

Policy and regulatory brief on reef conservation and restoration for the Mesoamerican Reef Region (MAR)



Fundación Albatros

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BELIZE

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1. Introduction and Background

The Mesoamerican Reef System (MAR) covers the largest coral reef in the Atlantic, and is part of the interconnected network of coastal habitats and currents along the Caribbean basin. Its coastline stretches for one thousand kilometers from the tip of the Yucatan Peninsula in Mexico through Belize and Guatemala to the Bay Islands in Honduras.¹

In Belize, the coral reefs of the MAR cover an area of 1,420 km². It is a barrier reef that provides very significant environmental goods and services for the country, protecting the coast from erosion and damage from extreme hydrometeorological events (hurricanes and tropical storms) and providing fishery resources. It is the core of a thriving tourism industry.

According to the recent study by the Inter-American Development Bank (IDB) entitled “*Economic Valuation of the Ecosystem Services of the Mesoamerican Reef, and the Allocation and Distribution of these Values*”², the value of the reef system for Belize³ is estimated at USD 218.75 million from tourism activities; USD 19.57 million from fisheries, and USD 9 to 12.25 million from reef environmental services for shoreline protection. Finally, each Belizean is willing to pay USD 6.51 to 9.89 for reef *non-use values*.

Approximately 140 thousand people live on the Belizean coast and they depend on healthy marine ecosystems. In 2019, Belize received more than 500,000 tourists. However, in 2020 the influx of tourists dropped to nearly 145,000 tourists due to

the global pandemic of COVID-19. In general terms, tourism generates more than 40% of national income, 25% of which it is estimated that is based on coral reefs.⁴

The Belize Barrier Reef Reserve System (BBRRS) has been a UNESCO World Heritage Site since 1996. The site comprises seven marine protected areas: Bacalar Chico National Park and Marine Reserve, Blue Hole Natural Monument, Half Moon Caye Natural Monument, South Water Caye Marine Reserve, Glover’s Reef Marine Reserve, Laughing Bird Caye National Park, and Sapodilla Cayes Marine Reserve.

The Belize Reef System was declared by UNESCO as “endangered” in 2009. However, through a series of conservation and protection measures, including a ban on oil exploitation in its marine areas, as well as a program to protect wetlands (mangroves), the World Heritage Committee of UNESCO determined in June 2018 to remove it from the “list of endangered sites.”

The ecosystem services provided by this system of protected areas are fundamental to Belize’s socioeconomic health, particularly for the tourism industry.

Based on the “*Essential Mesoamerican Reef Report Card: ecosystem health assessment*”, prepared by the Healthy Reef Initiative (HRI) in June 2022, the reef health index (RHI) reveals that Belize has too many reefs in critical condition; only Central Belize and Turneffe have more fair and good sites.

1 <https://marfund.org/en/>

2 <https://publications.iadb.org/en/economic-valuation-ecosystem-services-mesoamerican-reef-and-allocation-and-distribution-these>

3 https://marfund.org/en/wp-content/uploads/2024/01/2.-MARValuation_english_fordistribution.pdf

4 Source: Belize Tourism Board, “2020 Travel and Tourism Statistics Digest”



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The RHI indicator values range from 1 (*critical*) to 5 (*very good*), based on four indicators: coral cover, fleshy macroalgae cover, herbivorous fish biomass, and commercial fish biomass. According to this latest report, Belize has an RHI of 2.0, the third ranking among the MAR countries.

The RHI was downgraded from 3.0 (*fair*) in 2018 to 2.0 (*poor*), marking the largest decline observed over 15 years of assessment. Groupers and snappers declined by 60% from 2018. Herbivorous fish declined by nearly 52% since 2018, despite being fully protected since 2019, which indicates a non-compliance with the law.⁵

The responsible Belizean authorities are implementing a series of adjustments to the regulatory framework and environmental policy instruments

“ The Belize Barrier Reef Reserve System (BBRRS) has been a UNESCO World Heritage Site since 1996. ”

based on this technical-scientific information on the state of health of the reef system in the Mexican Caribbean coastal zone. These adjustments are aimed at improving reef conservation and restoration, and will be reviewed in detail further on in this document.

⁵ <https://www.healthyreefs.org/cms/report-cards/>

2. Regulatory Framework in Belize for Reef Conservation and Restoration

Belize is the only country in the MAR that has a legal system different from the other three countries in the area, known as the common law of Anglo-Saxon origin, as opposed to the legal system of Roman tradition, where the main source is the codified law. Therefore, we must consider this unique situation among the countries of the region in its legal analysis.

The Belizean laws that address the conservation and restoration of reefs are the following:

a) Environmental Protection Act

The Environmental Protection Act designates the Ministry of Sustainable Development, Climate Change and Disaster Risk Management (responsible for the environment since 2020) as the implementing authority, which may issue the necessary regulations to preserve and protect the barrier reef and prohibit the waste discharge into the marine environment (Part II, Sec. 7 [1]).⁶

Through the creation of the Ministry of Sustainable Development, Climate Change and Disaster Risk Management, the Ministry of Blue Economy and Civil Aviation was also created, which has the fisheries, as well as the management and conservation of reefs among its attributions.

Regarding the implementation of this act and the regulations issued thereunder, the “Environmental Department of Environment” will be established under said ministry, which

will be responsible for the environment (Part II, Sec. 3 [1]).⁷

This act also establishes a tax on those who exploit land, water, seas and other natural resources, to ensure “the protection of the environment against unnecessary damage or pollution by harmful substances” (Sec. 10 [1]).⁸

b) National Protected Areas System Act

This law, enacted in 2015, and replacing the 1981 National Parks Act, strengthens the mechanisms for public consultation and participation in the designation or revocation of protected areas. It also implements a standardized protected area management planning process, establishes a clearer legal framework to include private protected areas, and recognizes the traditional rights and uses of local communities.

Among the objectives of this law is to ensure the provision of ecosystem goods and services important for national development, including fish and other marine resources, resilience and adaptability to climate change, and protection against disasters, among others (sec. 5 [e]).

Two ministries chair the National Council of Protected Areas. The National Protected Areas System Act does not replace the Fisheries Law of 2020, which establishes guidelines for the declaration and management of marine reserves, inland water reserves, and special management areas.

⁶ <https://faolex.fao.org/docs/pdf/blz6462.pdf>

⁷ Idem

⁸ Idem

c) The Protected Areas Conservation Trust Act

This act sets up the Protected Areas and Conservation Trust and Trust Fund (PACT) (sec. 20), to “contribute to the sustainable management and development of Belize’s natural and cultural assets for the benefit of Belizeans and the global community, presently and for future generations” (sec. 16 [1]). The trust is also responsible for the development and implementation of strategic plans for the national protected areas system and ensuring the financial stability of the system (sec. 16 [2]).

d) Maritime Areas Act

The Maritime Areas Act (MAA) defines Belize’s territorial sea and exclusive economic zone. The act establishes that Belize has sovereign rights and jurisdiction over the conservation and management of resources found in the waters adjacent to the seabed, on the seabed and in the subsoil (sec. 9 [a]). Among these resources are the “living and non-living” (sec. 2).

This act falls under the purview of the Ministry of Foreign Affairs. The MAA also establishes that it is illegal to carry out resource exploration or exploitation activities, conduct scientific marine research or build facilities within the exclusive economic zone or territorial sea without proper authorization (sec. 10 [a]).

e) Coastal Zone Management Act)

This act requires the Coastal Zone Management Authority (CZMA) to “maintain a national program for coral reef monitoring and a program for coastal water quality monitoring and other

technical monitoring programs” (sec. 5 [1]). The Government of Belize has designated the CZMA as the governmental body to coordinate all actions related to the management of the coral reef system.

A very relevant aspect of this act is the creation of a reef trust to raise funds for the conservation and management of Belize’s coastal resources, including the barrier reef (sec. 34).

f) Fisheries Act

The Fisheries Act has specific penalties for damage or theft of corals (sec. 14 and 14 [3][b]). It also establishes protection for herbivorous fish, such that “no person in the waters of Belize shall fish for, buy, sell or possess herbivorous fish.”

The Fisheries Act (SI 7 of 2020) places under protection all coral species (under the definition of “fish”) and criminalizes all harvesting and possession of corals (hard and soft).

In section 88 (1) it says, “No person shall fish for or possess any of the species prescribed in the Schedule to this Act.”

This act also sets out the various requirements for obtaining a research permit in relation to aquatic resources (sec. 14 [1][c]).

g) Disaster Preparedness and Response Act, Chapter 145

This act is critical for reef restoration because it regulates disaster mitigation, preparedness, response and recovery.

3. Environmental Policy Instruments in Belize Related to Reef Conservation and Restoration

Belize is one of the few countries in the world that has already met Aichi Target 11 of the Convention on Biological Diversity (CBD), which established a commitment to conserve 17% of its land area and 10% of its marine areas. Belize has protected 36.6% of its land area within protected areas and 23.5% of its territorial sea area within 14 marine protected areas and 13 fish spawning aggregation sites (fish refuges).

Marine reserves, which are of multi-purpose use and include fishery refuge areas, are managed by the Belize Fisheries Department. Other reserves, such as wildlife sanctuaries, national monuments and national parks, are managed by the Ministry of Sustainable Development and the National Biodiversity Office, under the Forestry Department.

One of the main weaknesses of protected areas in Belize was the discretion of government authorities

in creating it and, if necessary, revoking it. However, the Fisheries Act now establishes a set of criteria to be followed for fisheries development (management plan, public consultation, and approval by the Fisheries Council before the ministry can give its approval).

With the enactment of the National Protected Areas Act in 2015, various actors became directly involved in the management of these protected areas to reach a co-management. Through an agreement between the government authority and the non-governmental organization, responsibilities of the protected area management can be transferred.

With the support of The Nature Conservancy (TNC), the Government of Belize has committed to protect 30% of its territorial waters by restructuring its external commercial debt of approximately USD 550 million (30% of GDP) and reducing it by 12%.⁹

Belizean authorities involved in reef conservation and restoration

AUTHORITY	REGULATORY FRAMEWORK	FUNCTIONS
Ministry of Sustainable Development, Climate Change and Disaster Risk Management	Environmental Protection Act, Forestry Act and National Protected Areas System Act	To implement environmental, climate change and risk management provisions.
Department of Environment (DOE)	Environmental Protection Act, Forestry Act and National Protected Areas System Act	Authority responsible for the application of the EPA with respect to pollution prevention and control, conservation, and of natural resource management.
Belize Fisheries Department	Fisheries Act	Aquatic resources management authority (marine and freshwater).
Coastal Zone Management Authority (CZMA)	Coastal Zone Management Act	Authority responsible for implementing Integrated Coastal Zone Management (ICZM) in Belize.
Ministry of Natural Resources	Mines and Minerals Act, Chapter 226	Seabed Authority (Mining Department)

⁹ <https://www.nature.org/es-us/sobre-tnc/donde-trabajamos/tnc-en-latinoamerica/informe-anual-2021/proteger-tierras-aguas-oceanos/>

4. International and Regional Instruments to which Belize is a Party for the Conservation and Restoration of Reefs

Belize has signed and ratified several international instruments and conventions related to the protection and restoration of coral reefs. Most of them are not legally binding (soft law). However, they have been the basis for the creation of national environmental policies in this area. The table below shows the participation of Belize in these agreements and instruments.

International Agreements and Instruments

NAME	SIGNED AND RATIFIED	ENTRY INTO FORCE	COMMENTS
Convention on Biological Diversity (CBD)	Signed and ratified on March 30, 1994	December 29, 1993	Its focal point is the Ministry of Sustainable Development, Climate Change and Disaster Risk Management, through the National Biodiversity Office.
RAMSAR Convention	Signed and ratified on August 22, 1998	August 22, 1998	The Forestry Department is Belize's administrative authority in RAMSAR. Belize has 2 RAMSAR sites, one of which directly impacts the MAR region (Sarstoon Temash National Park).
CITES	Signed and ratified on August 19, 198	September 21, 1981	Belize falls under category 3 of the legal application of the convention. The Forestry Department is the administrative authority; it has no scientific authority.
Mesoamerican Caribbean Reef Systems Initiative, known as the Tulum Declaration.	It was signed on June 5, 1997	Political, non-binding nature	On July 11, 2006, the four countries confirmed their commitment to the MAR through a joint agreement in Panama City.
Paris Agreement	Signed and ratified on April 22, 2016	November 4, 2016	Belize signed the Glasgow Pact.

The 1973 International Convention for the Prevention of Pollution from Ships (MARPOL) is also important, as it is the main international convention of this nature. It has six annexes, and Belize is a member state.

Regarding the regional convention for the Caribbean Sea, Belize signed the Convention for the Conservation and Development of the Marine Environment of the Wider Caribbean Region (Cartagena Convention) on September 22, 1999, which entered into force on October 22, 1999.

Belize signed and ratified the three protocols to the convention. The protocol on cooperation to combat oil spills in the Wider Caribbean region was signed on the same date that Belize signed and ratified the Cartagena Convention. Belize also signed the Protocol on the Prevention and Control of Marine Pollution from Land-based Sources and Activities (LBS Protocol) and the Protocol Concerning Specially Protected Areas and Wildlife (SPA Protocol).

5. Financial Instruments and Risk Management

In Belize, there are several financing sources for reef conservation and restoration that include: a) multilateral development banks; b) government public funds; c) payment of fees, concessions, and taxes; and d) fines and penalties.

a) Multilateral development banks (MDBs). One of the most important projects to finance adaptation measures with some marine restoration components is the Marine Conservation and Climate Adaptation Project (MCCAP), financed by the World Bank (WB) and managed by the Ministry of Sustainable Development, Climate Change and Disaster Risk Management, through the Protected Areas Conservation Trust (PACT). The objectives of this Fund include “implementing priority ecosystem-based measures of marine conservation and climate change adaptation to enhance the climate resilience of the Mesoamerican Reef System, in the corresponding portion of Belize and its productive marine resources.”

The Inter-American Development Bank (IDB) has also been involved in climate vulnerability financing and restoration projects, providing specific loans for institutional and infrastructure capacity building.

b) Governmental public funds. The most important financial instrument for conservation in Belize is the PACT, which has been supported by international donors, such as MAR Fund and the Global Environment Facility (GEF). It is possible to channel resources from this fund for reef restoration.

On the other hand, through the Blue Finance Debt for Nature Arrangement, BZD 8 million will be allocated each year for the sustainable management and development of marine resources. These resources will be managed through a trust like PACT and are expected to come into effect by the end of 2023 (Belize Fund for a Sustainable Future). This will include funds for marine protected areas and the conservation of marine resources, including corals and their restoration.

Figure 1. Financial mechanisms

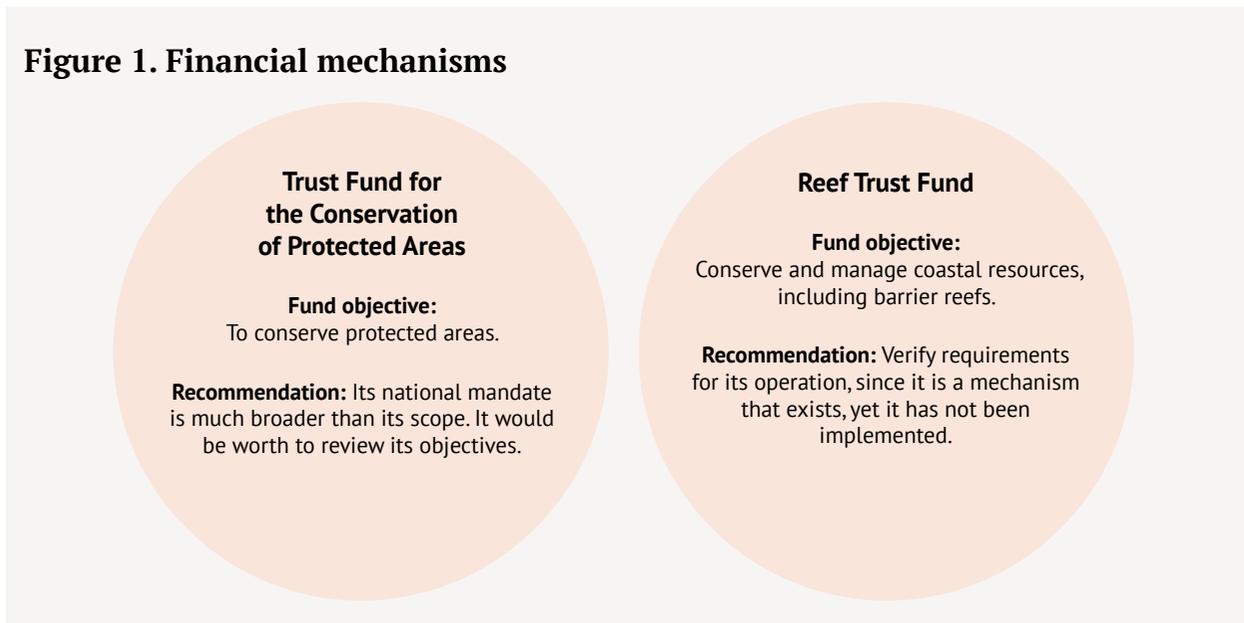
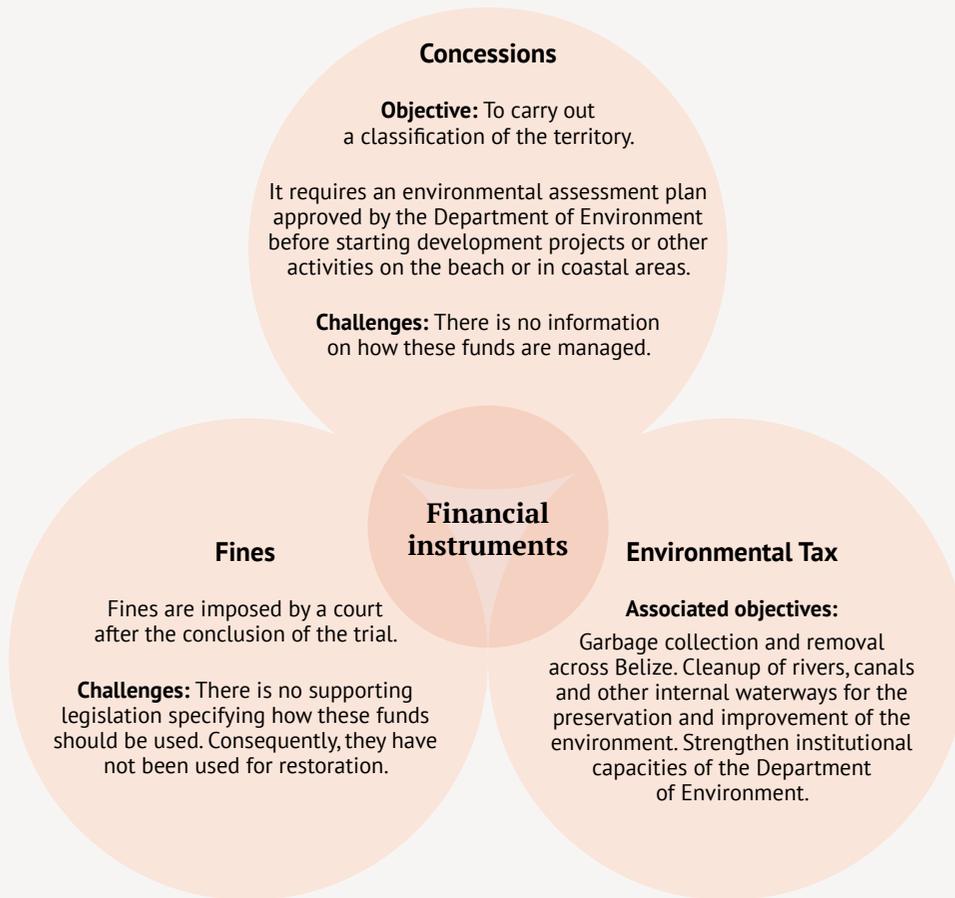


Figure 2. Financial instruments



c) Payment of fees, concessions, and taxes. The most important fee is the ticket paid by foreigners to enter protected areas. However, these resources are not channeled to the PACT Trust as it is supposed to happen. These financial resources are delivered to the National Treasury, except in the case of protected areas that are under co-management. Nevertheless, an administrative legal framework is needed to ensure management, as this arrangement is currently unclear.

As for concessions, the most relevant is found in the National Lands Act. In coastal and beach areas, works or activities must be submitted to the environmental impact assessment procedure before the Department of Environment, provided they have the approval of the National Environmental Assessment Committee, through a group of agencies

or authorities that review and analyze projects through the environmental impact assessment.

In terms of taxation, there is an environmental tax aimed at solid waste management in Belize for the preservation and improvement of the environment, and at strengthening institutional capacities of the Department of Environment.

d) Fines and penalties. The Environmental Protection Act (Chapter 325, Section 35) defines damage to reefs as an offense and provides that the court's decision may order the payment of a bond or another way to pay for the damage, to ensure compliance. However, although there are several cases where the courts have ordered compensation for damages, the use of funds to repair environmental damage is not clearly established.

Regarding risk management and reef system insurance instruments, it is important to highlight the involvement of disaster risk management in the new environmental ministry, called the Ministry of Sustainable Development, Climate Change and Disaster Risk Management, which is also responsible for the implementation of the 2030 Agenda in Belize.

On the other hand, regarding prompt response to natural disasters and risk management, Belize implemented the Action Plan for Disaster Risk Reduction in 2011, whose objective is to strengthen capacities for disaster prevention, risk mitigation and inter-institutional coordination.

In 2020, the Fisheries Department developed the Post Storm Response Plan to implement actions to address climate emergencies. For this purpose, the Post-Storm Response Committee was created to address damage to coral reefs from hurricane impact.

Currently, MAR Fund, through the Reef Rescue Initiative (RRI), in collaboration with Willis Towers Watson (WTW)

and with funding from the InsuResilience Fund (ISF) and other donor sources, designed and implemented parametric reef insurance in Belize. This insurance covers hurricane risk of two pilot sites in the Belizean reef system: Hol Chan and Turneffe Atoll. The insurance is valid from June 2022 to May 2023 and is part of the MAR Fund's MAR Insurance Program. The funds from the insurance payout, when triggered, will be used for emergency response and repair of damaged corals.¹⁰

Emergency Fund

Additionally, in 2017, MAR Fund established the Emergency Fund as an instrument to “provide immediate and timely funding to reef sites that have been impacted by natural disasters or anthropogenic activities”; in order to strengthen the resilience and adaptive capacity of marine-coastal zones in the MAR. Through this instrument, MAR Fund will administer the insurance payout funds and deliver them to response groups at reef sites impacted by hurricanes.



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¹⁰ https://marfund.org/en/wp-content/uploads/2021/10/Brief_-MAR-Insurance-Programme-_QA.pdf

6. Conclusions and Recommendations for Decision-Makers in Belize

a) Adjustments to the regulatory framework for the conservation and restoration of reefs

- Given the progress of Belize's public policies and regulations regarding Integrated Coastal Zone Management (ICZM), it is essential to establish a more efficient legal framework for coral reef conservation and restoration, particularly in the Environmental Protection Act and the Coastal Zone Management Act, to include the basis for an action protocol aimed at reef restoration.
- More and better coordination between environmental and fisheries authorities and coastal zone management is essential. This coordination for the conservation and restoration of reefs should be considered in the corresponding laws, such as the Environmental Protection Act, the Fisheries Act, and the Coastal Zone Management Act. The ideal place for this inter-institutional coordination is the National Committee for Environmental Assessment.
- The Natural Protected Areas System Act must be reviewed and adapted to incorporate concepts and protocols for reef conservation and restoration in marine protected areas. The Fisheries Law currently includes coral management; however, coral reef restoration also needs to be incorporated. The Fisheries Department is in the process of revising the fisheries regulations, which more clearly define the regulations regarding the use, management and conservation of marine fishery resources.

b) Strengthening Environmental Policy Instruments

- It is essential for Belize to have a national policy for reef restoration, not only because of the entailed economic benefits (tourism and fishing), but also because the country's vulnerability to climate change has been acknowledged.
- Belize has clearly made progress in the creation of marine protected areas, as it has more than 23% of its marine area under this protection scheme, thus complying with the Aichi Targets of the Convention on Biological Diversity. However, it is important that Belize can meet the 30% marine protection target in accordance with said commitments.
- Consolidation and enhancement of fish aggregation and spawning sites is recommended, with emphasis on herbivorous fish due to the ecosystem services they provide to the reef system.
- It is essential to implement as soon as possible the commitment of the Government of Belize to The Nature Conservancy announced in November 2021. The purpose is for Belize to reduce its external debt and generate an estimated USD 180 million for marine conservation and its commitment to protect 30% of its seas, with a regulatory framework for projects under the Blue Bonds for Ocean Conservation program. Of these important resources, it is essential to allocate a significant portion to reef conservation and restoration, as they are included in the objectives of this commitment.
- Finally, it is essential that Belize strengthens the environmental policy instrument of environmental impact assessment with respect to tourism projects in the coastal and beach zone, linking this procedure directly to reef restoration.

c) Compliance with international commitments

The following are recommended:

- To comply with the national commitments acquired in the Conference of the Parties (COP) of the Convention on Biological Diversity (CBD) and the Paris Agreement on climate change.
- To ratify and renew the commitments made in the Tulum Declaration for the MAR.

d) Financing sources and implementing risk insurance for coral reefs

- Es muy importante fortalecer e implementar los Fideicomisos para la Conservación de Áreas Protegidas y el Fideicomiso para Arrecifes que no se ha implementado todavía. También se deben incorporar rubros específicos para la restauración de arrecifes.
- It is very important to strengthen and implement the Protected Areas Conservation Trust Fund and the Reef Trust Fund, which has not yet been implemented. Specific items for reef restoration should also be incorporated.
- With the incorporation of disaster risk management into the new Environmental Ministry, Belize is giving this matter an institutional status to address the challenge of climate change. However, it is necessary to clearly incorporate the importance

of reef restoration as a public policy for extreme weather events.

- The development of the Post-Storm Response Plan in 2020, with the support of MAR Fund and TNC, was a great achievement. However, reef restoration actions and protocols should be integrated to address hurricane damage, as well as in the case of ship groundings. It is also important that Belize develops and formalizes the Response Plan for Hol Chan and Turneffe, as a guiding instrument for the response to hurricane risk and the activation of the current reef parametric insurance.
- It is recommended to strengthen the parametric insurance instrument for natural assets and include it in the country's risk management plans as a tool for adaptation to climate change and as a source of immediate funds to address reef damage after hurricane impact. Therefore, immediate restoration can be implemented to create resilience in coral reefs.
- Finally, the most important and relevant aspect is for government authorities to establish specific funds for the immediate restoration of coral reefs with the goal to quickly deal with extreme weather events, thus creating resilience in coral reefs. These funds will help implement efficient and timely financing mechanisms such as a parametric insurance.

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This document was prepared through a legal analysis of the policies, norms, and regulations that exist in the Mesoamerican Reef System (MAR) region in support of the conservation and restoration of reefs and coastal marine resources.