUALIZACIÓN CONOCE SOBRE LA MITIGACIÓN DEL CAMBIO CLIMÁTICO EN PANAMÁ' (2021) <https://unfccc.int/sites/default/files/resource/2IBA_vf_HI-RES.pdf>.

¹⁵ Ibid page 110

¹⁶ Climate and Clean Air Coalition, "Panama | Climate & Clean Air Coalition" (www.ccacoalition.org) <<https://www.ccacoalition.org/partners/panama>>.

vulnerabilities that are deepening under the combined pressure of climate change, economic growth and institutional fragility.¹⁷

Panama's economy is heavily dependent on services, as they account for 80% of the country's GDP,¹⁸ with the Panama Canal alone representing 7.7% of the country's GDP.¹⁹ Other services the country provides and relies on are tourism, banking and financial services,²⁰ all of which are particularly vulnerable and sensitive to environmental disruption.²¹ Indeed, according to the ministry's presentation on the ecological transition and green jobs, 38% of Panama's GDP is vulnerable to climate change.²² The country ranks 14th globally among nations most exposed to natural hazards according to the IMF,²³ and its key economic engines spanning from agriculture to shipping without overlooking tourism and construction, are directly dependent on stable water resources, functional ecosystems and predictable rainfall patterns. Therefore, this dependence makes environmental governance not a secondary concern but rather a core condition of economic stability.

It is in this context that Juan Carlos Navarro operates as Minister of Environment. He inherited a ministry whose mandate has historically been under-resourced relative to the scale of the challenges it faces and tries to overcome, as its budget only represents 0.49% of the national budget (\$69.4 million).²⁴

¹⁷ Luca Moneta and Allianz Trade, 'Panama Country Risk Report | Allianz Trade' (*Allianz Trade Corporate*2026)

<https://www.allianz-trade.com/en_global/economic-research/country-reports/Panama.html#TabVerticalNegative11903293076> accessed 3 July 2026.

¹⁸ International Trade Administration, 'Panama - Market Overview' (www.trade.gov13 October 2021) <<https://www.trade.gov/country-commercial-guides/panama-market-overview>>.

¹⁹ María Priscila Ramos and others, 'The Economic Contribution of the Panama Canal and Its Sensitivity to Internal and External Shocks' (*Idbinvest.org*19 December 2024) <<https://idbinvest.org/en/publications/economic-contribution-panama-canal-and-its-sensitivity-internal-and-external-shocks>>.

²⁰ Consulate General of Panama in Marseille, 'Panama on the Economy Side: Economic & Financial Information' (*Consulat Général du Panama - Marseille*20 April 2018) <<https://www.consulatgeneraldepanamamarseille.com/visit-panama/economic-information/>>.

²¹ Jennifer Sara, 'PANAMA CLIMATE RISK COUNTRY PROFILE' (2024) <<https://climateknowledgeportal.worldbank.org/sites/default/files/country-profiles/16805-WB-Panama%20Country%20Profile-WEB.pdf>>.

²² MiAmbiente, "Panorama Regional de LOS Empleos Verdes Y LA Transición Ecológica" (*MiAmbiente*May 26, 2026) <<https://www.cepal.org/sites/default/files/presentations/panorama-regional-de-los-empleos-verdes-y-la-transicion-ecologica-en-panama.pdf>>.

²³ International Monetary Fund, 'Building Resilience to Natural Disasters and Climate Change' (2024) 2024 IMF Staff Country Reports <<https://www.elibrary.imf.org/view/journals/002/2024/189/article-A002-en.xml>>.

²⁴ World Bank, 'INTERNATIONAL BANK for RECONSTRUCTION and DEVELOPMENT PROJECT PAPER on a PROPOSED GRANT from the GLOBAL ENVIRONMENT FACILITY (GEF) in the AMOUNT of US\$ 3,505,936 to the REPUBLIC of PANAMA for a PANAMA SUSTAINABLE RURAL DEVELOPMENT and BIODIVERSITY CONSERVATION PROJECT' (21 September 2022) <<https://documents1.worldbank.org/curated/en/099100010072280690/pdf/P178063098ad5c0b083450183c0802f85a.pdf>> accessed 3 July 2026.

Mining Threats

Since the 1980s, mining has grown to become a booming pillar of Panama's economy, with the government encouraging private companies to explore and exploit mining sites in the country, especially with gold prices rising in the 1980s.²⁵ Nonetheless, it came with major environmental challenges as it produces long-term damage to land and water, damages that persist well beyond the active lifetime of any mine. At the Remance gold mine in Veraguas, a decommissioned site since 1999,²⁶ waste tailings left from gold exploitation that have been exposed for over twenty years still contain dangerous substances that include cyanide, arsenic, antimony, copper and mercury.²⁷ Such toxic elements have contaminated nearby soils and increased pollution levels in rivers such as the Chitreca and Santa María effectively degrading drinking water quality and threatening the viability of agricultural practices in the regions depending on these rivers.²⁸

Panama's mining governance framework compounds these risks, as the principal mining legislation, the Mineral Resources Code has not been substantially updated since the 1960s and predates modern environmental standards entirely.²⁹ Furthermore, it does not contain any clear obligations on mine closure, and Panama lacks detailed national regulations on water protection and waste management in the context of mining operations.³⁰ In practice, the sector is regulated primarily through the Environmental Impact Assessment (EIA) system established by Law 41 of 1998 and the General Environmental Law, which require project-specific studies to be reviewed and approved by the Ministry of Environment.³¹ While the EIA system is designed to evaluate potential impact on forests, water and biodiversity, as well as to set environmental management conditions, enforcement in practice has been consistently weak, with said conditions not always followed in reality.

²⁵ Stewart D Redwood, 'The History of Mining and Mineral Exploration in Panama: From Pre-Columbian Gold Mining to Modern Copper Mining' (2020) 72 Boletín de la Sociedad Geológica Mexicana.

²⁶ Ana Cristina González-Valoys and others, 'Environmental Challenges Related to Cyanidation in Central American Gold Mining; the Remance Mine (Panama)' (2022) 302 Journal of Environmental Management 113979.

²⁷ Ibid page 7

²⁸ Ibid page 2, 8

²⁹ Marina Ruete, Alejandro Vio Grossi and International Institute for Sustainable Development, 'IGF MINING POLICY FRAMEWORK ASSESSMENT Panama' (2020) <<https://www.iisd.org/system/files/2021-02/panama-mining-policy-framework-assessment-en.pdf>>.

³⁰ Ibid page 4

³¹ Pardini & Asociados, 'Panama: New Environmental Legislation' (www.pardinilaw.com) <<https://www.pardinilaw.com/EN/padela/articles/63/environmental/panama-new-environmental-legislation/>>.

Mining was projected to contribute around 6% of national GDP,³² making it the second largest economic sector after the Canal. Cobre Panama, a large copper mine involved in a corruption scandal, alone accounted for roughly 5% of GDP and 2% of employment before its shutdown.³³ In November 2023, Panama's Supreme Court struck down Law 406, declaring the mine's contract unconstitutional for violating the rights to life, health, and a clean environment, and for bypassing transparency and bidding requirements.³⁴ The mine's own environmental study had projected damage to 5,900 hectares, of which approximately 5,500 were tropical rainforest, encompassing three critical watersheds: Petaquilla, Caimito, and San Juan.³⁵ The combination of economic weight and ecological damage makes mining an important long-term challenge for the country. In this context, Navarro has inherited two unresolved cases. At Remance, his ministry must manage contamination from a site that was never properly decommissioned. At Cobre Panama, he maintained the suspensions of operations³⁶ while navigating pressure coming from two opposite sides: communities and civil society organisations, whose 2023 protests were the largest in the country's history,³⁷ demanding permanent closure, and business groups warning that the shutdown threatens exports and economic growth. He has called for stricter regulatory compliance, both in legislation and enforcement, but the tensions persist.

³² Marina Ruete, Alejandro Vio Grossi and International Institute for Sustainable Development, 'IGF MINING POLICY FRAMEWORK ASSESSMENT Panama' (2020) <<https://www.iisd.org/system/files/2021-02/panama-mining-policy-framework-assessment-en.pdf>>.

³³ Reuters Staff, 'IMF Sees Panama GDP up 4.5% This Year in Rebound from Copper Mine Closure' *Reuters* (25 August 2025) <<https://www.reuters.com/world/americas/imf-sees-panama-gdp-up-45-this-year-rebound-copper-mine-closure-2025-08-25/>>.

³⁴ Agencia EFE, 'Panama Celebrates Unconstitutionality of Mining Contract and Reopens Roads' (*EFE Noticias*) November 28, 2023) <<https://efe.com/economy/2023-11-28/panama-celebrates-unconstitutionality-of-mining-contract-and-reopens-roads/>> accessed July 5, 2026.

³⁵ Jose Arcia, 'Copper Mine Destroying Forests in Panama's Mesoamerican Biological Corridor' (*Mongabay Environmental News*) 24 December 2018) <<https://news.mongabay.com/2018/12/copper-mine-destroying-forests-in-panamas-mesoamerican-biological-corridor/>>.

³⁶ Elida Moreno and others, 'Panama's Top Court Deals a Blow to Canada's First Quantum, Rules Mining Contract Unconstitutional' *Reuters* (28 November 2023) <<https://www.reuters.com/markets/commodities/top-panama-court-rules-first-quantum-mining-contract-unconstitutional-2023-11-28/>>.

³⁷ Bloomberg, 'Rage against Copper Producers Roils Markets, Panama Government' (www.bloomberg.com) 2023) <<https://www.bloomberg.com/news/articles/2023-11-09/rage-against-copper-producer-roils-markets-panama-government>> accessed 21 June 2026.

Water Scarcity and Pollution

Water scarcity refers to the insufficient availability of freshwater to meet the demands of human populations, agriculture, ecosystems and infrastructure.³⁸ Panama's case is paradoxical as the country holds five times more freshwater per capita than the world average, yet deforestation and intensifying El Niño events are causing the depletion of water resources across many regions. The most consequential case is Gatún Lake, which simultaneously supplies the freshwater needed to operate the Panama Canal's lock system and the drinking water for Panama City and Colón.³⁹ When levels fall, the Canal Authority must impose draft restrictions,⁴⁰ limiting ship depth and daily crossing numbers, reducing cargo volumes, and directly impacting revenue. In agriculture, the sector is also particularly exposed as Panama's central Pacific corridor, also known as the Arco Seco, is already facing chronic seasonal deficits in water. The 2023-2024 drought, the worst in over 70 years with rainfall 43% below historical averages, devastated pastures and livestock across the region, forcing farmers to reduce cattle herds and triggering emergency actions from the Ministry of Agricultural Development.⁴¹

On agriculture, 80% of Panama's rice production relies on the dry method,⁴² which depends greatly on rainfall patterns that are becoming increasingly unpredictable,⁴³ forcing farmers to plant at rising costs, reducing yields and undermining food security, especially among rural and indigenous communities. The consequences for ordinary Panamanians are also tangible, as despite the country holding substantially more freshwater resources than the world average, only 26% of urban households receive water without daily interruptions.⁴⁴

³⁸ Melissa Petruzzello, 'Water Scarcity', *Encyclopædia Britannica* (2019) <<https://www.britannica.com/topic/water-scarcity>>.

³⁹ Joshua Gabriel Trotman, "Assessing the Impacts of Climate Change and Climate Variability on Stream Flow in Tropical Sub-Basins : A Case Study of the Gatun Lake Catchment, Panama" (*Oclc.org*2024) <<https://ihedelftrepository.contentdm.oclc.org/digital/collection/masters2/id/138198>> accessed June 9, 2026.

⁴⁰ Panama Canal Authority, "Panama Canal Authority Vice Presidency for Operations SUBJECT: Increase in the Number of Booking Slots in the Panamax and Neopanamax Locks and Other Modifications to the Transit Reservation System" (2023) <<https://pancanal.com/wp-content/uploads/2023/01/ADV54-2023-Increase-in-the-Number-of-Booking-Slots-in-the-Panamax-and-Neopanamax-Locks-and-Other-Modifications-to-the-Transit-Reservation-System.pdf>> accessed June 9, 2026.

⁴¹ CGTN, 'Severe Drought in Panama Hits Agriculture, Animal Husbandry' (*news.cgtn.com*27 December 2023) <<https://news.cgtn.com/news/2023-12-27/Severe-drought-in-Panama-hits-agriculture-animal-husbandry-1pRZZAHWJd6/p.html>>.

⁴² Embassy of the Kingdom of the Netherlands in Panama, 'Agriculture in Panama' (2018) <<https://www.rvo.nl/sites/default/files/2018/03/agriculture-in-panama-challenges-and-opportunities-2018.pdf>>.

⁴³ Ibid.

⁴⁴ Tvn Panamá, 'Contenido Exclusivo: El Panamá Sin Agua - Nacionales | Tvn Panamá' (*Tvn Panamá*29 July 2025)

Moreover, around 10% of the population have no access to piped drinking water at all, with indigenous communities being the worst affected at around 60%.⁴⁵ Neighbourhood protests over supply cuts have become routine across the capital, and the cities of San Miguelito and Panama Oeste, prompting Panama's Ombudsman to receive delegations from over ten communities in Panama Este in 2025 and formally demand urgent government responses.⁴⁶ In June 2025, the government itself declared a state of water emergency in the country's central region after contamination of two major rivers cut supplies to more than 100.000 people.⁴⁷

Water scarcity effectively sits at the intersection of every major pressure Navarro faces as a minister. From an economic approach, the Canal is Panama's most strategic national asset and any policy that fails to protect the efficiency of its operations undermines the country's fiscal stability as well as global shipping routes.⁴⁸ This makes water governance politically necessary and unavoidable, not a mere environmental agenda. Navarro's personal formation as a geographer and conservationist positions him to understand that the canal's water supply is inseparable from the health of surrounding forests and ecosystems. His active role in implementing PAGIRH 2022-2026 and his engagement with the Adaptation Fund's water-harvesting projects in Chiriquí Viejo and Santa María⁴⁹ rivers reflect that he is a leader who understands the stake of protecting water while simultaneously thinking about economic self-defence.

Deforestation and Biodiversity Loss

Deforestation, defined as the intentional clearing of forested land,⁵⁰ is a main environmental challenge faced in Panama. Over the years, the country's forest

<https://www.tvn-2.com/nacionales/contenido-exclusivo-panama-agua_1_2199834.html> accessed 16 June 2026.

⁴⁵ Blue Community, 'Water Gaps All over Latin America' (*Blue Community* 24 March 2025) <<https://blue-community.net/2025/03/water-gaps-all-over-latin-america/>>.

⁴⁶ Irving Rivera, 'Defensoría Exige Respuestas Urgentes Ante Posibles Sabotajes Y Contaminación Que Agravan Crisis de Agua En Las Garzas' (*Defensoría del Pueblo de Panamá* 3 April 2025) <<https://www.defensoria.gob.pa/defensoria-exige-respuestas-urgentes-ante-posibles-sabotajes-y-contaminacion-que-agrarian-crisis-de-agua-en-las-garzas/>> accessed 16 June 2026.

⁴⁷ Newsroom Panama, 'Panama Government Declares State of Emergency in Herrera and Los Santos due to Water Crisis - Newsroom Panama' (*Newsroom Panama* 11 June 2025) <<https://newsroompanama.com/2025/06/10/panama-government-declares-state-of-emergency-in-herrera-and-los-santos-due-to-water-crisis/>> accessed 3 July 2026.

⁴⁸ Andrei Netto and Fritz Pinnow, 'How the Climate Crisis Threatens the Panama Canal – and the Country's Future' (*the Guardian* 7 November 2024) <<https://www.theguardian.com/global-development/2024/nov/07/resilient-climate-crisis-threatens-panama-canal-juan-carlos-navarro-sustainability-economic-growth>>.

⁴⁹ afadmin, 'Adapting to Climate Change through Integrated Water Management in Panama' (*Adaptation Fund*) <<https://www.adaptation-fund.org/project/adapting-climate-change-integrated-water-management-panama/>>.

⁵⁰ National Geographic Society, *Deforestation*, National Geographic. <<https://education.nationalgeographic.org/resource/deforestation/>>. Accessed 18 June 2026.

cover has steadily declined due to factors such as population growth, livestock farming, subsistence agriculture, and firewood consumption,⁵¹ even though the percentage of forests and woodlands present in the country is 68%.⁵²

Panama's forests are greatly threatened by mining, where its expansion results in massive deforestation, river pollution, as well as ecosystem destruction. Agriculture expansion including cattle ranching, large-scale agricultural plantations, and infrastructure development are also causes for deforestation. Moreover, fires are also drivers of tree cover loss, where from 2001 to 2025, Panama lost 40 kha of tree cover to fires alone.⁵³ Additionally, climate change is exacerbating this issue by increasing the frequency and severity of fires.⁵⁴

Deforestation is a socioeconomic issue, since 60% of Panama's forest cover lies over indigenous territories, threatening their livelihoods. This is relevant since the indigenous population accounts for 11% of Panama's population and it is often marginalised economically, politically, socially and culturally.⁵⁵ In fact, in 2025, Panama lost 15 kha of natural forest, which is equivalent to 9.0 Mt of carbon dioxide emissions.⁵⁶

As an environmentalist focused on the conservation and protection of biodiversity, Navarro has emphasised that "now is the time for action"⁵⁷ and that therefore bold steps must be taken to protect national forests and parks. This is why, for instance, he has enacted a province-wide logging moratorium in the Darién National Park to put a stop to illegal logging and rainforest clearing; hiring, equipping, and training 150 new national park rangers with necessary equipment; implementing new technologies such as satellite monitoring, marine radars, cellular cameras to improve conservation, protection and monitoring efforts; and support the livelihoods of indigenous communities.⁵⁸ This also implies the protection of Panama's local biodiversity given that the Darién Biosphere Reserve is considered among the most species-rich ecosystems in Central America,

⁵¹ E. Gonzalez, 'V. Estado Actual de la Información Sobre Madera para Energía' (FAO) <<https://www.fao.org/4/ad395s/AD395s07>>.

⁵² Prensa, 'La Grandeza de los bosques panameños' (MiAmbiente) <<https://miambiente.gob.pa/la-grandeza-de-los-bosques-panamenos/>>.

⁵³ Global Forest Watch. Panamá, Global Forest Watch, <https://www.globalforestwatch.org/dashboards/country/PAN/>. Accessed 18 June 2026.

⁵⁴ World Meteorological Organization, 'Climate change "increases the risk of wildfires"' (World Meteorological Organization) <<https://wmo.int/media/news/climate-change-increases-risk-of-wildfires>>.

⁵⁵ Audubon. Panamá, Audubon, <https://www.audubon.org/conservation/americas/panama>. Accessed 16 July 2026.

⁵⁶ Global Forest Watch. Panamá, Global Forest Watch, <https://www.globalforestwatch.org/dashboards/country/PAN/>. Accessed 18 June 2026.

⁵⁷ Global Conservation. 'GC Event—Secretary Wade Crowfoot of California and Minister Juan Carlos Navarro of Panama Detail Solutions on Protecting Our Planet', *Global Conservation*. <https://globalconservation.org/news/spirit-of-boldness>. Accessed 18 June 2026.

⁵⁸ Ibid 62.

including an astonishing amount of endemic species, and one of the most diverse rainforests in the world.⁵⁹

Juan Carlos Navarro's Defining Moment

In 1985, Juan Carlos Navarro made a defining decision for the rest of his career. He had just completed a Master's in Public Policy at Harvard and came from a well connected business family.⁶⁰ Instead of pursuing a career in business or in politics, he returned to Panama and co-founded ANCON, the National Association for the Conservation of Nature,⁶¹ becoming its first Executive Director and building it from the ground up into one of Panama's most influential environmental organisations, with over four decades of uninterrupted conservation work. The organisation's founders were described as 'visionaries' precisely because, at the time, no dedicated national NGO existed to fulfil the role of protecting and restoring the Panamanian natural heritage and spreading awareness on sustainable practices. Such efforts depended heavily on private initiative, with no state mandate and no established funding base to draw on.⁶²

Navarro took this responsibility as he wanted the organisation to be a tool capable of convincing Panamanians of the importance of conservation as an essential source of economic value for Panama.⁶³ In an interview from 2015, he stated that ANCON helped convince around 90% of Panamanians that conservation should be a national priority, which was measured through surveys.⁶⁴ This marks the moment in which his personal beliefs became a public campaign. His defining moment is not a crisis or failure, but a decision shaped by his belief in the importance of conservation.

His later work as the Environmental Ambassador of Panama, his green urban policies as Mayor, his founding of NSOLAR, and his flagship policies as Minister are not separate chapters of a political career, they are the continuation of a single conviction formed in 1985: that conservation is not an obstacle to development, but its foundation.⁶⁵

⁵⁹ Global Conservation. *Darién World Heritage Site, Panama*, Global Conservation. <https://globalconservation.org/projects/darien-world-heritage-site-panama>. Accessed 18 June 2026.

⁶⁰ "Juan Carlos NAVARRO." *IUCN World Conservation Congress*, 2025, iucncongress2025.org/speakers/juan-carlos-navarro-0. Accessed 11 June 2026.

⁶¹ "Biography - Juan Carlos Navarro." *Juan Carlos Navarro - Sitio Web Oficial*, 21 Mar. 2019, www.juancarlosnavarro.com/biography/.

⁶² ANCON, 'Nuestra Historia - Ancon' (Ancon5 May 2026) <<https://ancon.org/en/nuestra-historia/>>.

⁶³ ANCONORG. "El Exdirector Y Fundador de ANCON, Juan Carlos Navarro Cuenta El Inicio de ANCON." *YouTube*, 13 Nov. 2015, www.youtube.com/watch?v=zFlx4c-cPc4. Accessed 11 June 2026.

⁶⁴ ANCONORG

⁶⁵ "Juan Carlos NAVARRO"

During and after his time at the organisation, ANCON helped put conservation into practice. In its earliest years, Navarro led the organisation's first major project: securing and managing Parque Soberanía, which was founded in 1980 after the Panama Canal Treaty came into effect to protect the forests directly adjacent to the Canal and its water supply.⁶⁶ ANCON then went on, under his stewardship, to help establish Parque Chagres, which was five times larger than the first one, protecting the watershed that supplies the expanded Canal. The organisation also co-created the Parque Internacional La Amistad in the highlands of Chiriquí, a UNESCO Man and Biosphere Reserve of global significance. Later, in 1993, ANCON established the Punta Patiño Private Natural Reserve, the largest private reserve in Panama, covering 30.000 hectares of Darién forest and absorbing around 180.000 tonnes of CO₂.⁶⁷ By the time he left the organisation it had grown into a large and impactful environmental NGO, which helped the government found half of the national reserves of the country.⁶⁸ It grew to become a major contributor to the country's conservation efforts.

Juan Carlos Navarro's Climate Solutions

Juan Carlos Navarro's efforts are best understood as attempts to fight the fragmentation of the country's institutions and replace it with coordination. Across Panama's environmental agenda he is not solely launching isolated measures but rather actively trying to connect the challenges he is facing from water governance, biodiversity protection, and long term conservation financing into a single state strategy capable of surviving political turnover. Furthermore, his efforts are also focused on mitigating risks associated with water scarcity, a vital resource for the country's economy.

Pacto de Panamá con la Naturaleza (Nature Pledge)

The Pacto de Panamá con la Naturaleza is a 10-year strategic environmental roadmap (2025-2035) launched by the Ministry of Environment under Navarro in 2025.⁶⁹ It tackles one of Panama's most relevant issues regarding environmental protection: the fragmentation of efforts. It is a policy that aims to integrate three previously separate international environmental commitments into one unified national framework. It includes the Nationally Determined Contributions (CDN) on

⁶⁶ admin. "Soberania National Park, a Tropical Forest Full of Life and Activities to Enjoy | the Visitor Panama." 26 Apr. 2022.

⁶⁷ ANCON, "Reserva De Punta Patino - Ancon" (2026) <<https://ancon.org/en/reserva-de-punta-patino/>> accessed July 26, 2026.

⁶⁸ ANCONORG. "El Exdirector Y Fundador de ANCON, Juan Carlos Navarro Cuenta El Inicio de ANCON." *YouTube*, 13 Nov. 2015, www.youtube.com/watch?v=zFlx4c-cPc4. Accessed 11 June 2026.

⁶⁹ MiAmbiente, "Pacto de Panamá CON LA Naturaleza" (*MiAmbiente - Ministerio de Ambiente* November 2025) <<https://unfccc.int/sites/default/files/2025-11/Pacto%20de%20Panam%C3%A1%20con%20la%20Naturaleza%20%28Nature%20Pledge%29.pdf>> accessed June 9, 2026.

climate change, the National Biodiversity Strategy (ENBSAP) on biodiversity loss, and the Land Degradation Neutrality Strategy (NDT) on desertification and land degradation.⁷⁰ Before this pledge, these three agendas, despite being interdependent, were treated as three independent agendas. A climate commitment to restore forests, for example, is simultaneously a biodiversity and land commitment. The Nature Pledge created shared targets, responsibilities, and financing through the Fondo Panamá Natural. The Pledge's most ambitious reform aims to create a unified governance body, the Comité Nacional de Clima, Biodiversidad y Tierra (CONACLABIT),⁷¹ effectively binding all state entities to a coherent and non-duplicative environmental agenda. It is designed to replace redundant bureaucratic silos with a unified programme for the whole country. Rather than forcing separate state agencies, private partners and other stakeholders to navigate competing mandates, the committee would establish a singular legally binding authority managing decision-making, resource allocation and progress tracking. In Panama's specific context, the Pacto operationalises three concrete national targets.⁷² The official Nature Pledge document submitted to the UNCCD and UNFCCC describes the pact as a unified framework of national commitments that consolidates Panama's obligations under the Paris Agreement, the Kunming-Montreal biodiversity framework and LDN decisions, while also bringing ocean conservation and plastics under the same umbrella.

First, on water security, the NDT pillar promotes sustainable land management, rotational grazing, agroforestry, and efficient irrigation in the most stressed hydrographic basins: the La Villa, the Santa María, and the Chiriquí Viejo rivers. These basins are important as they feed both agricultural systems and the Canal watershed. Second, on deforestation, the CDN pillar sets a binding target to restore 100.000 hectares of degraded land and achieve net zero deforestation by 2035.⁷³ This target directly addresses one of Panama's most persistent environmental failures. Finally, on biodiversity, the ENBSAP pillar aligns Panama with the Kunming-Montreal Framework's 30x30 rule: protecting 30% of land and ocean by 2030, a target Panama is already partially on track to meet, with 35% of its land holding some form of protected status.⁷⁴ The Fondo Panamá Natural and support from the UN Green Climate Fund provide dedicated financing for adaptation programmes, ensuring that the Pacto is not merely aspirational but has a resource mobilisation architecture attached to it.

⁷⁰ Ibid page 7

⁷¹ Ibid page 36

⁷² MiAmbiente, 'PACTO de PANAMÁ CON LA NATURALEZA' (*MiAmbiente - Ministerio de Ambiente* November 2025) <<https://unfccc.int/sites/default/files/2025-11/Pacto%20de%20Panam%C3%A1%20con%20la%20Naturaleza%20%28Nature%20Pledge%29.pdf>> accessed 9 June 2026.

⁷³ Ibid Page 4

⁷⁴ Protected Planet, "Protected Planet | Panama" (*Protected Planet*, 2026) <<https://www.protectedplanet.net/country/PAN>> accessed July 31, 2026.

A core analytical claim of the Pledge is that climate, biodiversity and land agendas in Panama are already deeply interdependent. Academic work on Panama's forests has highlighted how deforestation erodes both carbon stocks and the resilience of the natural environment.⁷⁵

The Pacto is Navarro's institutional answer to the fragmentation of efforts regarding environmental policy. Rather than launching a new independent and isolated policy with risks of it tackling issues covered by another policy, he is building a comprehensive framework that forces coherence and cooperation across the whole state apparatus from ministries and regulators to the legislature and other public institutions. By unifying governance he is ensuring that one ministry's development decisions are not contradicting another's conservation commitments. It positions Panama as a model of cross-convention coherence, with active policies that bring a clear framework for different institutions to coordinate their efforts, eventually strengthening his credibility as President of the Forum of Environment Ministers of Latin America and the Caribbean as part of the UNEP. On a personal level, it also represents the most direct institutional expression of his firm belief that conservation, climate and development cannot be addressed in silos or with bureaucracy only; this policy is indeed his attempt to translate forty years of experience in the field into solutions the environment needs most.⁷⁶

There are, nonetheless, potential concerns associated with centralisation. Scholars of environmental governance in Latin and Central America note that while integrated governance frameworks seek greater policy coherence, they must also safeguard democratic accountability and meaningful participation by civil society and local actors, as environmental governance in the region continues to face persistent democratic and institutional deficits.⁷⁷ The response of Panama has been to emphasise the participatory component of their processes, such as the 2025 consultation rounds and the involvement of local indigenous communities.⁷⁸

⁷⁵ Jefferson S. Hall et al., "Deforestation Scenarios Show the Importance of Secondary Forest for Meeting Panama's Carbon Goals," *Landscape Ecology* 37, no. 3 (2022): 673–694, <https://doi.org/10.1007/s10980-021-01379-4>.

⁷⁶ Esme Hedley, "Talking Won't Save the Planet": Uniting Efforts to Save Panama's Parks' (2025) 638 *Nature* 852 <<https://www.nature.com/articles/d41586-025-00463-y>>.

⁷⁷ Gabriela De la Mora-De la Mora, "Conceptual and Analytical Diversity of Environmental Governance in Latin America: A Systematic Review" (2023) 71 *Environmental management* 847 <<https://pubmed.ncbi.nlm.nih.gov/36348074/>>.

⁷⁸ prensa, "PANAMÁ CONCLUYE PROCESO DE CONSULTAS PÚBLICAS DEL PACTO CON LA NATURALEZA, EL MÁS ABARCADOR EN LA HISTORIA AMBIENTAL DEL PAÍS - MiAmbiente" (*MiAmbiente* - Ministerio de Ambiente September 22, 2025) <<https://miambiente.gob.pa/panama-concluye-proceso-de-consultas-publicas-del-pacto-con-la-naturaleza-el-mas-abarcador-en-la-historia-ambiental-del-pais/>> accessed June 16, 2026.

IWRM Action Plan 2022-2026

The Plan de Acción para la Gestión Integrada de los Recursos Hídricos (PAGIRH) is Panama's national roadmap for moving from a fragmented, sector-by-sector model of water governance, toward a more integrated water resources management (IWRM) strategy for the period between 2022 and 2026. It was developed under the leadership of the Ministry of Environment with technical support from the Global Water Partnership Central America and the UN SDG 6 (clean water and sanitation for all) IWRM Support Programme. It identifies 35 priority actions across four IWRM dimensions which are: enabling environment, institutions and participation, management instruments, and financing. The plan is supported by an estimated budget of nearly 14 million balboas or \$14 million.⁷⁹

Within the broader context of the country's water policy architecture, PAGIRH is to be considered as a short to medium term plan directly complementing the targets of two longer strategic frameworks: the Plan Nacional de Gestión Integrada de Recursos Hídricos (PNGIRH) 2010-2030, financed by the Inter-American Development Bank and approved in 2011, as well as the Plan Nacional de Seguridad Hídrica 2015-2050: Agua para Todos.

PAGIRH translates this concept into four levels of reforms, the first one being institutional, where one of its headline actions is to create and operationalise the Instituto de Meteorología e Hidrología de Panamá (IMHPA), which was approved by the National Assembly in 2021. The creation of this institute aimed at improving technical data and forecasting to guarantee better water management. Additionally, at the regulatory level, the plan seeks to prioritise the strengthening of permits, requirements and discharge rules. At the territorial level, it calls for basin-scale diagnoses and management plans in important watersheds, those located in the Arco Seco and those related to the Canal, to address pollution, deforestation and over-abstraction where the pressure is at its peak. Ultimately, at the international level, the plan is designed to be complemented by Panama's accession in 2023 to the UN Water Convention, which requires parties to prevent and reduce transboundary impacts and use shared waters in a reasonable manner.⁸⁰ It aims to identify the action plans that would offer solutions to the most urgent challenges on water management,⁸¹ facilitate the coordination between

⁷⁹ MiAmbiente and Global Water Initiative, "Plan de Acción Para La Gestión Integrada de Los Recursos Hídricos (PAGIRH) de Panamá" (2021) <https://gwpo-gwp.org/wp-content/uploads/2026/03/Panama_Stage_2_2021.pdf> accessed June 9, 2026.

⁸⁰ UNECE, "Panama Is the First Latin American Country to Join UN Water Convention" (*UNECE Press Releases* July 6, 2023) <<https://unece.org/environment/press/panama-first-latin-american-country-join-un-water-convention>> accessed July 9, 2026.

⁸¹ MiAmbiente and GWP, "Plan de Acción Para La Gestión Integrada de Los Recursos Hídricos (PAGIRH) de Panamá" (2022) <https://gwpo-gwp.org/wp-content/uploads/2026/03/Panama_Stage_2_2021.pdf>.

the different actors linked to water management,⁸² and back the processes of financing, both internal and external for the implementation of said actions.⁸³

The need for this plan and for the implementation of an integrated water resources management is measurable as in the most recent SDG 6.5.1 assessment, Panama's implementation score was only reaching a level of 40% which places the country in the medium-low category compared to world averages.⁸⁴

Juan Carlos Navarro is a politician who gives importance to institutional recovery and tries to limit the fragmentation of institutions working closely with one another on environmental matters. PAGIRH is therefore an additional tool that allows him to pursue this objective. In a briefing on the Azuero water crisis, he and other officials described the contamination of La Villa and Estibana as the results of "decades of corruption and environmental anarchy" in the basin, directly referring to unregulated agro-industrial expansion, deforestation and lax oversight as the root causes of this anarchy.⁸⁵ When Navarro later presented his 2024 institutional report to the National Assembly, he highlighted basin management, water-quality laboratories and rapid-response inspection teams among his five strategic axes, signalling that PAGIRH's implementation is central to how he wants legislators to judge his performance.⁸⁶

For Navarro, this alignment of national planning, international cooperation and on the ground enforcement operations makes PAGIRH not just an inheritance but a fit with his preference for science-based and multilateral governance, along with his insistence on the fact that environmental policy must move beyond rhetoric and bureaucracy toward measurable change, as he describes himself and his coworkers as employees of the people responsible for an honest and transparent work.⁸⁷ If implemented effectively, PAGIRH promises a more resilient and predictable water regime for Panama: one where canal operations, agricultural

⁸² Ibid Objetivos Específicos

⁸³ Ibid Objetivos Específicos

⁸⁴ GWP, UNECE and UNEP, "Status of IWRM & Transboundary Cooperation in Central America" (2023)

<https://unepdhi.org/wp-content/uploads/sites/2/2025/09/summary_sdg65_cam_2025.pdf> accessed July 9, 2026.

⁸⁵ Presidencia de Panama, "Gobierno Informa Sobre Avances de Trabajos Para Resolver Crisis de Agua En Azuero Por Contaminación Del Río La Villa" (*Presidencia.gob.pa*2025)

<<https://www.presidencia.gob.pa/publicacion/gobierno-informa-sobre-avances-de-trabajos-para-resolver-crisis-de-agua-en-azuero-por-contaminacion-del-rio-la-villa->>.

⁸⁶ prensaJohana and prensaJohana, "Ministro Navarro Sustenta Gestión Institucional 2024 Ante Comisión Legislativa - MiAmbiente" (*MiAmbiente - Ministerio de Ambiente*March 26, 2025)

<<https://miambiente.gob.pa/ministro-navarro-sustenta-gestion-institucional-2024-ante-comision-legislativa/>> accessed June 9, 2026.

⁸⁷ Prensa, "MiAMBIENTE Define Plan de Trabajo de La Gestión Ambiental Para Quinquenio 2024-2029" (*MiAmbiente - Ministerio de Ambiente*July 9, 2024)

<<https://miambiente.gob.pa/miambiente-define-plan-de-trabajo-de-la-gestion-ambiental-para-quinquenio-2024-2029/>> accessed July 9, 2026.

production and household taps depend less on ad hoc responses to drought or contamination, and more on a coherent system of basin planning, regulation and cooperation.

ANCON

The National Association for the Conservation of Nature, is an environmental non-profit organisation in Panama which is dedicated to the conservation of Panama's natural heritage, the promotion of regenerative practices, and the reduction of pollution and conservation of watersheds.⁸⁸ It was founded in 1985 by a group of businessmen, scientists, and community leaders, one of whom is Juan Carlos Navarro, who became its first executive directors.⁸⁹ ANCON has been active for 40 years, and has become one of the most stable conservation organisations in Panama. It was created at a time when conservation had very little public visibility in Panama and when the protection of forests, watersheds and biodiversity was not seen as a priority.⁹⁰ By promoting environmental protection as something that is essential for Panama's national wealth, water security, and long term wellbeing, ANCON strengthened Panama's environmental framework.⁹¹

ANCON's role has extended beyond individual projects to a broader network along Panama's protected areas. As environmental conservation gained legitimacy, ANCON moved into a key position in Panama's environmental policy process. It became a partner that could work with the government, local communities, and international actors to help create protected areas, and conservation plans. This gave ANCON a strategic role in shaping how new parks and reserves were created. The organisation was involved in the creation of a wide range of parks and reserves, including areas linked to the Canal's watershed, marine ecosystems, biologically sensitive zones in Darién, Chiriqui, and Bocas del Toro. Around half of the parks and reserves that exist today are established with ANCON's support, reflecting the organisation's long term influence on Panama's conservation initiatives.⁹²

ANCON has also been collaborating with MiAMBIENTE through a formal technical cooperation agreement to better coordinate actions to achieve biodiversity conservation. ANCON takes part in the Sustainable Darién project as an executing agency, while MiAMBIENTE provides institutional support, although

⁸⁸ "Sobre Nosotros - Ancon."

⁸⁹ "Nuestra Historia - Ancon." *Ancon*, 5 May 2026, ancon.org/en/nuestra-historia/. Accessed 11 June 2026.; "Biography - Juan Carlos Navarro." *Juan Carlos Navarro - Sitio Web Oficial*, 21 Mar. 2019, www.juancarlosnavarro.com/biography/.

⁹⁰ ANCONORG

⁹¹ "Inicio - Ancon." 4 May 2026.

⁹² ANCONORG

the project was developed before Navarro took office.⁹³ The project aims to transform around 4,500 hectares of traditional farming into silvopastoral systems, which are land management practices that intentionally integrate tree growing and livestock production into a single, mutually beneficial system,⁹⁴ which will help improve soil and water quality in the Filo del Tallo-Canglón area. The organisation also participates in a broader environmental project, Alianza por el Millón, which aims to establish a national reforestation plan to recover degraded areas, implement conservation measures in watersheds to improve water quality and protect aquatic ecosystems, creating buffer zones, and finally to restore 1 million hectares of forests in 20 years.⁹⁵ This is an alliance led by the Ministry of Environment, and supported by other institutions.

The Panama Natural Project Finance for Permanence (PFP) initiative – an innovative sustainable financing model that brings together site managers to jointly develop a comprehensive agreement securing long-term funding for clear, measurable social and environmental outcomes – was launched by MiAMBIENTE with the collaboration of ANCON and Fundación Natura.⁹⁶ The collaborative initiative aims to finance and manage Panama's natural treasures, and transform and ensure the preservation of biodiversity of the National System of Protected Areas (SINAP).⁹⁷ The SINAP contains 122 protected areas, 12 life zones, and ecosystems covering 35% land area and 54.3% marine area.⁹⁸ In addition, ANCON and MiAMBIENTE have worked together on the Roadmap for Action on Plastics in Panama, the "Recicla por tu Futuro" recycling programme which aims to promote integrated solid-waste management, and build a circular economy through environmental education.⁹⁹ The "Revolucion Azul" campaign, which is a collaboration between the Ministry of Environment, ANCON, the Coca Cola System and Nestle has the goal of reducing plastic pollution and consumption through collection and recovery in a cleaner urban environment strategy, foster

⁹³ ANCON, "Darién Sostenible - Ancon" (Ancon July 24, 2024) <<https://ancon.org/en/darien-sostenible/>> accessed July 26, 2026.

⁹⁴ "Silvopastoral Systems - an Overview | ScienceDirect Topics."

⁹⁵ "Proyecto Alianza Por El Millón De Hectáreas - Red Por La Madera Legal." *Red Por La Madera Legal*, 21 Feb. 2024, <https://difor.miambiente.gob.pa/proyectos/proyecto-alianza-por-el-millon-de-hectareas/>. Accessed 29 July 2026.

⁹⁶ "Panamá Natural - Ancon." *Ancon*, 25 Sept. 2025, <https://ancon.org/en/panama-natural/>. Accessed 30 July 2026.

⁹⁷ "Panamá Natural (PFP) - Ancon"

⁹⁸ ANCON, *Executive Summary* | *Ancon* (Panama Natural, 2026) <https://spacesfornature.earth/case-studies/how-panama-became-a-global-leader-in-marine-conservation-under-its-30x30-transformation/>

⁹⁹ prensaJohana, and prensaJohana. "Liderando El Cambio Hacia Una Gestión Ambiental Sostenible - MiAmbiente." *MiAmbiente - Ministerio de Ambiente*, 5 Sept. 2025, miambiente.gob.pa/liderando-el-cambio-hacia-una-gestion-ambiental-sostenible/. Accessed 24 June 2026.

innovation in plastic circularity, and raising environmental awareness to promote cultural changes.¹⁰⁰

ANCON works with local communities, businesses and international allies, but its influence also grew with working with the government. In the 1990s it helped provide the technical and financial support needed for the protection of key areas such as Darién, Soberanía, Chagres and Bocas del Toro. According to Navarro, this work was critical in strengthening the government's capacity to protect more than 13% of Panama's territory.¹⁰¹ Navarro's relationship with the organisation is best understood as a shared drive for conservation. As one of the organisation's founders, he helped set the idea that protecting Panama's forests, watersheds, and biodiversity is part of national development. Although Navarro was one of ANCON's founders and the organisation continues to acknowledge his legacy even after he left, the current collaboration with MiAMBIENTE is a technical agreement with clear goals and objectives to conservation and management of protected areas.

Juan Carlos Navarro's Impact

Evaluating the impact of Navarro's environmental agenda and his efforts before and after assuming his current positions requires holding two realities at once. On one hand the policy and initiative record is substantive: protected area coverage has expanded to 54% of the marine share of Panama, over 116.000 people have directly benefited from the PAGIRH-aligned watershed interventions, and the Nature Pledge has already moved from announcement to implementation within eighteen months of its formal launch.¹⁰² On the other hand, the three initiatives analysed here are all, to a certain extent, works in progress. CONACLABIT, the governance body the Pledge was designed to create, has not yet been formally established. Panama's IWRM score stood at only 40% on the SDG 6.5.1 indicator as of 2023, meaning that efforts are expected to achieve better water

¹⁰⁰ prensa. "MiAMBIENTE, ANCON Y Alcaldías de Panamá Y Colón Culminan Con Éxito Semana de Revolución Azul - MiAmbiente." *MiAmbiente - Ministerio de Ambiente*, 5 Sept. 2025, miambiente.gob.pa/miambiente-ancon-y-alcaldias-de-panama-y-colon-culminan-con-exito-semana-de-revolucion-azul/. Accessed 24 June 2026.

¹⁰¹ América, Redacción Panamá. "ANCON: Un Compromiso Con La Naturaleza." *Panamá América*, 23 Aug. 1999, <https://www.panamaamerica.com.pa/variedades/ancon-un-compromiso-con-la-naturaleza-67319>. Accessed 31 July 2026.

¹⁰² prensa, 'De Planificación a La Acción: Panamá Lanza La Hoja de Ruta, Registro de Adhesión Y Módulo de Seguimiento Del Pacto de Panamá Con La Naturaleza (Nature Pledge), Marcando El Paso de La Planificación a La Acción - MiAmbiente' (*MiAmbiente - Ministerio de Ambiente* 17 April 2026) <<https://miambiente.gob.pa/de-planificacion-a-la-accion-panama-lanza-la-hoja-de-ruta-registro-de-adhesion-y-modulo-de-seguimiento-del-pacto-de-panama-con-la-naturaleza-nature-pledge-marcando-el-paso-de-la-planificacion-a-la-accion/>> accessed 16 June 2026.

governance.¹⁰³ The policies should therefore be read not as finished projects set in stone, but rather as a layered and long-term strategy. The impact assessed in this section is necessarily one of trajectory as the direction is credible with solid foundations, but the most consequential test is to know whether this agenda will endure, and this lies ahead.

Pacto de Panamá con la Naturaleza (Nature Pledge)

The Nature Pledge is in progress. The policy launched in 2025 as a 10 year plan targeting three essential pillars (CDN, ENBSAP, NDT),¹⁰⁴ with a critical institutional innovation, the CONACLABIT, not yet formally established. Some targets are already met, nevertheless, this masks gaps in marine coverage as this number only reached 54% as of 2023.¹⁰⁵ On the water and land degradation side, progress is real but indirect: the NDT pillar's goals are being partially advanced through pre-existing mechanisms like PAGIRH and the Adaptation Fund's watershed projects, which were not originally designed within the Pacto's integrated framework. This can eventually lead to a misunderstanding on the Pledge's true impact as some elements may not be a consequence of the Pledge. Nevertheless, if these outcomes are at least preserved or strengthened through the implementation of the Pledge, it can be considered as a successful initiative.

The political effects of the Nature Pledge are visible in how it links technology, transparency and international cooperation. The O.N.E Amazon Partnership MiAMBIENTE achieved in the Darién is explicitly framed as aligned with Panama's Nature Pledge.¹⁰⁶ It focuses on using the Internet of Forests (IoF) system, LiDAR and ground-sensor networks to generate real-time ecological information.¹⁰⁷ It shows Navarro's ministry's commitment to engage in a science-based, traceable framework to strengthen environmental governance and transparency. Elements like these give Panama's authorities efficient tools to detect environmental damage, assess compliance and support law enforcement operations.

¹⁰³ Lucas Howell, 'Water Action Hub | Improving Water Management in Panama' (*Wateractionhub.org* 2020) <https://wateractionhub.org/projects/3024/d/improving-water-management-in-panama/>.

¹⁰⁴ MiAmbiente, 'PACTO de PANAMÁ CON LA NATURALEZA' (*MiAmbiente - Ministerio de Ambiente* November 2025) <https://unfccc.int/sites/default/files/2025-11/Pacto%20de%20Panam%C3%A1%20con%20la%20Naturaleza%20%28Nature%20Pledge%29.pdf> accessed 9 June 2026.

¹⁰⁵ Convention on Biological Diversity and UN Development Programme, 'Aichi Biodiversity Target 11 Country Dossier: PANAMA' (2021) <https://www.cbd.int/pa/doc/dossiers/panama-abt11-country-dossier2021.pdf> accessed 10 June 2026.

¹⁰⁶ Business Wire, "Panama and O.N.E Amazon Sign a Letter of Intent to Protect the Darién Region and Pioneer New Models of Conservation Finance" (*Business Wire* October 30, 2025) <https://www.businesswire.com/news/home/20251030017909/en/Panama-and-O.N.E-Amazon-Sign-a-Letter-of-Intent-to-Protect-the-Darin-Region-and-Pioneer-New-Models-of-Conservation-Finance> accessed July 11, 2026.

¹⁰⁷ Ibid

On an international level, the Pledge has already been used as an example of integrated governance as the NBSAP Accelerator describes it as a unified and well owned government-endorsed framework capable of aligning biodiversity, climate, land, ocean and plastics commitments to accelerate action and strengthen coordination between several ministries.¹⁰⁸ It also gave the country some leverage to host and shape major multilateral processes as the 27th meeting of the Subsidiary Body on Scientific, Technical and Technological Advice under the United Nations Convention on Biological Diversity took place in Panama City, highlighting the Pledge as a model for aligning commitments under the three Rio Conventions.¹⁰⁹ Additionally, the 23rd session of the Committee for the Review of the Implementation of the Convention, which is a core subsidiary body of the United Nations Convention to Combat Desertification (UNCCD), was also held in Panama few months later, and focused on policy coherence regarding land degradation, with Panama presenting its own approaches to integrated drought and land governance.¹¹⁰ These elements and developments show how much Juan Carlos Navarro's policy has done for the international standing of Panama on environmental governance, with it being treated as a leading example of cross-convention alignment and cross-institution cooperation. This also means Panama will be under more scrutiny regarding the implementation of the Nature Pledge, as a failure to achieve the objectives it has set would most likely negatively impact the country's credibility on the global stage.

IWRM Action Plan 2022-2026

The IWRM Action Plan is in progress but still only partially implemented. The official document presents it as a framework for 2022-2026, but the evidence shows that much of the work remains, especially in terms of coordination, prioritisation, and pilot implementation rather than full national rollout. There are some concrete steps already underway. Navarro's impact on PAGIRH begins with how he has framed water security and basin management as central pillars of his work as minister. In his 2024 report to the National Assembly's Population, Environment and Development Commission, he listed the "sustainable

¹⁰⁸ NBSAP Accelerator Partnership, "Panama's Nature Pledge: Building a National Framework for Nature" (*Nbsapaccelerator.org*2026)

<https://nbsapaccelerator.org/recent_news/panamas-nature-pledge-building-a-national-frame-work-for-nature/> accessed July 11, 2026.

¹⁰⁹ Gabriela Ordaz, "Advancing Integrated Action for the Global Biodiversity Framework: Insights from SBSTTA-27 in Panama - NBSAP Accelerator Partnership" (*NBSAP Accelerator Partnership - Accelerating the implementation of National Biodiversity Strategies and Action Plans aligned with the Kunming-Montreal Global Biodiversity Framework*. November 11, 2025)

<https://nbsapaccelerator.org/news_and_events/advancing-integrated-action-for-the-global-bio-diversity-framework-insights-from-sbstta-27-in-panama/> accessed July 11, 2026.

¹¹⁰ UNCCD, "CRIC 23, Panama City, Panama, 2025" (*UNCCD2025*)

<<https://www.unccd.int/convention/official-documents/cric-23-panama-city-panama-2025>> accessed July 11, 2026.

management of basins" as well as the "adaptation towards a new climatic reality" among his five strategic axes of work.¹¹¹ This communication signals how important river-basin governance is for Navarro's work. The same report highlights the reactivation of field teams, the inauguration of a national water-quality laboratory and the strengthening of enforcement tools such as complaints centres.¹¹² All these efforts are in line with PAGIRH's IWRM approach. Navarro has also invested in the technical skills MiAMBIENTE needs to implement a more demanding water-governance agenda. In 2024, the ministry's Water Security Directorate organised specialised training for regional staff in Panamá Oeste on identifying and managing water sources, evaluating hydrological studies, analysing permits for works in riverbeds and assessing concessions for water use, with the explicit aim of improving environmental impact assessments and hydrological evaluations.¹¹³ Such capabilities are key to making sure that the practical foundation needed to apply PAGIRH's instruments and achieve its goals are solid. During that same year, right at the start of Navarro's term as minister, he targeted the Parque Nacional Soberanía as a critical ecological zone responsible for feeding the Panama Canal's water system and he ensured that field teams prioritised its enforcement.¹¹⁴ He has also been a fierce advocate for the Rio Indio reservoir project managed alongside the Panama Canal Authority (ACP). He explicitly leveraged PAGIRH principles to sound alarms about national water depletion, fast-tracking the political and logistical frameworks needed to ensure long-term freshwater availability for both human consumption and global maritime trade.¹¹⁵

Although PAGIRH was approved before Juan Carlos Navarro became Minister of Environment in July of 2024, he has inherited it as a central framework for water policy and has begun to use it as an operative tool. An example showing how Navarro has been implementing PAGIRH is the regulatory enforcement of its provisions. In 2025, the government launched a series of inspections and sanctions in the La Villa and Estibana basin in the Azuero Peninsula. They

¹¹¹ prensaJohana and prensaJohana, "Ministro Navarro Sustenta Gestión Institucional 2024 Ante Comisión Legislativa - MiAmbiente" (*MiAmbiente - Ministerio de Ambiente* March 26, 2025) <<https://miambiente.gob.pa/ministro-navarro-sustenta-gestion-institucional-2024-ante-comision-legislativa/>> accessed June 9, 2026

¹¹² Ibid

¹¹³ MiAmbiente, "Técnicos de MiAMBIENTE Panamá Oeste Fortalecen Sus Capacidades Técnicas En Seguridad Hídrica" (*MiAmbiente - Ministerio de Ambiente* October 11, 2024) <<https://miambiente.gob.pa/tecnicos-de-miambiente-panama-oeste-fortalecen-sus-capacidades-tecnicas-en-seguridad-hidrica/>> accessed July 12, 2026

¹¹⁴ MiAmbiente, "Ministro Navarro Asegura Que MiAMBIENTE Volcará Sus Esfuerzos al Campo" (*MiAmbiente - Ministerio de Ambiente* July 2, 2024) <<https://miambiente.gob.pa/ministro-navarro-asegura-que-miambiente-volcara-sus-esfuerzos-al-campo/>> accessed July 12, 2026.

¹¹⁵ Carlos Ávila Rivas, "¡Se Acaba El Agua! Ministro Navarro Alerta Sobre Crisis Y La Urgencia Del Proyecto En Río Indio" (*mediario panama* February 24, 2025) <<https://www.midiario.com/nacionales/se-acaba-el-agua-ministro-navarro-alerta-sobre-crisis-y-la-urgencia-del-proyecto-en-rio-indio/>> accessed July 12, 2026.

identified more than twenty contamination points linked to poorly managed pig farms and waste sites.¹¹⁶ Their response was clear with fines going up to \$10,000, orders of temporary closures and corrective measures for those facilities discharging untreated water.¹¹⁷ In parallel, the ministry's water security directorate has installed twenty biodigesters on small pig farms in the upper and middle La Villa basin to capture manure, generate biogas and produce fertiliser which helps reduce the organic load entering the river and support more sustainable rural practices.¹¹⁸ This intervention has been successful as Navarro declared in a Cabinet meeting in La Villa that the conditions of the water sources of the Azuero region have been the best in decades.¹¹⁹ The intervention embodies PAGIRH's territorial and regulatory priorities as it combines basin-scale diagnosis, pollution control, technological support for rural communities and regulatory enforcement in the form of fines and sanctions for those not respecting the law.

Economically, the main effect of the PAGIRH is trying to reduce the risks associated with water scarcity and this phenomenon damaging Panama's agriculture, energy system, and canal operations, as the plan explicitly says water stress affects all these elements and that improving efficiency in Panama Canal Watershed use is a priority because the country is reaching a point of saturation in available freshwater. It also suggests that water savings could help support the Canal and generate additional resources for future GIRH programmes. The benefits of the plan are still expected rather than fully realised.

Finally, Navarro's biggest strategic pivot since late 2024 was effectively embedding the goals of PAGIRH into his broader Nature Pledge. Instead of treating water resources as a standalone bureaucracy, the creation of the CONACLABIT committee forces the unified management of land degradation, biodiversity loss, and water resources under a single governing pipeline.

¹¹⁶ Aleida Samaniego C, "Contaminación Del Río La Villa: La Salud de Azuero En Peligro Por Un Problema Crónico" (*prensacom* June 2, 2025) <<https://www.prensa.com/sociedad/contaminacion-del-rio-la-villa-la-salud-de-azuero-en-peligro-por-un-problema-cronico/>> accessed July 9, 2026.

¹¹⁷ Redacción Ensegundos.com.pa, "Abren Procesos Administrativos E Imponen Multas Por Contaminación de Ríos En Azuero" (*En Segundos Panama* June 7, 2025) <<https://ensegundos.com.pa/2025/06/06/abren-procesos-administrativos-e-imponen-multas-por-contaminacion-de-rios-en-azuero/>> accessed July 9, 2026.

¹¹⁸ Prensa and Prensa, "MiAMBIENTE Instala Biodigestores a Pequeños Porcicultores En Azuero Para Reducir La Contaminación Del Río La Villa" (*MiAmbiente - Ministerio de Ambiente* October 9, 2025) <<https://miambiente.gob.pa/miambiente-instala-biodigestores-a-pequenos-porcicultores-en-azuero-para-reducir-la-contaminacion-del-rio-la-villa/>> accessed July 9, 2026.

¹¹⁹ Prensa and Prensa, "MiAMBIENTE Logró Reducir La Contaminación de Los Ríos En Azuero Informó El Ministro Navarro" (*MiAmbiente - Ministerio de Ambiente* April 24, 2026) <<https://miambiente.gob.pa/miambiente-logro-reducir-la-contaminacion-de-los-rios-en-azuero-informo-el-ministro-navarro/>> accessed July 9, 2026.

ANCON

ANCON increased the credibility of conservation policies and extended public support, but most importantly created a path for the government to show progress through partnerships.¹²⁰ It is one of the most influential environmental NGOs in Panama. Before its foundation in 1985, environmental protection did not have public visibility or credibility.¹²¹ This matters for Navarro, a co-founder, because ANCON's image strengthens his credibility as an environmental leader.

ANCON puts its conservation work into practice through its own projects, although some of the larger goals are still ongoing. Through the Sustainable Darién project, ANCON has helped develop over 160 farm plans and \$70.000 have been allocated to promote the empowerment of rural women in the area. For over 5 years, it introduced sustainable landscape management in cattle ranches and rural areas of the Filo del Tallo-Canglon Hydrological Reserve. The Sustainable Darién project helped move traditional livestock production toward silvopastoral systems on 73 farms and 5.000 hectares, bringing environmental and socio-economic benefits, while also conserving biodiversity, restoring forests, reducing deforestation, and improving livelihoods. It also supported 168 participatory plans; placed over 9.000 hectares under farm planning; avoided 45.968 tonnes of CO₂ equivalent emissions; created 36 eco gardens; produced more than 14.000 kg of healthy food that contributes to the well-being of communities, trained 700 people; and, reached more than 5.900 children through environmental education.¹²² However, some of the bigger initiatives on a larger scale are still in development and dependent on funding and institutional support.

ANCON's collaborations with MiAMBIENTE take the form of several different projects rather than a single framework, and each one functions with different goals and implementation needs. Alianza por el Millon has already produced measurable results in Panama. Since the programme began, 391.95 hectares have been reforested, including 41.95 hectares of new reforestation to be carried out through contracts with companies that provide reforestation and silvicultural maintenance services – methods used to control establishment, growth, composition, health, and quality of forests and woodlands – in different parts of the country.¹²³

In January 2026 ANCON, MiAMBIENTE and Fundacion Natura held 5 regional workshops in the cities of David (Chiriqui), Santiago (Veraguas), Panama City, Darién and Chitre (Herrera) which aimed to build the Plan de Conservacion y

¹²⁰ ANCONORG

¹²¹ ANCONORG

¹²² Darién Sostenible - Ancon

¹²³ "Silvicultural Practices - an Overview | ScienceDirect Topics."

Desarrollo Comunitario (PCDC).¹²⁴ The workshops gathered more than 350 people including citizens from local communities, civil society organisations, public institutions, and academia.¹²⁵ These sessions aimed to present the Panama Natural Fund and the PCDC, gather local inputs, map stakeholders and opportunities for collaboration at a local level.¹²⁶

Recicla por tu Futuro is already in full implementation. In 2024 the programme installed 31 recycling stations (14 in Bethania, 7 in Chilibre and 10 in Panama East).¹²⁷ It has already managed to collect more than 430 tonnes of recyclable materials, raised awareness among more than 100.000 people, and created new full and part time jobs.¹²⁸

The Revolucion azul initiative has managed to recover around 2.5 tonnes of post-consumer plastic in Panama and Colon, of which 79% was PET, 15.5% HDPE, 4.8% PP, 0.3% LDPE and 0.4% PS, and also raised awareness among around 3.000 people who participated at the closing event and delivered their recyclable materials.¹²⁹

Overall, ANCON's impact in Panama goes beyond single projects because it has become a lasting conservation institution. Navarro helped set ANCON's initial direction, and it later grew into a broad NGO with its own capacity to act. Its projects have clear environmental results, while also linking conservation to climate resilience, watershed protection and local development.

Recommendations for Juan Carlos Navarro

Under the leadership of Juan Carlos Navarro, Panama has adopted an environmental policy of ambition and genuine delivery. The Nature Pledge provides a coherent national framework and PAGIRH has seen the minister make great efforts trying to move it from an inherited blueprint to an active governing tool. At the same time, this analysis highlights that environmental governance in the country remains a work in progress. Therefore, the three recommendations that follow are designed to address this gap between policy architecture and the reality on the ground, not to revolutionise the country's environmental agenda as

¹²⁴ Prensa, and Prensa. "Panamá Natural Realiza Talleres Regionales Para La Construcción Participativa de Su Plan de Conservación Y Desarrollo Comunitario - MiAmbiente." *MiAmbiente - Ministerio de Ambiente*, 2 Feb. 2026, miambiente.gob.pa/panama-natural-realiza-talleres-regionales-para-la-construccion-participativa-de-su-plan-de-conservacion-y-desarrollo-comunitario/. Accessed 25 June 2026.

¹²⁵ Prensa, and Prensa.

¹²⁶ Prensa, and Prensa.

¹²⁷ de, Redacción. "'Recicla Por Tu Futuro', El Convenio de Cooperación Ambiental Más Significativo de Los Últimos Años - Mundo Verde | Tvn Panamá." *Tvn Panamá*, 27 Nov. 2019, www.tvn-2.com/mundo-verde/formaliza-recicla-futuro-cooperacion-significativo_1_1222529.html. Accessed 25 June 2026.

¹²⁸ de, Redacción.

¹²⁹ prensaJenia and prensaJenia

Navarro has already built the right foundations. They are proposals that could make these foundations structurally durable, legally binding, and resilient to political resistance and turnover.

Operationalise the CONACLABIT

As established, Panama's most persistent environmental governance failure is not a lack of plans but rather a lack of institutional authority to make those plans talk to each other. The Nature Pledge already contains the architectural blueprint for a solution, the CCONACLABIT. This committee would represent a unified inter-ministerial body designed to replace the existing fragmented network of climate, biodiversity and land committees with a single national coordination structure. The most important step Navarro can now take is to establish CONACLABIT by executive decree, endowing it with binding authority over the three pillars of the Pledge, the CDN, ENBSAP, and NDT. This matters because the current architecture of the Pledge is politically ambitious but institutionally fragile: without a formal legal body with auditing and sanction powers, the framework remains a ministerial document that other parts of the state are not legally obliged to follow.

In practice, operationalising CONACLABIT would require three elements: first a permanent technical secretariat housed within the Ministry of Environment with its dedicated budget and mandate to monitor whether other ministries' decisions are consistent with the Pledge's goals and targets. In fact, UNEP published several job opportunities for environmental law specialists to advise the country on the implementation of the Rio Conventions and the CONACLABIT.¹³⁰ The second element would be the integration of existing monitoring data such as satellite coverage, water quality measurements and the forest traceability system recently completed under the Fortalecimiento del Control Forestal Initiative,¹³¹ which is a major environmental initiative launched by MiAMBIENTE with the purpose of stopping illegal logging and timber trafficking.¹³² All these elements should be available in a shared inter-ministerial platform accessible to all CONACLABIT members. Finally, the formal connection of the committee to Panama's 52 watershed basin committees ensures that national strategy can be implemented locally.

A key question that arises is the benefits that Panama's institutions will experience from engaging in such a rigorous policy. For the Ministry of Economy and

¹³⁰ UNEP, "UNEP Environmental Law Specialist" (*Unjobnet.org*2026) <<https://www.unjobnet.org/jobs/detail/unesp-environmental-law-specialist-87014575>> accessed July 10, 2026.

¹³¹ MiAmbiente, 'MiAMBIENTE Cierra Con Éxito Iniciativa Que Impulsa La Gestión Forestal En Panamá - MiAmbiente' (*MiAmbiente - Ministerio de Ambiente*3 July 2025) <<https://miambiente.gob.pa/miambiente-cierra-con-exito-iniciativa-que-impulsa-la-gestion-forestal-en-panama/>> accessed 23 June 2026.

¹³² Ibid

Finance, that would move conservation from a drain of public money to a safe investment, as an active CONACLABIT would serve as a risk-mitigation tool, establishing the metrics needed to de-risk projects and attract even more international direct investment.

Furthermore, the case for this reform is not only theoretical as it is evidenced by Panama's own documented governance failures. The World Bank's 2008 Panama Country Environmental Analysis concluded that "environmental tools such as EIAs are not strong enough to handle accumulating impacts from development," a structural weakness that has persisted for nearly two decades without resolution.¹³³ CONACLABIT would not replace these instruments but would sit above them, ensuring that no single ministry can approve a project that contradicts another ministry's conservation or water commitments.

The cross-cutting impact on Panama's major environmental challenges could be substantial, as on mining, CONACLABIT would give Navarro the institutional architecture to ensure that any future mining application is assessed simultaneously against climate, biodiversity, and land targets rather than through isolated sectorial reviews. On water, it would prevent agricultural ministries from issuing water concessions that contradict PAGIRH's environmental flow protections, a structural contradiction that currently exists because water governance is split across MiAMBIENTE, the Canal Authority, the Ministry of Agricultural Development, and local governments with no binding hierarchy between them. Rather than acting as an advisory board, CONACLABIT is designed with substantial authority under the draft of the Framework Law on Climate Change and Green Transition, the law that would operationalise it. The legal framework specifies that the Nature Pledge is legally binding for all state entities and grants CONACLABIT the executive power to replace committee structures and compel compliance across separate ministries. Consequently, if a regional development or a heavy-industry concession conflicts with the unified data metrics established on the committee's centralised National Climate Transparency Platform dashboard, CONACLABIT possesses the statutory mandate to halt the project or deny operational clearances.¹³⁴

A comparable model exists in Brazil, which between 2023 and 2025 undertook an integrated parallel revision of its National Biodiversity Strategy and its Climate Plan under a deliberate process that aligned both documents through two coordinating bodies: the Interministerial Commission on Climate Change (CIM),

¹³³ World Bank, 'Republic of Panama Country Environmental Analysis' (2008) <<https://documents1.worldbank.org/curated/en/452231468073446815/pdf/440620ESW0Po800A0June0240FINAL02008.pdf>> accessed 23 June 2026.

¹³⁴ MiAmbiente, "Panamá Presenta Avances Del Pacto de Panamá Con La Naturaleza" (*MiAmbiente* - Ministerio de Ambiente July 25, 2025) <<https://miambiente.gob.pa/panama-presenta-avances-del-pacto-de-panama-con-la-naturaleza/>> accessed July 12, 2026.

and the National Biodiversity Commission. The results were substantial as Brazil achieved tangible progress addressing interconnected crises, most notably between 2022 and 2024 when deforestation in the Amazon decreased by 45.7% and by 25.7% in the Cerrado.¹³⁵

Reform Water Concessions and Enforce PAGIRH

As a regulatory reform, domestic legislation, and sectoral investment, it is further recommended for Navarro to convert the April 2025 concession regularisation call, an initiative that saw the Ministry of Environment send teams of experts to ensure that water concessions are respecting legislations, into a permanent enforcement programme, requiring all water concession holders to install certified flow meters, submit annual usage data to MiAMBIENTE, and comply with PAGIRH's environmental flow minimums under threat of suspension.¹³⁶ This should be accompanied by a tiered water-use fee system with higher fees for extractive and industrial users, lower or waived fees for indigenous and small-scale agricultural users, channelling revenue into the Fondo Panamá Natural to finance PAGIRH's 35 priority actions.¹³⁷ Resources required include the staffing of a dedicated Water Concession Enforcement Unit within MiAMBIENTE, the completion of the Meteorological and Hydrological Institute, and the expansion of the PAGIRH pilot from the La Villa and Estibana basins to the five most critical Canal watershed tributaries.¹³⁸

The expansion of the programme would address pressing environmental challenges faced by Panama, including water scarcity and deforestation. On one hand, in terms of water scarcity, it directly fights against the effects of more severe and frequent El Niño episodes.¹³⁹ This is because unregulated extraction is

¹³⁵ German Environment Agency, 'Integrated Approaches to Addressing the Triple Planetary Crisis: Country Best Practices' (2025) <https://www.umweltbundesamt.de/system/files/medien/11850/publikationen/81_2025_cc.pdf>.

¹³⁶ Ministerio de Ambiente de Panamá, 'Comunicado: MiAMBIENTE hace un llamado a concesionarios de agua para que regularicen el cumplimiento de sus contratos antes del 30 de abril de 2025', MiAmbiente, 13 April 2025, available at: <<https://miambiente.gob.pa/comunicado-21/>> [accessed 12 June 2026].

¹³⁷ Water Action Hub, 'Improving Water Management in Panama', CEO Water Mandate / UN Global Compact, 28 September 2023, available at: <<https://wateractionhub.org/projects/3024/d/improving-water-management-in-panama/>> [accessed 12 June 2026].

¹³⁸ Ministerio de Ambiente de Panamá, 'Fondo Panamá Natural: la apuesta financiera para proteger la naturaleza y cumplir el Nature Pledge', MiAmbiente, 23 September 2025, available at: <<https://miambiente.gob.pa/fondo-panama-natural-la-apuesta-financiera-para-proteger-la-naturaleza-y-cumplir-el-nature-pledge/>> [accessed 12 June 2026].

¹³⁹ Panama Canal Authority, 'Beyond Scarcity: How the Canal Manages the Fresh Water Challenge', pancanal.com, 3 October 2023, available at: <<https://pancanal.com/en/how-the-canal-manages-the-fresh-water-challenge/>> [accessed 12 June 2026].

identified as one of the three root causes of water stress¹⁴⁰ and a properly enforced concession system with environmental flow minimums would legally protect river levels in the Canal watershed and agricultural basins during dry seasons. On the other hand, deforestation would be addressed since revenue from tiered water fees channeled into the Fondo Panamá Natural would fund the watershed reforestation and agroforestry programmes that PAGIRH's territorial pillar depends on, creating a direct financial link between water use and forest restoration.

Implement a Phytoremediation Vegetative Buffer Zone

This last recommendation, which targets domestic legislation, involves phytoremediation, a nature-based technique where plants are used to immobilise, uptake, reduce toxicity, stabilise, or degrade compounds that are released into the environment from different sources, usually anthropogenic. Plants chosen are native so that they are species adapted to local conditions and so that proliferation of invasive species is avoided. In this way, soils are restored in environmentally-friendly ways.¹⁴¹ On the other hand, a vegetative buffer zone is an area of natural, existing or established vegetation that protects water quality of surrounding areas. Both these nature-based techniques would be integrated to form a vegetative buffer zone from plant species with phytoremediation potential. This initiative would be mainly applied around the Panama Canal as well as in mining areas, which are prone to acid mine drainage, which occurs after mines are abandoned when sulfide-bearing material is exposed to oxygen and water,¹⁴² producing sulfuric acid. This acid dissolves harmful heavy metals, which can become very toxic for the health of animals and humans.¹⁴³ For this recommendation to be developed, it is advised to have ANCON as well as the Ministry of Environment as main supporters and investors, since they would be benefiting from the economic and environmental well-being resulting from ecosystem-restoration of the targeted areas.

This recommendation addresses several of the environmental challenges faced by Panama. Firstly, this directly mitigates the issue with mining, which has become a significant part in Panama's economic development, but also a major

¹⁴⁰ Adaptation Fund, *Adapting to Climate Change Through Integrated Water Management in Panama*, project fiche, Adaptation Fund, Washington DC, 2016, available at: <<https://www.adaptation-fund.org/project/adapting-climate-change-integrated-water-management-panama/>> [accessed 12 June 2026].

¹⁴¹ A. Heckenroth et al., "Selection of native plants with phytoremediation potential for highly contaminated Mediterranean soil restoration: Tools for a non-destructive and integrative approach," *Journal of Environmental Management*, 183 (3), 2016, pp.850-863.

¹⁴² A. Akcil & S. Koldas, 'Acid Mine Drainage (AMD): causes, treatment and case studies', *Science Direct*, <https://www.sciencedirect.com/science/article/abs/pii/S0959652605000600>, accessed 28 July 2026.

¹⁴³ JOUAV, 'Acid Mine Drainage (AMD): Definition, Causes, and Treatment', JOUAV, <https://www.jouav.com/blog/acid-mine-drainage.html>, accessed 28 July 2026.

environmental challenge due to acid mine drainage which pollutes waterways and soils. Therefore, implementing phytoremediation in areas affected by acid mine drainage would be able to, for example, accumulate or hyperaccumulate metals. In terms of water pollution, phytoremediation can limit the heavy metal pollution into waterways that are used as drinking water and for other purposes by local communities, specifically the Panama Canal, which is a key driver for the economy. Vegetative buffer zones around the Panama Canal could also limit agricultural and industrial runoff from entering the Canal, therefore also reducing contamination risks.

Furthermore, since vegetative buffer zones include the plantation of trees, this recommendation could be used as a climate change adaptation strategy to compensate for the deforested areas and the reduced carbon sink potential areas. An example of the success of the use of buffer zones and phytoremediation is a study that was developed in China. This study has shown that, compared with a 5 m riparian zone, the total trace element loss, which is the removal of chemical elements from the soil through soil erosion and runoff,¹⁴⁴ was reduced by 69-85% during the whole observation period in the 10 m riparian zone and by 86-99% during heavy rain periods in the 10 m riparian zone.

Conclusion

Juan Carlos Navarro can be considered as a conviction-driven climate leader with deep activist roots whose policies link Panama's environmental challenges to long-term institutional governance and economic growth. The evidence assembled throughout this report sustains this thesis across every dimension of the analysis. From the founding of ANCON in 1985 to the launch of the Nature Pledge in 2025, all initiatives that Navarro undertook fall within the scope of continuous efforts to shape environmental governance in Panama. They do not represent a series of separate chapters but a single and sustained argument; conservation is key for our world, that fails when fragmented, and that the only true environmental progress worth doing is the kind that outlasts the person who initiated it. That argument has now found its fullest institutional expression in the policies he initiated as a minister, which makes him stand out from the broader class of environmental leaders whose ambitions, despite being real, are not equally ambitious from an institutional standpoint.

The record of his tenure so far is one of genuine delivery and sustained efforts. Panama has its most coherent environmental framework in history, with a leader with forty years of environmental and political experience. With the Nature Pledge, the country holds a single document unifying climate, biodiversity and

¹⁴⁴ J. Deng et al., 'Wide Riparian Zones Inhibited Trace Element Loss in Mining Wastelands by Reducing Surface Runoff and Trace Elements in Sediment', *National Library of Medicine (NIH)*, <https://pubmed.ncbi.nlm.nih.gov/38668502/>, accessed 28 July 2026.

land commitments under shared targets and financing. PAGIRH has moved from a plan inherited with a 40% implementation rate to an active governing instrument that Navarro has deployed in real crises such as the Azuero water emergency, the Rio Pacora basin project or the April 2025 concession regularisation drive. All these elements demonstrate how important effective policy is, rather than simple declarations. But before all, we need to stress that, long before he occupied the position of Minister of Environment, this commitment to conservation was real and tangible. His work at ANCON, the organisation he built from nothing decades ago is now functioning as a delivery partner of the state through the Fondo Panamá Natural and the PFP, completing a loop between civil society and the government. His international standing recognised by Business Insider, Time magazine, and now through his presidency of the Forum of Environment Ministers of Latin America and the Caribbean is not merely reputational but strategic: it gives Panama access to financing, technical support, and diplomatic visibility that a country of its size could not generate alone.

Nonetheless, the honest assessment of his record must also reckon with what remains structurally incomplete. CONACLABIT, the governance mechanism at the heart of the Nature Pledge has not yet been formally established. Panama's IWRM score stood at only 40% on SDG 6.5.1 as of 2023. Deforestation continues at over 15,000 hectares per year against a 2035 target of zero net loss. The Mineral Resources Code, Panama's primary mining law, has not been substantively updated since the 1960s. These gaps are not failures of vision. They are failures of enforcement architecture, and they represent the most consequential unfinished business of his tenure. These shortcomings are ultimately what makes the three recommendations offered in this report necessary rather than supplementary. Indeed, operationalising CONACLABIT by executive decree, converting the April 2025 water concession drive into a permanent enforcement programme, and establishing phytoremediation buffer zones around mining-contaminated river systems and the Canal are not additions to Navarro's agenda but rather mechanisms which would make his current agenda structurally complete. Panama has a well-documented history of environmental policy being stronger on paper than in practice, a pattern the World Bank identified in 2008 and that remains visible today, and this pattern can be broken with stronger governance resilience and authority.

The stakes of whether he succeeds further extend well beyond the borders of Panama. The country holds one of the most important routes for international trade, directly affected by climate change, it holds more than 10,000 plant species in a territory of less than 75,000 square kilometres while bridging biologically two continents. It is also one of only a handful of carbon-negative countries on Earth. Therefore, what happens in Panama does not just affect Panamanians and the country itself, but the whole world and those outside of the

country that depend on it. It is truly a case study in whether a small, economically and institutionally developing state can build the necessary governmental and resilience architecture to protect natural and security assets against the combined pressure of climate change, extractive industries and political inertia. Navarro has demonstrated that the answer is yes, when the institutions follow. Whether they are built right enough and fast enough to outlast his tenure remains the open question on which his legacy depends.

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