



Analysis of Existing Legislation and Legal and Regulatory Gaps Related to Reef Restoration, in Each Country and at the Regional Level



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INTRODUCTION

The fundamental role of coral reefs in our coastal ecosystems is undeniable both for the health and the economy of communities near the Mesoamerican Reef System.

This analysis is focused on the legal instruments in each country applicable for reef restoration. The consultants understand that there are various legal instruments applicable to coral reefs that require improvement. For example, water quality standards are relevant to the health of reefs. Nonetheless, for the purpose of achieving the objectives of this consultation and the Terms of Reference, this analysis is limited to legal instruments about reef restoration.

BELIZE

Belize has taken some steps to protect and manage its reef system, including the implementation of national legislation to control the population of grazers to propagate reef formation and restrictions on tourism activity that affect the reef. In addition, Belize is a party to numerous international conventions that obligates it to protect its marine resources including the reef system. Such conventions include: the United Nations Convention on the Law of the Sea, the Oil Spills Protocol, the SPAW Protocol, the Convention on Biological Diversity, the RAMSAR Convention, the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region, the UNFCCC and the LBS Protocol.

In Belize, domestic law trumps regional laws and protocols and international law only takes effect if it has been incorporated into domestic legislation. To date, Belize has not developed a legislative framework that particularly focuses on the management of its reef system or that deals specifically with reef restoration efforts. However, there are provisions in its Fisheries Regulations, the Coastal Zone Management Act and other Statutory Instruments that seek to protect the reef and regulate activities that are detrimental to its vitality.

In 1996, UNESCO recognized the seven protected areas that make up the Belize Barrier Reef Reserve System (BBRRS) as internationally important, inscribing the BBRRS as a UNESCO World Heritage Site.¹ According to UNESCO, the protected areas² “comprise 12% of the entire Reef Complex.”³ Unfortunately, in 2009, the BBRRS was inscribed on the list of World Heritage in Danger, where it remains.⁴ However, the Danger Listing may create external incentives for the government to protect the reef⁵ and may also bring additional opportunities for funding conservation and restoration.

The Constitution of Belize recognizes that the portions of the Mesoamerican Reef that fall within the borders of the country (including Belize’s territorial sea and exclusive economic zone) form part of the territory of the country.⁶ The Maritime Areas Act

¹ UNESCO, <http://whc.unesco.org/en/list/764/>

² The seven protected areas making up the UNESCO site are: 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. UNESCO, Belize Barrier Reef Reserve System, <http://whc.unesco.org/en/list/764/>.

³ UNESCO, Belize Barrier Reef Reserve System, <http://whc.unesco.org/en/list/764/>.

⁴ UNESCO decision 33 COM 7B.33, <http://whc.unesco.org/archive/2009/whc09-33com-20e.pdf> (noting the expiration on a moratorium on mangrove cutting and the “on-going sale, lease and development of lands within the property” and urging specific actions be taken to protect the site).

⁵ See for example, UNESCO Decision 41 COM 7A.2 of 2017, <http://whc.unesco.org/archive/2017/whc17-41com-18-en.pdf> (reporting on advances made to protecting the properties such as draft regulations protecting mangroves and urging stronger protections related to offshore oil exploration).

⁶ Constitution of Belize, Schedule 1.

clarifies that Belize has sovereign rights and jurisdiction over the “conservation and management” of the reef and other resources.⁷

The government of Belize recognizes the importance of protecting the reef. Beyond its aesthetic and cultural significance, the reef is vital to the economy. The Healthy Reefs for Healthy People Initiative, along with the World Resources Institute and local partners, developed a system to evaluate implementation of 28 recommended reef management activities taken by the governments of Belize, Guatemala, Honduras and Mexico known as the “Mesoamerican Eco-Audit.”⁸ Belize has consistently maintained the leading role of the four countries with an implementation rate of 68% of reef management actions in 2016.⁹ While the Eco-Audit shows Belize as a regional leader, it also highlights important deficiencies. For example, Belize has not properly mapped and demarcated reef areas that are resilient or resistant to bleaching which prevents efforts to focus on the more vulnerable reef sites.

Belize has taken some steps to protect and manage its reef system, including the implementation of national legislation to control the population of grazers to propagate reef formation and restrictions on tourism activity that affect the reef. Belize also has a legal framework, under which government ministries and departments could adopt strong regulations, enforce the laws and regulations, increase funding for activities that fall within protected areas, and take action to protect and restore the reef.

Currently in Belize, NGOs are leading the most promising reef restoration projects. For example, the NGO Fragments of Hope is leading a successful reef restoration project in Laughing Bird Caye, a small island off the coast of Southern Belize and part of the World Heritage Site. According to Lisa Carnes who is leading the project, it has successfully increased the coral cover in the area by more than 35%.

Despite these efforts, the Belize Barrier Reef system continues to be threatened by numerous factors including coastal development, poor regulation of tourism activities and inadequate enforcement of legislation designed to protect the reef.

To date, Belize has not developed a legislative framework that focuses on the management of its reef system or that specifically addresses reef restoration. However, there are provisions in its Environmental Protection Act, Fisheries Regulations, Coastal Zone Management Act, and other Statutory Instruments that are relevant. There are also relevant draft laws that have been slow to move forward. These laws conceivably create the framework under which needed regulations, policies or programs could be adopted to promote and implement reef restoration projects. These laws do not refer to restoration or rehabilitation of the reef specifically and do not define these terms. However, the *draft* National Coral Reef Restoration Policy focuses on restoration and includes the following:

⁷ Maritime Areas Act (1992), Laws of Belize, Chap. 11, sec. 9(a).

⁸ See Healthy Reefs for Healthy People Initiative website: <http://www.healthyreefs.org/cms/latest-reports/>

⁹ See, <http://eco-audits.healthyreefs.org/#!en/home&country=2&year=2016>.

“Ecological restoration as defined by the Society for Ecological Restoration International is ‘the process of assisting the recovery of an ecosystem that has been degraded, damaged or destroyed.’ For the purpose of coral reef management, ecological restoration is the priority target in Belize, and this is the definition used throughout this policy document.”¹⁰

These laws, bills and other policies are described below.

A. Maritime Areas Act (1992), Laws of Belize, Chap. 11

The Maritime Areas Act¹¹ defines the territorial sea and exclusive economic zone of Belize. The Act also clarifies that Belize has sovereign rights and jurisdiction over the conservation and management of “resources of the waters superjacent to the seabed and of the seabed and subsoil.”¹² Resources includes “living and non-living resources.”¹³

The Act makes it illegal to explore for or exploit resources, conduct marine scientific research, or construct any installations within the exclusive economic zone or the territorial sea without authorization.¹⁴ Any person violating this provision is “guilty of an offence and liable on summary conviction to a fine of ten thousand dollars and on conviction on indictment to a fine of fifty thousand dollars.”¹⁵

The Act also details the powers of the government to investigate violations of the law including the right to board and inspect vessels, make arrests, detain vessels, etc.¹⁶

Finally, the Act grants the Minister authority to make regulations to carry out the Act including regulations to prescribe measures for protecting and preserving the marine environment, constructing installations, exploration and exploitation for economic purposes, etc.¹⁷

B. Environmental Protection Act, Laws of Belize, Chapter 328

The Environmental Protection Act¹⁸ (EPA) grants the Minister of Agriculture, Fisheries, Forestry, the Environment and Sustainable Development authority that could be used to issue any regulations needed to protect and restore the reef. The Act states: “The

¹⁰ Draft National Coral Reef Restoration Policy, available at: https://elaw.org/BZ_Draft_ReefRestorationPolicy.

¹¹ Maritime Areas Act (1992), Laws of Belize, Chap. 11, available at: http://www.un.org/depts/los/LEGISLATIONANDTREATIES/PDFFILES/BLZ_1992_MAA.pdf.

¹² Id. sec. 9(a).

¹³ Id. sec. 2.

¹⁴ Id. sec. 10(a).

¹⁵ Id. sec. 10(b).

¹⁶ Id. secs. 18 and 19.

¹⁷ Id. secs. 24 and 25.

¹⁸ Environmental Protection Act (EPA), Laws of Belize, Chapter 328 (Revised Edition 2000), available at: <http://www.belize-law.org/web/lawadmin/PDF%20files/cap328.pdf>.

Minister may, after consultation with the Department, make regulations for . . . preserving and protecting the barrier reef[.]”¹⁹

The EPA also includes provisions important for protecting the reef from harm. It imposes a duty on individuals exploiting “the land, water resources, seas or other natural resources” to ensure “the protection of the environment against unnecessary damage or from pollution by harmful substances.”²⁰

The Act contains several provisions under which a person can be fined or otherwise held liable for damaging the reef. For example, any person who “intentionally or recklessly causes a disaster that results in a loss of the use of the environment” commits an offense under the Act and may be fined BZ\$25,000 to BZ\$200,000.²¹ In the alternative, someone convicted of such an offense could be fined “three times the assessed value of the damage caused, whichever is the greater, or to imprisonment for a term of not less than two years and not exceeding ten years, or to both[.]”²² The Act give a court wide latitude to issues additional orders including taking action to remedy the offense, post a bond to ensure compliance with a court order, or compensate the government for the cost of remediation.²³

A few other provisions prohibit activities that could impact the reef. For example:

- “No person shall emit, import, discharge, deposit, dispose of or dump any waste that might directly or indirectly pollute water resources or damage or destroy marine life.”²⁴
- “Every person who fails to carry out an environmental impact assessment as required . . . commits an offence[.]”²⁵
- “No person shall dispose of any ship, aircraft, tanker or other manmade structure in any area of the sea except in accordance with a permit granted[.]”²⁶

C. Fisheries Act, Laws of Belize, Chapter 210, and the Fisheries (Nassau Grouper & Species Protection) Regulations, 2009, Statutory Instrument No. 49 of 2009

The Fisheries Act²⁷ protects coral from damage.²⁸ This is important for protecting the reef, but also for supporting reef restoration projects. The Act also prohibits taking or harming coral.²⁹

¹⁹ Id. sec. 7(1)(1).

²⁰ Id. sec. 10(1).

²¹ Id. sec. 29.

²² Id.

²³ Id. sec. 35.

²⁴ Id. sec. 11(1)

²⁵ Id. sec. 22

²⁶ Id. sec. 16(1).

²⁷ Fisheries Act, Laws of Belize, Chapter 210, Statutory Instrument No. 66 of 1977. The Act can be accessed through the Laws of Belize at: <http://www.belizelaw.org/>.

The Fisheries (Nassau Grouper & Species Protection) Regulations³⁰ state: “No person shall take in the waters of Belize, or buy, sell or have in possession, any grazers.”³¹ A person who violates these regulations could be fined up to five hundred dollars or imprisoned, or both.³² These provisions are important for reef restoration because increased populations of grazers, such as parrot-fish, stimulate algae growth that in turn propagate reef reproduction. By outlawing the fishing of certain grazer species, Belize has taken a direct step to increase coral cover and encourage reef formation.

D. Coastal Zone Management Act, Laws of Belize, Chapter 329

Under the Coastal Zone Management Act,³³ the Coastal Zone Management Authority (CZMA) shall “maintain a national coral reef monitoring programme and coastal water quality monitoring programme and any other technical monitoring programmes.”³⁴ Also under this Act, “The Board shall establish a Barrier Reef Foundation to receive gifts and donations and to raise funds to promote the conservation and management of the coastal resources of Belize, including the barrier reef.”³⁵

The Government of Belize has designated the CZMA to coordinate all actions related to coral reef management. However, no regulations specifically requiring protection or restoration of the reef have been adopted.

E. Disaster Preparedness And Response Act, Laws of Belize, Chapter 145

Another law that could be viewed as granting the government authority to take action to restore the reef is the Disaster Preparedness and Response Act.³⁶ This Act includes many sections that address the mitigation of, preparedness for, response to, and recovery from disasters. A preserved and restored reef certainly should be viewed as important to protecting coastal communities from storms.

²⁸ Id. sec. 14(3)(b).

²⁹ Id. sec. 14.

³⁰ The Fisheries (Nassau Grouper & Species Protection) Regulations, Statutory Instrument No. 49 of 2009, available at: http://www.spagbelize.org/Portals/3/PDFs/SI-49-2009_Fisheries_Regs_Ngrouper_etc._April09%5B1%5D.pdf?ver=2009-12-07-163702-800.

³¹ Id. sec. 6.

³² Id. sec. 7.

³³ Coastal Zone Management Act, Laws of Belize, Chapter 329 (Revised Edition 2000). The Act can be accessed through the Laws of Belize at: <http://www.belizelaw.org/>.

³⁴ Id. sec. 5(1)(j).

³⁵ Id. sec. 34.

³⁶ Disaster Preparedness and Response Act, Chapter 145, available at: <http://www.caribbeanenvirolaw.org/sites/default/files/Disaster%20Preparedness%20and%20Response%20Act%202000.pdf>.

F. National Protected Areas System Act, 2015

Finally, a recently adopted law -- the National Protected Areas System Act (NPAS Act)³⁷ – is also designed in part to protect resources important for the protection from natural disasters and to build resiliency to climate change. The NPAS Act lists many objectives for the national policy on protected areas including “ensuring sustenance of the provision of ecosystem goods and services important for national development, including but not limited to . . . fish and other marine resources, . . . resilience and adaptability to climate change, protection against natural disasters, and natural environmental features of touristic, recreational, cultural or spiritual value[.]”³⁸ Under the Act, the Minister responsible for protected areas “shall . . . safeguard for all Belizeans, safe, healthy, productive, aesthetically and culturally pleasing surroundings by preserving important aesthetic and natural aspects of Belize’s natural heritage classified as protected areas[.]”³⁹ Finally, the Act commands the Minister to “have regard” for Belize’s commitments under several important international treaties including the UNESCO World Heritage Convention. These provisions should make it clear that the legislature intends for the executive branch to preserve and restore the reef – at least those areas that have already been declared protected areas. This Act should grant the Minister authority needed to declare other critical parts of the reef as protected areas and take any action needed to protect and restore the reef. In addition to outlining a process for declaring new areas as protected areas, it requires notice, public consultation, and ecological, social and economic assessments before protected status can be revoked.⁴⁰

G. The Protected Areas Conservation Trust Act, Laws of Belize, Chapter 218

The Protected Areas Conservation Trust Act, Laws of Belize, Chapter 218⁴¹ establishes the Protected Areas Conservation Trust⁴² and the Protected Areas Conservation Trust Fund.⁴³ The Trust is created to “contribute to the sustainable management and development of Belize’s natural and cultural assets for the benefit of Belizeans and the global community, both now and for future generations.”⁴⁴ The Trust is charged with facilitating the development and implementation of strategic plans for the National Protected Areas System and ensuring the financial stability of the system. The Trust

³⁷ National Protected Areas System Act, 2015, available at: <http://www.nationalassembly.gov.bz/wp-content/uploads/2016/09/Act-No.-17-of-2015-National-Protected-Areas-System-Act-2015.pdf>

³⁸ Id. sec. 5(e).

³⁹ Id. sec. 7(a).

⁴⁰ Id. secs. 14(3), 18 and 19.

⁴¹ The Protected Areas Conservation Trust Act (as amended through 2015). The Act and its amendments through 2015 are available at: <https://www.pactbelize.org/legislation/>.

⁴² The Protected Areas Conservation Trust Act, sec. 3.

⁴³ Id. sec. 20

⁴⁴ Id. sec. 16(1).

must allocate financial resources across the system based on criteria established for the system.⁴⁵ A Schedule to the Act outlines qualified expenses for the Trust.

Revenues for the Fund shall come in part from a conservation fee established under the Act, 15% of cruise ship passengers head tax, 20% of all concession fees paid for concessions within protected areas, and 20% of all recreation-related license and permit fees from protected areas.⁴⁶ The conservation fee is a fee collected (with some exceptions) "from every non-Belizean person departing from any air, land or sea border point, a fee equivalent to seven dollars and fifty cents in Belizean currency."⁴⁷ The amount of the fee may be changed through a process outlined in the law.⁴⁸ Finally, the Minister has the authority to establish a "user fee and visitor fees to be paid to the Trust for access to protected areas."⁴⁹ Interestingly, the Act also allows the Minister to "empower the Trust to regulate concession agreements within protected areas."⁵⁰

H. National Integrated Coastal Zone Management Strategy

The National Integrated Coastal Zone Management Strategy⁵¹ plays an important part in the protection of Belize's biodiversity and the management of natural resources in coastal areas. The Strategy acknowledges the need to improve the management and protection of coastal resources, with an emphasis on the Barrier Reef System and an acknowledgment of Belize's regional commitments related to it:

The wider purpose of this strategy is to facilitate improved management of coastal resources at a national level in Belize, to ensure economic growth is balanced with sound environmental management. The activities required to achieve this are contributing to Belize's regional commitments in biodiversity and natural resources management, including the Barrier Reef System that it shares with Mexico, Honduras and Guatemala. . . .

⁴⁵ Id. sec. 16(2).

⁴⁶ Id. sec. 21.

⁴⁷ Id. sec. 33(1). The conservation fee is separate from the Departure Processing Fee and the departure tax. Id. sec. 33(8). *Note* that the Statutory Bodies Development Contribution Act of 2017 (available at: <http://www.nationalassembly.gov.bz/wp-content/uploads/2017/04/Act-No.-33-of-2017-Statutory-Bodies-Development-Contribution-Act-2017.pdf>) requires the Protected Areas Conservation Trust contribute 10% of its revenue to the Consolidated Revenue Fund. The required contribution relates only to funds raised through the fees established under the Act, excluding funding from international organization or funding entities. In addition, the Protected Areas Conservation Trust (PACT) Amendment of 2017 (available at: <http://www.nationalassembly.gov.bz/wp-content/uploads/2017/04/Act-No.-26-of-2017-Protected-Areas-Conservation-Trust-Amendment-Act-2017.pdf>) created a second fee under the PACT Act – a "development fee" equivalent to BZ\$32.50 that must now be collected along with the conservation fee. However, unlike the conservation fee, the development fee shall be paid to the Consolidated Revenue Fund.

⁴⁸ Id. secs. 33(6) and (7).

⁴⁹ Id. sec. 33A(1).

⁵⁰ Id. sec. 33A(2).

⁵¹ National Integrated Coastal Zone Management Strategy, available at: https://www.coastalzonebelize.org/wp-content/uploads/2010/04/czmai_strategy.pdf.

Enhancement of existing laws, regulations, ‘policies’ and guidelines relating to conservation, resource management and development control in the coastal zone are an important part of this Strategy. These will support a coastal area management framework that addresses (a) the need for improved management approaches in locations between, as well as within, Coastal and Marine Protected Areas, and (b) the special requirements for managed development and *conservation in the barrier reef region*, particularly the cayes.⁵²

I. Proposed Reef Restoration Policy In Belize

Although no existing law specifically requires reef restoration in Belize, a Draft National Coral Reef Restoration Policy⁵³ was circulated in late 2017 that outlines some active and passive restoration measures that could be implemented to stimulate reef recovery.

The Draft Policy prioritizes the use of ecological restoration principles to increase coral cover and outlines the following five objectives to assist Belize’s coral reefs to recover to their natural state:

1. Map and prioritize coral reefs in need of restoration based on current health assessments
2. Identify passive restoration measures that would aid in recovery of these reefs
3. Identify active restoration measures to be used for recovery of the reefs
4. Develop a system for the selection of active restoration measures based on the reef status
5. Implement coral reef restoration in the priority areas identified⁵⁴

The Draft Policy would allow the following restoration techniques while stating that artificial reefs “are not considered restoration”:

- Coral transplantation to increase natural coral cover and recruitment; using either natural fragments or in situ nursery grown corals
- Transplantation of biota to restore ecological processes such as herbivory i.e urchins⁵⁵

In addition, the policy provides suggested criteria for approving restoration projects by focusing on:

- Sites that supported a natural coral community prior to disturbance.
- Sites that have sufficient conditions (water quality, etc.) to promote coral recovery
- Sites that have economic and/or ecological significance or priority
- Sites that are logistically accessible for regular maintenance and monitoring

⁵² Id. pg. 1.

⁵³ Draft National Coral Reef Restoration Policy, available at: https://elaw.org/BZ_Draft_ReefRestorationPolicy.

⁵⁴ Id.

⁵⁵ Id.

- Stakeholder buy-in and participation (fishermen, tour guides, community members)⁵⁶

While this Draft Policy is a step in the right direction, even if formally adopted it will have no binding power on authorities.

J. Petroleum Operations (Maritime Zone Moratorium) Act, 2017

On 29 December 2017, the Governor-General of Belize signed into law the Petroleum Operations (Maritime Zone Moratorium) Act,⁵⁷ banning petroleum operations within the maritime zone of Belize. Anyone violating the law can be fined up to BZ \$200,000 or imprisoned for up to five years. If the violator is a corporate body, the fine may not exceed BZ \$3,000,000.

K. MS Westerhaven Schiffahrts et al. v. Belize

No review of laws governing protection and restoration of Belize's Barrier Reef would be complete without mentioning the MS Westerhaven court case.⁵⁸ In 2009, the Westerhaven, a container ship, ran aground on the reef as it was leaving Belize and heading to Guatemala. The ship severely damaged the reef. The government filed a claim against the ship owners for the damage caused. The case eventually went to court. In 2011, the Court of Appeal of Belize limited the liability of the owners of the Westerhaven based on application of the Convention on Limitation of Liability in Maritime Claims (LLMC Convention). Although a lower court found the ship owners' liability to be BZ\$11,510,000, the Court of Appeal found that the LLMC Convention limited the liability to US\$2,009,347 (based on the size of the ship involved).

Conclusion

In Belize, there are only nominal penalties for reef damage. There is no proper assessment methodology in place to physically assess damage to the reef and no system of accountability to ensure that penalties or fees derived from violations are invested into reef restoration efforts.

It is imperative that Belize imposes heavier penalties for offences including reef damage similar to those of the Cayman Islands and the United States. Belize should also outlaw the emission of any pollutant or effluent anywhere near or in the reef zone and ensure that sustainable management practices are adhered to when dredging and coastal developments are underway. Belize has made certain headway to protect its reef system, but as home to the world's second largest and healthiest barrier reef, this resource

⁵⁶ Id.

⁵⁷ Petroleum Operations (Maritime Zone Moratorium) Act, 2017, available at: <https://elaw.org/petroleum-operations-maritime-zone-moratorium-act-2017>.

⁵⁸ MS Westerhaven Schiffahrts et al. v. Belize, Civil Appeal No. 19 of 2010 (4.16.2011) (Court of Appeal).

requires its own law to protect it – a law that properly designates a government entity to ensure the adequate management, preservation, restoration and enforcement of laws to protect the nation’s most vital resource – its barrier reef.

GUATEMALA

Guatemala has created a legal framework to support the restoration of the Mesoamerican Reef System. Additionally, the country has made commitments to modernize its legal framework regarding natural resources and biodiversity. Because Guatemala does not have a specific legal instrument to comprehensively regulate matters related to coral reefs, a regional initiative to harmonize legal frameworks would be beneficial.

Among the actions that Guatemala has implemented relevant to the health of the reef, the protection of forage fish species in order to control the growth of algae that harm the reef deserves emphasis. Also, the National Biological Diversity Strategy and its Action Plan, with goals for 2022, aims to restore 15% of the biological diversity and their ecosystem services, improving the capability to adapt to climate change and contributing to the reduction of social and environmental vulnerability. Lastly, Guatemala has included coral reefs in its List of Threatened Species (LEA) issued annually by the National Protected Areas Council (CONAP).

Among the constitutional principles that gave rise to the regulations discussed below, it is important to highlight Article 97, which establishes obligations for the government, municipalities, and residents with respect to promoting a type of development that is consistent with ecological balance, and adds a special issue: development should prevent both environmental contamination and the plundering of flora and fauna through rational use.

Natural resources are considered to be public assets by the Political Constitution of the Republic, which establishes that said assets include “a) those under public ownership; b) waters in the maritime zone that surround the coasts of its territory, lakes, navigable rivers and their riverbanks, rivers, hillsides, and streams that serve as the Republic’s international boundaries, waterfalls and water sources utilized for hydroelectric purposes, groundwater and other waters susceptible to being regulated by law, and those waters that are not utilized by individuals to the extent and in the terms established by law; c) those constituting State heritage, including those pertaining to municipalities and to decentralized or autonomous entities; d) the terrestrial maritime zone, continental shelf, and airspace to the extent and in the manner determined by law or international treaties ratified by Guatemala; [and] e) the subsoil, hydrocarbon deposits, and any other organic or inorganic substances in the subsoil.”⁵⁹

Based on that, there is clarity that wild hydrobiological resources in territorial seas, the contiguous zone, exclusive economic zone, internal waters, and natural inland waters are declared national public assets. As such, it is the duty of the State to exercise powers of dominion over them, determining the rights to fish [and] administer them, and ensure their rational use.

⁵⁹ Constitución Política de la República, Art. 121.

In terms of water bodies, in addition to declaring them public assets, they are declared inalienable and imprescriptible, such that coral reef ecosystems are granted additional protection.⁶⁰ Likewise, the Constitution of Guatemala declares of national interest both the declaration of protected areas as well as the fauna and flora that exist therein.⁶¹

The Protected Areas Law that promotes the Guatemalan System of Protected Areas (SIGA), comprised of all protected areas and the entities that administer them, focuses on the *conservation, rehabilitation, improvement, and protection* of the country's natural resources and biological diversity.⁶²

The regulations conceptualize protected areas – including their respective buffer zones – as being those whose purpose is, among others, to *restore* the wild flora and fauna, related resources, and their natural interactions,⁶³ while the Law on the Protection and Improvement of the Environment, consistent with it, pursues *the protection, conservation, and improvement of the country's natural resources, as well as preventing the deterioration and misuse or destruction of same, and the restoration of the environment in general.*

On another note, the National Biological Diversity Strategy and its Plan of Action, with goals through 2022, focuses on ensuring that 15% of the biological diversity and its ecosystem services will have been *restored*, improving their capacity for adaptation to climate change and helping decrease socio-environmental vulnerability.

The Environmental Protection and Improvement Law does not define ‘restoration,’ ‘recuperation,’ ‘rehabilitation,’ ‘repopulation,’ ‘replacement,’ ‘or restitution.’ For its part, the Protected Areas Law does not define ‘restoration,’ ‘recuperation,’ ‘rehabilitation,’ ‘repopulation,’ ‘replacement,’ ‘or restitution’; however, the Regulations of the Protected Areas Law define ‘*restoration*’ as “the management of populations or ecosystems aimed at recuperating a stable balance and their natural processes.”⁶⁴ Nonetheless, the Regulations do not establish a program or procedure for carrying out the restoration; they simply note that it shall be performed under scientific control.

The Climate Change Law does not define the terms ‘restoration,’ ‘recuperation,’ ‘rehabilitation,’ ‘repopulation,’ ‘replacement,’ or ‘restitution,’ which are utilized in its text.

Lastly, the National Biological Diversity Strategy and its Plan of Action (2012) defines the ‘*restoration of biological diversity*’ as any activity aimed at recuperating the

⁶⁰ Id. Art. 127.

⁶¹ Id. Art. 64.

⁶² Ley de Áreas Protegidas, Decreto 4-89 del Congreso de la República, Art. 2, available at: <http://conap.gob.gt/>.

⁶³ Id. Art. 7.

⁶⁴ Reglamento de la Ley de Áreas Protegidas, Acuerdo Gubernativo 759-90, Glosario, available at: <http://conap.gob.gt/>.

structural and functional characteristics of a particular area's original diversity, with the purpose of conserving and maintaining its ecosystem services.

A. Environmental Protection and Improvement Law

The objectives of the Environmental Protection and Improvement Law, Decree 68-86 of the Congress of the Republic,⁶⁵ concentrate on maintaining ecological balance and environmental quality in order to improve the quality of life of the country's inhabitants, [and] constitutes a framework for environmental action.

In reference to reef restoration, it is important to highlight that the law's principal scope includes a) protecting, conserving, and improving the country's natural resources, as well as preventing the deterioration and misuse or destruction of same, and the *restoration of the environment in general* [and] b) preventing, regulating, and controlling any of the causes or activities that give rise to damage to the environment and contamination of ecological systems and exceptionally, the prohibition in cases affecting the quality of life and common good qualified as such following the issuance of scientific and technical opinions by competent bodies.⁶⁶

Among the prohibitions protected under this law is the express prohibition against the discharge and emission of contaminants that impact the environment and natural resource base.⁶⁷ The law focuses on matters related to the issuance of policies regarding d) the design of environmental policy and collaboration on the correct use of space, and in general establishes it as a stimulus to *restoration* [and] e) the creation of all kinds of incentives and stimulus for promoting programs and initiatives aimed at protecting, improving, and *restoring* the environment. The latter opens up the possibility of creating economic incentives and stimulus for reef restoration.

The regulations clarify their field of action, comprising matters regarding the environment and natural resources and pursuant to Article 13 of said law, specifies that this is related to atmospheric, water, lithic, edaphic, [and] biotic systems, audiovisual elements, and natural and cultural resources.

In reference to lithic and edaphic systems, Article 16 of the law sets out its scope with regard to: a) the processes that are capable of harming lithic systems (or rocks and minerals) and edaphic systems (or soils) deriving from industrial, mineral, oil, agricultural, fisheries, or other activities; b) the discharge of any type of substance that can alter the physical, chemical, or mineralogical quality of the soil or subsoil that is harmful to human health or life, or to the flora, fauna, resources, or assets; c) the

⁶⁵ Ley de Protección y Mejoramiento del Ambiente, Decreto 68-86 del Congreso de la República, Art. 8, available at: https://www.elaw.org/system/files/attachments/publicresource/GT_Ley_de_Proteccion_y_Mejoramiento_a_l_Medio_Ambiente_Decreto_68-86.pdf.

⁶⁶ Id. art. 12.

⁶⁷ Id. art 5.

appropriate protection and exploitation of mineral resources and fossil fuels and the adoption of regulations for evaluating the impacts of this exploitation on the environment in order to prevent or minimize them; d) the conservation, salinization, ferrallitization, desertification, and aridification of the landscape, as well as the loss of energy transformation; e) the qualitative and quantitative deterioration of the soil; [and] f) any other causes or processes that can generate the deterioration of these systems.

In order to conserve and protect biotic systems, the law mandates the following must be carried out, among others: b) promoting the development and use of methods for conserving and utilizing the country's flora and fauna; c) establishing a system of conservation areas in order to safeguard the national genetic heritage by protecting and conserving special geomorphological phenomena, landscape, flora, and fauna; and f) ensuring compliance with the international treaties and conventions on the conservation of the natural heritage.⁶⁸

In order to comply with the objectives of the law, it mandates that all public, decentralized, and municipal agencies must collaborate with the governing entity, the Ministry of Environment and Natural Resources.

This law is of a general nature and establishes the bases for environmental management, including the procedure for evaluating environmental impacts, which must be performed in order to obtain authorization for reef restoration, in the event this activity may harm natural resources or the environment, or introduce harmful or glaring modifications into the landscape and cultural resources comprising the national heritage.⁶⁹ Likewise, the law establishes the obligatory nature of working to *improve* the country's natural resources.⁷⁰

The law establishes in the following terms the framework for evaluating environmental impacts, indicating that “for every project, work, industry, or any other activity which due to its characteristics may or may not harm renewable natural resources [or] the environment, or introduce harmful or glaring modifications into the landscape and cultural resources comprising the national heritage, it shall be necessary, prior to implementation, for technicians in this subject matter to perform an environmental impact evaluation study, which in turn must be approved by the Environment Commission. Any official who fails to demand the Environmental Impact Study pursuant to this Article shall be held personally responsible for incompliance with his/her duties. Likewise, any individual who fails to comply with said Environmental Impact Study shall be sanctioned by means of a fine of Q5,000.00 to Q100,000.00. In the event of incompliance with this requirement within a period of six months of having been fined, the business shall be shuttered while it remains incompliant.”⁷¹

⁶⁸ Id. art. 19.

⁶⁹ Id. art. 8.

⁷⁰ Id. art. 12(a).

⁷¹ Id. art. 8.

B. Decree 90-2000 of the Congress of the Republic of Guatemala, Law Creating the Ministry of Environment and Natural Resources

Decree 90-2000 of the Congress of the Republic of Guatemala, the Law Creating the Ministry of Environment and Natural Resources dated December 11, 2000, replaces the National Environment Commission (CONAMA) with a new governing entity, the Ministry of Environment and Natural Resources (MARN).

C. Executive Branch Law, Decree 114-97 of the Congress of the Republic of Guatemala (modified by Decree 63-98 and reformed by Decrees 22-99 and 90-2000)

The Executive Branch Law, Decree 114-97 of the Congress of the Republic, published on December 12, 1997 (modified by Decree 63-98 published on November 4, 1998) (reformed by Decrees 22-99 published on May 28, 1999 and 90-2000 published on December 11, 2000), establishes that it is the responsibility of the Ministry of Environment and Natural Resources to develop policies related to coastal zones, oceans, and marine resources. Based on that, the National Policy on Marine-Coastal Zones was issued, approved in 2009, so as to promote conservation, *restoration*, and management of marine-coastal resources in order to incorporate them as special management areas through environmental territorial planning and management.⁷²

In general, as a governing body, the Ministry is responsible for formulating and executing policies related to its subject matter, as well as complying and ensuring compliance with the system concerning the conservation, protection, sustainability, *and improvement of the environment and natural resources in the country* and the human right to a healthy and ecologically-balanced environment, and must prevent the contamination of the environment [and] decrease environmental harms and the loss of the natural heritage.⁷³

Based on the foregoing, the Ministry has the authority to: a) formulate, in a participatory fashion, policies for conserving, protecting, and *improving the environment and natural resources* and execute them jointly with other authorities with legal competence in the corresponding subject matter, respecting the national and international regulatory frameworks in force in the country; b) formulate policies for *improving* and modernizing the decentralized administration of the Guatemalan system of protected areas and for developing and conserving the country's natural heritage, including the State's territorial reserve areas; c) formulate, in coordination with the Ministry of Agriculture, Livestock, and Food, policies for conserving fisheries resources and soil, by establishing the

⁷² Ley del Organismo Ejecutivo, Decreto 114-97 del Congreso de la República, publicado el 12 de diciembre de 1997 (modificado por Decreto No. 63-98, publicado el 4 de noviembre de 1998) (reformado por Decretos Nos. 22-99, publicado el 28 de mayo de 1999, y 90-2000, publicado el 11 de diciembre de 2000), art. 14 bis.

⁷³ Id. art. 29 bis.

principles for their management, conservation, and sustainability [and] ensuring effective compliance; d) in coordination with the Council of Ministers, incorporate the environmental component into the formulation of the government's economic and social policies, guaranteeing the inclusion of the environmental variable and ensuring the achievement of sustainable development; g) define the environmental regulations regarding non-renewable resources; i) control environmental quality, approve environmental impact evaluations, perform them in the event of environmental risk and ensure compliance with them, and impose sanctions for incompliance with them; and j) draft policies related to the management of hydrographic basins, coastal zones, oceans, and marine resources.

D. Regulations for Environmental Evaluation, Control, and Monitoring, Governmental Agreement 137-2016

The Regulations contain the necessary guidelines, structure, and procedures for supporting the country's sustainable development by establishing rules for the use of instruments and guides that facilitate the environmental evaluation, control, and monitoring of current and proposed projects, works, industries, or activities, in order to facilitate the determination of characteristics and possible environmental impacts, and thereby guide their implementation in harmony with the protection of the environment and natural resource base.

The Regulations include preventive, corrective, [and] predictive environmental management instruments, as well as those enabling environmental control and monitoring. As a substantial complement, they include a limited list of works, projects, and activities that are subject to these instruments.

E. Protected Areas Law, Decree 4-89, reformed by Decree 110-96 of the Congress of the Republic

The Protected Areas Law and its Regulations are the legal instruments that delve deeper into the issue of restoration. Thus, the law recognizes that the conservation, *restoration*, and management of Guatemalans' wild fauna and flora is essential for achieving sustainable social and economic development for the country. Likewise, it creates the Guatemalan System of Protected Areas (SIGAP), comprised of all of the protected areas and the entities that administer them, whose organization and characteristics it determines in order to achieve its objectives favoring the conservation, *rehabilitation*, *improvement*, and protection of the country's natural resources and biological diversity.⁷⁴

The regulations conceptualize as protected areas, including their respective buffer zones, those whose purpose is, among others, *the restoration of wild flora and fauna, related resources, and their natural interactions*.⁷⁵ A relevant point for the present analysis is

⁷⁴ Ley de Áreas Protegidas, Decreto 4-89 del Congreso de la República, Art. 2, available at: <http://conap.gob.gt/>.

⁷⁵ Id. Art. 7.

that this legal instrument declares the national urgency and need to *recuperate* existing protected areas that have already been legally declared.⁷⁶

The law contains planning and management instruments, among them the master operations plans for protected areas [and] Red List of Threatened Species for Guatemala, which already includes some species of coral. Likewise, it grants authority to CONAP to establish closed seasons.

In addition, it prohibits freely introducing exogenous species into ecosystems that are included in a protection schema, such as would be the case of introducing reefs for restoration within a natural protected area, and establishes that approval must be given by the National Council of Protected Areas (CONAP) in order to perform these activities.⁷⁷

F. Protected Areas Law Regulations

The purpose of the Protected Areas Law Regulations is to regulate matters concerning the conservation, sustainable use, management, protection, and *restoration of biological diversity and its components*, pursuant to ordinary legislation [and] international conventions and treaties in force in the country.⁷⁸ Given its hierarchy, it is an instrument that provides procedures and mechanisms for applying the law.

This legislation states that each reserve shall contain terrain with different types of ecosystems and human uses, and to ensure their best management it channels their management [*sic*] through zoning. Among the recognized zones are those of multiple or sustainable use, recuperation, and cultural use, wherein works of environmental *restoration* are permitted. These activities must be carried out under scientific control.

As has already been noted, this instrument defines ‘*restoration*’ as the management of populations or ecosystems in such a way as to recuperate a stable balance and their natural processes.⁷⁹

G. General Fisheries and Aquaculture Law, Decree 80-2002

The General Fisheries and Aquaculture Law, Decree 80-2002 of the Congress of the Republic, draws on principles of hydrobiological resource management with regard to responsible fishing, in order to harmonize them with scientific advances by adjusting them via appropriate methods and procedures for rational use and exploitation in waters in the public domain.

According to this instrument, the State is responsible for developing, promoting, and diversifying fisheries and aquatic activities in general, regulating existing fisheries, and

⁷⁶ Id. Art. 15.

⁷⁷ Id. Art. 30.

⁷⁸ Reglamento de la Ley de Áreas Protegidas, Acuerdo Gubernativo 759-90, Art. 2, available at: <http://conap.gob.gt/>.

⁷⁹ Id. Glosario.

protecting the establishment of new ones, utilizing the criterion of precaution [and] establishing to that end the appropriate conditions for the responsible use of the hydrobiological resources that are the heritage of all Guatemalans.⁸⁰

Likewise, this law considers as national assets in the public domain wild hydrobiological resources found in territorial seas, the contiguous zone, exclusive economic zone, internal waters, and natural inland waters. It further establishes that the State is responsible for exercising the powers of dominion over them, determining the right to fish in them, administering them, and ensuring their rational use.⁸¹

Among the prohibitions that are important in terms of protecting reef systems are the following: a) extracting fisheries resources from waters in the public domain in declared closed seasons, reserve areas, and protected areas, save in specifically authorized cases; c) [*sic*] intentionally catching or fishing marine mammals, sea turtles, and other species that have been declared threatened or endangered, in accordance with what is established by the Ministry of Agriculture, Livestock, and Food through the competent authority, in coordination with the Ministry of Environment and Natural Resources and other national and international institutions; d) abandoning on the beaches and riverbanks, or throwing into the water, waste, contaminating substances, or other objects that constitute danger for navigation [or] circulation, or pose a threat to hydrobiological resources; f) contaminating aquatic ecosystems with any type of waste, whether chemical, biological, solid, or liquid that places hydrobiological resources at risk; [and] g) placing gear and equipment that pose a danger to navigation or human life in rivers, lakes, estuaries, or maritime zones and areas of shipping traffic or naval vessels.

The law includes infractions and sanctions. In terms of paying fines, it establishes that they must be paid to the competent authority within a period no greater than 30 (thirty) days, which in turn shall transfer 30% (thirty percent) of the seizure to the executing entity for stimulating compliance with control and oversight. Furthermore, the legislation states that the failure to pay fines will give the competent authority the right to order the suspension of operations of the beneficiary ships until such time as it is enforced, [and] shall be a reason for canceling the permit issued by the competent authority.⁸²

DIPESCA has progressed in developing information on fish species that are subject to commerce and has developed alliances in order to establish fisheries recuperation zones and install artificial reefs for increasing the capacity of fisheries and providing protected spaces that facilitate their conservation and biological cycles.

⁸⁰ Ley General de Pesca y Acuicultura, Decreto 80-2002 del Congreso de la República, art. 3.

⁸¹ Id. art. 4.

⁸² Id. arts. 80 y 81.

H. Climate Change Law, Decree 7-2013 of the Congress of the Republic

This law is founded on the recognition of relevant principles, such as *in dubio pro natura* [when in doubt, in favor of nature], precaution, the contaminator pays and rehabilitates, carrying capacity, comprehensiveness, cultural identity, and participation. The law's objective is to adopt practices that foster conditions for reducing vulnerability, increasing the capacity for adaptation, and developing proposals for mitigating the effects of climate change produced by greenhouse gas emissions.

The law creates the National Climate Change Council presided over by the President of the Republic and comprised of the principal key actors [*sic*] in the country on this topic. Likewise, it establishes as a priority the development of strategic operational plans⁸³ in Marine-Coastal Zones⁸⁴ under the responsibility of the Ministry of Environment and Natural Resources (MARN), Ministry of Agriculture, Livestock, and Food (MAGA), Ministry of National Defense, and CONAP, which will identify and implement national programs, projects, and actions for preventing and reducing the socio-environmental vulnerability of marine-coastal zones by focusing efforts on minimizing the impacts generated by climate variability and climate change on the most vulnerable and at-risk populations.

As regards ecosystems and protected areas, these plans will be the responsibility of the National Forestry Institute, National Council on Protected Areas, National System for the Prevention and Control of Forest Fires, and Ministry of Environment and Natural Resources. [Said entities] must develop local, regional, and national plans for efficiently managing the units comprising the Guatemalan System of Protected Areas and ecological corridors, so as to increase their resilience to climate variability and climate change and ensure the maintenance of ecological processes and natural goods and services.⁸⁵

This law is relevant for driving strategic operational plans for restoring reefs, with an eye to preventing and reducing the socio-environmental vulnerability of marine-coastal zones in benefit to reef systems.

⁸³ Ley de Cambio Climático, Decreto 7-2013, Art. 15, available at: <http://www.marn.gob.gt/Multimedios/2682.pdf>.

⁸⁴ Id. Art. 15(b).

⁸⁵ Id. Art. 15(d).

I. Regulatory Law on Territorial Reserve Areas of the State of Guatemala

The Regulatory Law on Territorial Reserve Areas of the State of Guatemala establishes Article 122 of the Political Constitution of Guatemala and regulates the territorial reserve areas of the State of Guatemala. Said areas are those located in:

- a) the three-kilometer terrestrial strip along the oceans, counted as of the high-tide mark;
- b) 200 meters around lake shores;
- c) 100 meters on either side of the banks of navigable rivers; and
- d) 50 meters around water sources and springs that supply the population.

These areas are administered by the Office of Control of the Reserves of the State of Guatemala (OCRET), which only has the authority to issue rental contracts. By provision of the law, uncultivated or empty lands are not considered.

Another relevant aspect is that the law provides that when a protected area overlaps with other territories, an opinion must be requested of the legal administrator of same prior to granting the lease, and said administrator must argue what he/she considers to be appropriate for defending the comprehensiveness of the protected area that had been previously established.

III. Prohibitions

The following may not be leased: (a) a 50-meter (fifty) strip measured from the high-tide mark, which shall be used as a public-use beach, provided that as of the date of the issuance of the law (1997) it is unoccupied; (b) a 30-meter (thirty) strip measured from the high-tide mark, for use as a public-use beach in those areas that are unoccupied; (c) a 20-meter (twenty) strip measured from the lake waters and a 10-meter (ten) strip measured from the waters adjacent to navigable rivers. Additionally, neither wastewater nor any other elements that cause contamination may be discharged in these areas, and no sort of building may be constructed thereon, save those which are necessary for their conservation, given that these areas are declared for public use.

In addition, the law requires interinstitutional coordination within public-sector institutions by OCRET, MARN, CONAP, and INAB.

The boundaries of leases awarded by OCRET are as follows. The lease of real estate in areas located alongside oceans may not exceed the following dimensions: (a) For the purposes of housing and recreation, up to 2,000 m² (two thousand square meters) with a width on the coast of no greater than 80 m (eighty meters). (b) For industrial, commercial, and touristic purposes, up to 20,000 m² (twenty thousand square meters) with a width on the coast of no greater than 250 m (two hundred fifty meters). (c) For the purposes of agriculture, livestock, poultry, fisheries, [and] the exploitation of salt flats

and hydrobiological resources in general, as well as scientific research, up to 225,628.2703 m² (two hundred twenty-five thousand six hundred twenty-eight point two thousand seven hundred three square meters); in this case, the sources of financing and corresponding management plans must be specified in a technical and economic profile. The lease of real estate in areas located alongside lakes and navigable rivers may not exceed 2,000 m² (two thousand square meters) for the purposes of family housing and recreation, with a maximum width along the riverbanks of 80 m (eighty meters).

The law establishes the following prohibitions: (a) uncultivated or empty lands are not considered; (b) real estate located within ARN may not be titled; [and] (c) they may not be granted in usufruct or secondment. (d) The law provides for exceptions: private property is recognized for persons with deeds registered prior to March 1956 in the General Property Registry.

The law establishes an incentive, given that when the leased area is utilized for the purpose of managing natural forests and conserving natural ecosystems, the amount to be paid is one Quetzal cent per square meter.

Sixty percent (60%) of the amount received from the rental shall be utilized for the operations expenses of OCRET, with the remaining 40% (forty percent) allocated for making improvements in the State of Guatemala's territorial reserve areas.⁸⁶

Nonetheless, if the amount received comes from protected areas, regardless of their management category, the aforementioned 40% shall be allocated for the management and conservation of these protected areas by the entity responsible for their administration, in CONAP, in this case.

The Punta de Manabique Wildlife Refuge was established in Guatemala as a Marine Protected Area. For the leases awarded within this area, procedures could be undertaken to get that 40% to be utilized for reef restoration.

J. Policy to Conserve, Protect, and Improve the Environment and Natural Resources (2009)

It focuses its actions on improving competitiveness and sustainable development, and establishes as its ultimate goal ensuring and effectively upholding the human right to a healthy and ecologically balanced environment.

The Policy to Conserve, Protect, and Improve the Environment and Natural Resources focuses on promoting the “sustainable use and management of the environment and natural resources” and incorporates a focus on the sustainable use and management of natural resources [*sic*], including the generation of renewable energy; comprehensive management of water resources; environmental sanitation and restoration of the territory; rational use of non-renewable natural resources; conservation and sustainable use of

⁸⁶ Ley Reguladora de las Áreas de Reserva Territoriales del Estado de Guatemala desarrolla, art. 13.

natural resources; [and] environmental threats, vulnerability, and risk.⁸⁷ In addition, it prioritizes a focus on economically and environmentally valuing the natural resource base and developing a national dialogue on environmental planning, with an eye to promoting the creation of a set of socio-environmental values shared by the society.

K. National Strategy on Biological Diversity and its Plan of Action (2012)

The National Strategy on Biological Diversity and its Plan of Action (2012) is considered to be the most specific instrument of environmental policy, with one of its components aimed at restoring biological diversity. The 10-year instrument (2012-2022) is implemented by the National Council on Protected Areas and includes thematic foci on knowledge and valuation; conservation and restoration; sustainable use; and adaptation to climate change, as well as the identification of opportunities and mechanisms for mitigation and adaptation favoring biological diversity.

According to this strategy, “the importance of restoring biological diversity and its ecosystem services derives from the generalized existence of different forms of pressure on and degradation of said diversity and environmental conditions, which is manifested in aspects such as the loss of vegetation and soils; contaminated water; atmospheric contamination; loss of genetic resources; loss or destruction of vital parts of habitats; genetic erosion; low species reproduction; mortality and extinction of species; [and] climate change, among others.”

Strategy 5, dealing with the restoration of biological diversity and its ecosystem services, proposes strengthening existing mechanisms for conserving them; as such, it represents an important opportunity to reduce environmental vulnerability and attenuate climate change. In this sense, it proposes ecological restoration as an activity that can accelerate the recuperation of ecosystems and their populations in terms of their health, integrity, and sustainability, viewing as important the restoration of ecosystems that have been degraded, damaged, transformed, or completely destroyed as a direct or indirect result of human activity.

The concept of restoration that drives the policy is specifically aimed at biological diversity, as follows: “**Restoration of biological diversity**: any activity aimed at recuperating the structural and functional characteristics of the original diversity of a given area, in order to conserve and maintain its ecosystem services.”

Among the principles on which it is based are two that are vital to the issue of reef restoration. (a) Sustainability: The sustainable use of the components of biological diversity must be guaranteed. (b) Precautionary principle: The precautionary principle must be adopted – *in dubio pro natura* [when in doubt, in favor of nature] – in the face of the presumption of risks of irreversible alteration, illicit extraction, [or] reduction or loss

⁸⁷ Política de Conservación, Protección y Mejoramiento del Medio Ambiente y los Recursos Naturales (2009), art. 1.1.

of biological diversity based on environmental management instruments that are relevant to the country's context.

Strategic Objective 11 of the policy focuses on developing actions aimed at restoring biological diversity and its ecosystem services, so as to decrease socio-environmental vulnerability and improve adaptation to climate change. Its priority actions are as follows:

- a) Establish a national program that promotes and fosters the recuperation, rehabilitation, and restoration of the components of biological diversity and its ecosystem services.
- b) Institutionalize an ex situ National Conservation Program on biological diversity as a mechanism for complementing in situ conservation.
- c) Develop local models for restoring biological diversity and its ecosystem services.

GOAL 5

By 2022, 15% of biological diversity and its ecosystem services will have been restored, [thereby] improving their capacity for adapting to climate change and contributing to decreasing socio-environmental vulnerability.

As an element of the issue of environmental goods and services, the policy prioritizes issues relevant to ecosystem services as what it conceptualizes as the goods and services deriving from ecosystems that directly or indirectly foster human wellbeing and play an important role in livelihoods and economies at the local, national, and global levels.

Strategic Objective 3 regards the development of relevant mechanisms and tools for guaranteeing the conservation and sustainable use of biological diversity and its ecosystem services.

(a) Develop complementary legislation for implementing the National Policy on Biological Diversity.

Strategic Objective 10 focuses on implementing risk-management mechanisms with an eye to decreasing threats to biological diversity and its ecosystem services, including:

- a) Monitoring and keeping watch over processes and bad practices that can generate threats to biological diversity and its ecosystem services, including though not limited to loss and destruction of habitat; alterations to ecosystem composition; invasive exotic species; overexploitation; pollution and contamination; effects of climate change; [and] impacts generated by the release LMOs.
- b) Developing mechanisms for strengthening the implementation of the Cartagena Protocol.

L. Policy for Comprehensively Managing Marine-Coastal Zones of Guatemala (2009)

Approved with the goal of creating and promoting programs for conserving, restoring, and managing marine-coastal ecosystems in order to incorporate them as special management areas through planning and environmental land management in response to the analysis of representational gaps identified on both coasts.

The foundation of the policy is the defense of national sovereignty and national interests as an obligation of all Guatemalans and all governmental authorities, and entails the safeguarding of both the territory as well as natural assets and those built by humans found therein, as well as the interests of its inhabitants.

Likewise, the policy seeks (a) to integrate the protection and management of marine-coastal ecosystems and their hydrographic watersheds so as to guarantee their permanence and the equitable and responsible development of coastal populations; (b) sufficiently protect bodies of water – activities in marine-coastal zones must not alter the ecosystems' ecological balance; [and] (c) comprehensively evaluate the environmental impacts generated by economic activities in marine-coastal zones and their areas of influence.

Among the principles it invokes is that when a threat exists of a substantial reduction or loss of biological diversity, the lack of unequivocal scientific evidence cannot be claimed as a reason for postponing measures aimed at preventing or reducing to a minimum that threat.

In addition, the policy promotes adding indicators regarding the marine-coastal zones to Guatemala's environmental information system focused on:

- a) Support for entities and institutions performing scientific research into marine-coastal zone goods and services.
- b) Creation, development, and promotion of mechanisms enabling constant communication between authorities and local communities.
- c) Development of a permanent strategy of education, capacity-building, communication, and information regarding the topics related to the management and exploitation of marine-coastal resources that are accessible to the general population.

M. National Climate Change Policy (2009)

Covered by Governmental Agreement No. 329-2009, the National Climate Change Policy is aimed at ensuring that “the State of Guatemala, through the central government, municipalities, organized civil society, and the citizenry in general, adopts practices to prevent risk, reduce vulnerability and improve adaptation to climate change, and

contribute to reducing greenhouse gas emissions within its territory, thereby promoting improvements in the quality of life of its inhabitants and its capacity for influencing international climate change negotiations.”



MARN: Components of the National Climate Change Policy

[Translation of graphic follows:]

- White:* National Climate Change Policy
- Orange:* Capacity development
- Yellow:* Technology transfer
- Red:* Risk management
- Green:* Reducing vulnerability
- Light blue:* Improvements in adaptation
- Dark blue:* Mitigation (reducing greenhouse gases)

Based on this policy, MARN’s actions are concentrated on promoting the development of capacity by strengthening key institutional sectors, implementing strategies for transferring technologies, incentivizing best practices for adapting to climate change, generating and administering strategic information, reducing vulnerability and risk, and contributing to reducing greenhouse gas emissions by promoting the use of clean energy, carbon markets, and other alternatives aimed at [achieving] sustainable development.

N. Wetlands Strategy (2005)

This is based on the application of the principles of an ecosystem approach, consisting of the following:

- a) Choosing the objectives for managing terrestrial, water, and living resources should remain in the hands of society.
- b) Management should be decentralized at the lowest appropriate level.
- c) Ecosystem administrators must take into account the effects (real or potential) of their activities on adjacent ecosystems and other ecosystems.

- d) Given the possible benefits that could be generated by their management, ecosystems should be understood and managed in an economic context.
- e) Conserving ecosystem structure and functioning should be a priority objective.
- f) Ecosystems should be managed within the limits of how they function.
- g) The inevitability of change must be recognized in management.
- h) An appropriate balance between conserving and utilizing biological diversity must be fostered and then integrating.
- i) It is important to keep in mind all relevant forms of information, including the knowledge, innovations, and practices of indigenous, scientific, and local communities.
- j) All actors in society and relevant disciplines should be involved.

HONDURAS

To date, Honduras has not developed a regulatory or policy-specific framework for protecting or restoring coral reefs. Nonetheless, references exist to reefs in several instruments and provisions whose interpretation can be applied to restoration.

The national set of rules regarding coral reefs is based on the Honduran Constitution, whose Article 107 states that reefs may only be acquired, possessed, or held in any guise by natural-born Hondurans, companies comprised entirely of Honduran members, or State institutions, under penalty of having the respective act or contract declared invalid. Article 145 of the Constitution also holds the State responsible for conserving the environment adequately, so as to protect human health, and [Article] 354 reserves for the State the power to establish or modify the demarcation of zones of control and protection for natural resources within national territory.

The General Environment Law declares the protection and restoration of the environment to be of public utility and interest (Article 1), establishes the obligation for the Executive Branch to issue the necessary measures for preventing the causes of the degradation and/or extinction of species (Article 35), and delegates to the Secretary of State in the Offices of Energy, Natural Resources, Environment, and Mines (*MiAmbiente*) the determination of the technical criteria to which deep-sea population and repopulation will be subject (Article 56). The General Water Law establishes that the Water Authority shall coordinate the configuration of policies for protecting marine ecosystems such as reefs (Article 39). The Fisheries and Aquaculture Law declares that hydrobiological resources in national waters comprise national heritage and public assets (Article 2) and mandates that authorized fishing activities must not endanger or place at unmitigated risk coral reefs and associated ecosystem (Article 17). The Law on Forestry, Protected Areas, and Wildlife mandates that the drafting of Protected Areas Management Plans containing aquatic elements must take into consideration the measures set forth in the Fisheries and Aquaculture Law.

While said provisions are general, reefs as the object of conservation have acquired greater protection and attention in laws that declare them to be protected areas. The Special Law on Bay Islands Protected Areas establishes as one of its objectives the recuperation (and protection) of the biological diversity, ecological functions, and environmental services of protected areas covered by coral. The Declaration on the Cayos Cochinos Natural Marine Monument assigns a value for a fine for damages per a given number of square meters of reefs.

The General Environment Law does not define ‘restoration’ or any other similar terms; however, it establishes the replacement or restitution of things or objects that have been affected to their natural being and state as a sanction for the omission of environmental regulations (Article 87). The Law on Forestry, Protected Areas, and Wildlife defines ‘restoration’ as “the process of returning a degraded or destroyed population or

ecosystem to a similar condition as it was originally.”⁸⁸ The Fisheries and Aquaculture Law defines ‘repopulation’ as “the act of introducing living native aquatic organisms in any life-cycle stage into bodies of water under national jurisdiction with the goals of maintaining, recuperating, or increasing the natural population of a particular species.”⁸⁹ The terms ‘rehabilitation,’ ‘recuperation,’ ‘replacement,’ ‘restitution,’ or ‘improvement’ – also employed in the legislation – do not have legal definitions.

A. General Environment Law

The General Environment Law states that marine and coastal resources are understood as ocean waters, beaches, shores and coastlines, bays, coastal lagoons, mangroves, *coral reefs*, estuaries, areas of scenic beauty and living and non-living natural resources contained in territorial seawaters, the contiguous zone, exclusive economic zone, and continental shelf.⁹⁰

Said law also establishes that the exploitation of marine and coastal resources shall be subject to technical criteria that determine their rational and sustainable use. To that end, *MiAmbiente* shall establish the technical criteria to which *deep-sea* population and *repopulation* activities shall be subject.⁹¹

Among the applicable sanctions for violating environmental regulations constituting an administrative crime or infraction is the *replacement or restitution of things or objects that have been affected to their natural being and state*,⁹² opening up the possibility of demanding the restoration of reefs. Lastly, as regards this instrument, it is important to highlight that it sets forth the duty of the State and general populace to participate in the *rehabilitation* of zones affected by natural disasters.⁹³

While the Law assigns responsibility to the Secretary of State in the Office of Natural Resources, its functions have been assumed by *MiAmbiente*. On another note, the regulation of deep-sea repopulation has also been entrusted to the General Directorate for Fisheries and Aquaculture pursuant to the Fisheries and Aquaculture Law, which means that this activity must be coordinated by both institutions.

⁸⁸ Law on Forestry, Protected Areas, and Wildlife, Decree 98-2007, Art. 11(50), available at: <http://www.poderjudicial.gob.hn/CEDIJ/Leyes/Documents/LeyForestalAreasProtegidasVidaSilvestre.pdf>.

⁸⁹ Fisheries and Aquaculture Law, Decree 106-2015, Art. 6, available at: <http://www.poderjudicial.gob.hn/CEDIJ/Leyes/Documents/Decreto%20No.106-2015%20Ley%20General%20de%20Pesca%20y%20Acuicultura.pdf>.

⁹⁰ General Environment Law (LGA), Art. 55, available at: [http://portalunico.iaip.gob.hn/Archivos/SERNA/Regulaciones\(normativa\)/Leyes/2015/Ley%20General%20del%20Ambiente%20Honduras.PDF](http://portalunico.iaip.gob.hn/Archivos/SERNA/Regulaciones(normativa)/Leyes/2015/Ley%20General%20del%20Ambiente%20Honduras.PDF).

⁹¹ LGA, Art. 56.

⁹² Id. Art. 87(g).

⁹³ Id. Art. 105. Nonetheless, it does not define procedures for said participation.

B. Regulations of the General Environment Law

In terms of reef *restoration*, the Regulations of the General Environment Law list anew among the applicable sanctions for violating environmental legislation and administrative provisions and resolutions *the replacement or restitution of the things or objects that have been affected to their natural being and state*,⁹⁴ and establish that in the event compensation is awarded in favor of the State for damages caused to the environment, only the restoration of the environment and natural resources shall be applied.⁹⁵

The compensation referenced in the Regulations regards the sums obtained through litigation; that is, decreed by competent courts of law.

C. Cases in which funds have been allocated for reef-restoration projects due to damages they have sustained

Mahogany Bay

The Mahogany Bay project consists of a private cruise ship terminal owned by *Sociedad Mercantil Roatán Cruise Terminal, S.A. de C.V.* located in Dixon Cove Bay in Roatan, Bay Islands. The project is located within the Bay Islands National Marine Park and is under the jurisdiction of the General Regulations for Controlling Development in the Bay Islands (Agreement 002-2004, described in the section on applicable legislation); however, Legislative Decree 82-2007 declared the project to be of public utility and *MiAmbiente* was released from complying with Agreement 002-2004.

In 2007, the proponent of the project requested a renewal of the environmental permit that it had been awarded in 2005 though not yet initiated its construction. At that time, the project was divided into marine and terrestrial stages; Resolutions 868-2008 and 1792-2008, respectively, awarded the environmental permits for each stage. In the latter, *MiAmbiente* defined as a compensation measure an Annual Environmental Fee that had to be paid by the owner of the project; however, there has been no access to said Resolution.

In 2010, *Sociedad Mercantil Roatán Cruise Terminal, S.A. de C.V.*, the owner of the Mahogany Bay project, dredged 12,455.59 m² of coral reef which DECA verified via Technical Report 409/2010. Resolution No. 760/2010 imposed compensation measure 30 to replant or transplant 922 m² of coral which later, via Resolution 712-2011, was changed to a sewage-construction project for the community of Colonia Santa María. The same Resolution ordered the project proponent to additionally undertake and implement a program to restore the mangroves involving the restoration of the areas damaged by the deposit of materials dredged from the reef, as well as possible sites for

⁹⁴ Regulations of the LGA, Art. 113, available at: http://www.tsc.gob.hn/leyes/Reglamento_General_de_la_Ley_del_Ambiente.pdf.

⁹⁵ Id. Art. 120.

planting seedlings of species native to the zone, given that they will have to restore and compensate by reforesting an area twice the size of the affected areas.

In 2011, Resolution 2460/2011 approved a new expansion consisting of reshaping or dredging a submerged embankment with an approximate area of 12,188 m² and an estimated volume of 48,344 m³, in order to ensure a minimum depth of 11.00 meters below sea level. The work was to be done with cutter suction dredges or hydraulic backhoes, [with] the cut material being raised to the surface and placed in barges, which would [in turn] deposit it in a place in the ocean with a depth of 600 m and 700 m.

In 2014, *MiAmbiente* issued Agreement No. 1069-2014 approving the creation of a sub-account named “Protection of Coastal Marine Resources of the Bay Islands/FAPVS,” to be integrated into the Trust Account of the Protected Areas and Wildlife Management Fund (FAPVS). The sums deriving from the Annual Environmental Fee imposed on *Sociedad Mercantil Roatán Cruise Terminal, S.A. de C.V.* (owner of the Mahogany Bay project) would be deposited into this sub-account through Resolutions issued by *MiAmbiente*. It was mandated that the funds be solely and exclusively utilized for financing activities aimed at conserving and managing protected areas in the Bay Islands.

While the authorities report that the Environmental Fee has been paid annually, the funds have not been allocated to any restoration project. The *MiAmbiente* Legal Services Unit has prepared draft internal regulations that would regulate the appropriation of said funds, and the General Directorate for Biodiversity has monitored the process of allocation of funds by the Ministry of Finance. Personnel from *MiAmbiente* say that they are looking for a non-governmental organization to administer the funds, and that it should be an organization unaffiliated with the co-managers of the Bay Islands National Marine Park. It was not possible to obtain official information regarding the way the Annual [Environmental] Fee is calculated; all that is known is that it was allocated by taking into consideration a study performed by the Bay Islands Environmental Management Project-Program (PMAIB) during its first phase in 2001 entitled “Technical Report No. Cac 06: Public Proclamation of the Fight against the Contamination of the Bay Islands.” The report separately assesses the value of the coral, mangroves, [and] seagrass, valuing the coral reef at \$0.6075 per m² per year. According to the *MiAmbiente* Legal Services Unit, the amount accrued to date is six million two hundred and twenty-three thousand seven hundred forty *lempiras* and twenty-seven cents (Lps. 6,223,740.27), equivalent to approximately US\$264,840.01.

Cayos Cochinos

The Cayos Cochinos Archipelago Natural Marine Monument is a protected area that is a part of the National System of Protected Areas of Honduras (SINAPH) which was declared by means of Legislative Decree 114-2003. One of its objectives is to conserve the existing ecosystems in the Cayos Cochinos Archipelago as a significant sample of the coral reefs of the Caribbean Sea, especially of the Mesoamerican Reef System.

The decree creates the Committee for Restoring, Protecting, and Sustainably Managing the Cayos Cochinos Natural Marine Monument. Among its duties are to create a fund aimed at ensuring the operations and maintenance of the protected area and establishing a visitor fee. The Regulations for Decree 114-2003 declaring the Cayos Cochinos Archipelago Natural Marine Monument establish in their Article 17 a fine of 100,000 *lempiras* per square meter of coral reef harmed, to be utilized, according to Article 18, for the maintenance and operations of the protected area. Nevertheless, the executive directorate of the Cayos Cochinos Foundation does know of cases in which the fee has been levied and utilized for restoration. While the Office of the Public Prosecutor has been furnished with reports on damages that have taken place, the Foundation declares that there has been no resolution, given the lack of understanding regarding the importance of reefs and the subsequent lack of monitoring of the cases on the part of the authorities.

Currently, a project is being designed that consists of placing artificial reefs, in order to reduce pressure on highly-visited sites to enable them to recuperate. The plan is to finance it using the income generated by the visitor fee, with support from the General Directorate of the Merchant Marine through the application of the Directives related to the placement of artificial reefs in the London Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, to which Honduras is a contracting party.

D. Regulations of the National Environmental Impact Evaluation System

The Regulations of the National Environmental Impact Evaluation System (SINEIA) define the environmental impacts they regulate in restoration projects.⁹⁶ Likewise, a restoration project could be a measure of mitigation or compensation for a negative impact generated by a given project (the procedure is defined in permit document). In order to obtain an environmental operating permit, mitigation and compensation measures are imposed that have been previously standardized in a computerized system, which can be modified and specified when granting the functional environmental permit following a site inspection.

E. Environmental Categorization Table

The Ministerial Agreement containing the Environmental Categorization Table establishes that the positioning of any project, work, or activity in a geographic space described as an environmentally fragile area (according to Annex 2 of the Agreement on the Environmental Categorization Table) that is not one of the activities listed on the Environmental Categorization Table and is of Very Low Environmental Impact or Very Low Environmental Risk, will lead the project, work, or activity to be listed as Category 1. Event activities placed in Categories 1, 2, and 3 in said table will entail an automatic

⁹⁶ Reglamento del SINEIA, Art. 5, available at: http://www.tsc.gob.hn/leyes/Reglamento_sistema_nacional_de_evaluacion_impacto_ambiental.pdf.

ascend to the category immediately above and as such, the Environmental Impact Evaluation Procedures noted in the regulations in force⁹⁷ must be applied; that is, the Regulations of the National Environmental Impact Evaluation System.

Annex 2: Table of Environmentally Fragile Areas

Number	Type of Geographic Space	Degree of Limitation and Restrictive Pattern
1	National parks	Very high limitation, even prohibitive
6	Wetlands	Very high limitation, even prohibitive
7	Natural monuments	Very high restrictive limitation for many production-related actions
10	Marine coastal zones	High to moderate restrictive limitation for some production-related actions

Given the fact that the location of a project in an environmentally fragile area only results from its ascension in categories, in the event it is located in a protected area, the co-managers' participation should be considered in the environmental permitting process. Likewise, it is important to propose a list of projects that can be considered to be restoration, so as to enable them to be included in the categorization table.

F. Fisheries and Aquaculture Law

The Fisheries and Aquaculture Law defines '*repopulation*' as the act of introducing living native aquatic organisms in any life-cycle stage into bodies of water under national jurisdiction with the goals of maintaining, recuperating, or increasing the natural population of a particular species.⁹⁸ Likewise, this law declares the hydrobiological resources to comprise national heritage and public assets.

The General Directorate for Fisheries and Aquaculture (DIGEPESCA), an agency of the Secretary of State in the Offices of Agriculture and Livestock (SAG), is the entity that executes the policies, strategies, and plans regarding the regulation, control, protection, development, and planning applicable to fisheries and aquaculture activities. It is the country's technical entity for fisheries and aquaculture.⁹⁹

It is important to highlight that this law establishes DIGEPESCA's duty to investigate – through studies that contribute to understanding the behavior of hydrobiological species – their location, quantification, *repopulation*, environmental situations, [and] applicable technologies, as well as [performing] other research and studies that contribute to the

⁹⁷ Acuerdo Ministerial 016-2015 Tabla de Categorización Ambiental, Art. 14, available at: <http://coalianza.gob.hn/transparencia/sites/default/files/Decreto-014014-BANCO-DE-PRESTAMOS-CRR-GRACIAS.pdf>.

⁹⁸ Ley de Pesca y Acuicultura, Art. 6, available at: <http://www.poderjudicial.gob.hn/CEDIJ/Leyes/Documents/Decreto%20No.106-2015%20Ley%20General%20de%20Pesca%20y%20Acuicultura.pdf>.

⁹⁹ Id. Art. 10.

development of policies, strategies, and measures for correct fisheries and aquaculture management.

Another important point to highlight in this law is that it declares that authorized fishing activities should not endanger or put at unmitigated risk coral reefs and the associated ecosystem. All activities involving catching performed with permitted methods and techniques must *minimize* to the degree possible damage to the seabed.¹⁰⁰ Trawling in the waters of the Fonseca Gulf is prohibited.¹⁰¹

This law establishes a Contributory Fisheries Fee, which is an obligatory contribution made for commercial demersal and pelagic fishing performed within the Exclusive Economic Zone, excluding basic artisanal fishing, which is paid based on the assigned catch quota.¹⁰²

The sums collected through the Contributory Fisheries Fee must be utilized, among others, as follows: 1) forty percent (40%) for the protection, oversight, and inspection of the resources and fisheries activities; 2) twenty-five percent (25%) for programs of fisheries research; . . .¹⁰³

The Secretary of State in the Office of Finance is authorized to establish a trust to administer the resources generated by the Contributory Fisheries Fee, including the stages of fundraising and allocation of resources through an annual resource use plan approved jointly by SAG, the Coast Guard, and the Secretary of State in the Office of Finance, with the participation of an observer designated by industrial fisheries businesspersons.¹⁰⁴

This law does not clearly define whether or not the reefs are hydrobiological fisheries resources. The regulation of repopulation activities is assigned to both DIGEPESCA and the Ministry of Environment and Natural Resources, now *MiAmbiente*, indicating the need for coordination.

G. Law on Forestry, Protected Areas, and Wildlife

The Law on Forestry, Protected Areas, and Wildlife defines ‘*restoration*’ as the process for returning a degraded or destroyed population or ecosystem to a condition similar to the original.¹⁰⁵

This law establishes the creation of a Protected Areas and Wildlife Management Fund (FAPVS) with an initial contribution of sixty million *lempiras* (Lps. 60,000,000), donations, inheritances, and bequests which shall be received by the State for exclusive

¹⁰⁰ Id. Art. 17.

¹⁰¹ Id. Art. 17.

¹⁰² Id. Art. 69.

¹⁰³ Id.

¹⁰⁴ Id.

¹⁰⁵ Ley Forestal, Áreas Protegidas y Vida Silvestre (LFAPVS), Decreto 98-2007, Art. 11, available at: <http://www.poderjudicial.gob.hn/CEDIJ/Leyes/Documents/LeyForestalAreasProtegidasVidaSilvestre.pdf>.

investment in the conservation and management of protected areas and wildlife, pursuant to the directives of the National System of Protected Areas of Honduras (SINAPH).¹⁰⁶

This law mandates that the management and administration of marine species found within protected areas shall be performed by the Institute of Forest Conservation and Development, Protected Areas, and Wildlife in coordination with the Ministry of Environment and Natural Resources (*MiAmbiente*).¹⁰⁷

FAPVS is available so that the co-managers of protected areas can develop projects contained in these areas' management plans, with a sub-account already having been created specifically for administering the funds generated by the environmental fee imposed for exclusively development-oriented projects.

H. General regulations for controlling development in the Bay Islands

These enable projects to be implemented that restore beaches affected by natural phenomena, restore existing artificial beaches, and provide social or community guidance. In all cases, an Environmental Impact Evaluation will be required and an Environmental Permit must be obtained from *MiAmbiente*.¹⁰⁸

I. Special Law on Protected Areas of the Bay Islands

The objective of the Special Law on Protected Areas of the Bay Islands and of the areas themselves is the *recuperation* of biological diversity, ecological functions, and environmental services in the protected areas corresponding to it;¹⁰⁹ nonetheless, it does not state in which cases recuperation can or should be performed, or what steps should be taken to achieve it. It presses for the identification of the necessary strategies for sustainably implementing the management plans for the protected areas, and adds the possibility of creating fiscal incentives, collecting fees for visiting the areas, income derived from the provision of environmental goods and services, ecological easements, research, and bioprospecting activities, among others, in addition to utilizing the FAVPS funds and those generated by the Free Tourist Zone's environmental conservation fee. The Interinstitutional Technical Committee of the Bay Islands National Marine Park is in the process of readjusting and updating its 2018-2030 management plan, which sets out actions for implementing the strategies enumerated by this law.

¹⁰⁶ LFAPVS, Art. 40; y las directrices del SINAPH contenidas en el Manual de Operaciones del FAPVS, available at: http://colproforh.org.hn/v2/documentos/Manuales/Manual_FAPVS.pdf.

¹⁰⁷ LFAPVS, Art. 115.

¹⁰⁸ Normas Generales para el Control del Desarrollo de Islas de la Bahía, Acuerdo Ejecutivo 002-2004, Art. 33, available at: <http://icf.gob.hn/wp-content/uploads/2015/09/AP-Acuerdo-Ejecutivo-002-2004-Normas-General-control-del-Desa.pdf>.

¹⁰⁹ Ley Especial de las Áreas Protegidas de Islas de la Bahía, Decreto 75-2010, Art. 3, available at: [http://www.poderjudicial.gob.hn/CEDIJ/Leyes/Documents/Ley%20Especial%20De%20Las%20Areas%20Protegidas%20De%20Las%20Islas%20Protegidas%20De%20Las%20Islas%20De%20La%20Bah%C3%ADa%20\(5,8mb\).pdf](http://www.poderjudicial.gob.hn/CEDIJ/Leyes/Documents/Ley%20Especial%20De%20Las%20Areas%20Protegidas%20De%20Las%20Islas%20Protegidas%20De%20Las%20Islas%20De%20La%20Bah%C3%ADa%20(5,8mb).pdf).

J. Bay Islands Free Tourist Zone Law

The Administrative Commission of the Free Tourist Zone will have among its powers and competencies formulating its annual budget, which must include the provision that at least thirty percent (30%) of its income shall be utilized for infrastructure works, the provision of public services, cultural activities, and *environmental projects* agreed to with the municipalities of the Free Tourist Zone (ZOLITUR), and submit it to the Secretary of State in the Office of Finance for inclusion in the General Budget of the Republic.¹¹⁰

All domestic and foreign individuals and legal entities protected by the ZOLITUR Special System or that enter or maintain investments in ZOLITUR's territory are obligated to declare and pay, as appropriate, fees to be utilized for the *environmental conservation* and security of ZOLITUR, to be levied in the following manner:

- a) Two dollars in United States of America currency (US\$2.00), or its equivalent in *lempiras*, to be paid by each passenger reported on the maritime transport manifests entering ZOLITUR territory from abroad.
- b) Six dollars in United States of America currency (US\$6.00), or its equivalent in *lempiras*, to be paid by each passenger or visitor entering ZOLITUR territory from abroad by air.
- c) One dollar in United States of America currency (US\$1.00), or its equivalent in *lempiras*, to be paid by each passenger or visitor entering ZOLITUR territory via airborne or maritime transport in a trip classified as domestic.

The Administrative Commission of the Free Tourist Zone shall allocate this income in its budget so as to strengthen the Executive Commission on Sustainable Tourism and Municipalities in the Free Tourist Zone.¹¹¹

The Bay Islands ZOLITUR Law establishes that the territorial system must promote sustainable development in coral reef areas.¹¹² Currently, the funds generated by the Environmental Conservation and Security Fee flow into the General Treasury of the Republic, where they are in turn reallocated in the Annual General Budget of Income and Expenditures, with ZOLITUR receiving 100% of the income for the services it provides. ZOLITUR must then utilize funds from the budget for "environmental projects," among others, though not the entirety of the funds generated by the environmental fee.

¹¹⁰ Ley de la Zona Libre Turística Islas de la Bahía (Ley de ZOLITUR), Decreto 181-2006, Art. 7(3), available at: http://www.iht.hn/wp-content/uploads/2015/09/reglamento_ley_zolitur.pdf.

¹¹¹ Id. Art. 25(2).

¹¹² Id. Art. 30.

K. Climate Change Law

The Climate Change Law mandates that public institutions, based on National Climate Change Mitigation and Adaptation Action Plans, develop strategic operational plans [and] identify and implement programs, projects, and actions for preventing and reducing socio-environmental vulnerability in coastal marine zones focused on efforts to minimize the impacts generated by climate variability and change.¹¹³

L. Regulations of Decree 114-2003 establishing the Cayos Cochinos Archipelago Natural Marine Monument

All of the fines applied within the Cayos Cochinos Archipelago Natural Marine Monument shall be paid to the General Treasury of the Republic, and 70% of said funds must immediately become a part of the fund established for ensuring the operations and maintenance of this natural protected area.¹¹⁴

Any harm caused to reefs, whether through watercraft, contact, SCUBA diving, or the use of prohibited fishing methods, shall be considered a grave offense and the responsible party shall be sanctioned with a fee of 100,000 lempiras per square meter of damaged reef, with the calculation of the harmed area made in accordance with the technical report drafted by personnel of the organization delegated to administer the protected area.¹¹⁵

The sums collected through fines shall be used to restore the reefs within the boundaries of the Cayos Cochinos Natural Marine Monument.

M. National Comprehensive Risk-Management System Law

This law creates the National Comprehensive Risk-Management System; likewise, it establishes as an objective for the country to develop the capacity for response and *recuperation* from real harms provoked by natural phenomena,¹¹⁶ including the reconstruction of zones affected by disasters under the aegis of risk-management.¹¹⁷ This law presses for interinstitutional involvement in risk-management, to include rehabilitation.¹¹⁸

¹¹³ Ley de Cambio Climático, Decreto 297-2013, Art. 26, available at: https://observatoriop10.cepal.org/sites/default/files/documents/hn_-_ley_del_cambio_climatico_y_otros_decretos.pdf.

¹¹⁴ Reglamento del decreto 114-2003 que declara el Monumento Natural Archipiélago de Cayos Cochinos, Acuerdo 640-2005, Art. 17, available at: <http://www.poderjudicial.gob.hn/juris/Reglamentos/Reglamento%20que%20Declara%20Monumento%20Natural%20Marino%20al%20Archipi%C3%A9lago%20Cayos%20Cochinos.pdf>.

¹¹⁵ Id. Art. 18.

¹¹⁶ Ley del Sistema Nacional para la Gestión del Riesgo (SINAGER), Decreto 151-2009, Art. 1, available at: http://copeco.gob.hn/documents/LEY-_DEL-_SINAGER_01-2010_2_5.pdf.

¹¹⁷ Id. Art. 2.

¹¹⁸ Id.

This law also establishes the competent authorities empowered to declare states of emergency which may include, in addition to the Permanent Contingency Commission (COPECO), *MiAmbiente* and the municipalities within their jurisdiction¹¹⁹ that authorize the execution of necessary urgent response activities.¹²⁰ Only a red-alert declaration of emergencies includes environmental harms; however, attention to said harm is not included in the actions to be taken.

N. Organic Law of the Merchant Marine

The Organic Law of the Merchant Marine establishes the legal framework for regulating maritime activities and ships.¹²¹ Although it does not establish specific procedures for [ships] running aground, it does include as an infraction minor actions or omissions which cause harm or damage to State assets,¹²² and mandates that the General Directorate of the Merchant Marine must demand that the responsible parties restore the things to the state in which they were found prior to the commission of the infraction, or pay a sufficient indemnity.¹²³ The following will be considered when calculating this: the benefit obtained by the offender, negligence or intentionality, harm caused, and number of infractions committed. In the event the infraction constitutes a crime, the administrative process shall be suspended.¹²⁴ The suspension of the administrative process in the event the infraction constitutes a crime shall be based on a subjective assessment initially, given that in order to determine if a crime has been committed, a judicial resolution is needed which can take a long time.

O. Criminal Code

The Criminal Code mandates that incarceration of between three and six years shall be imposed on anyone who destroys, renders useless, does away with, or in any manner *damages* personal or real articles or animals belonging to others, as long as the act does not constitute one of the crimes specified in other Articles of the Code.¹²⁵

The Code also mandates that a punishment of three to six years in jail shall be imposed on anyone who harms *an object of scientific interest, monument, or property of social utility*. Negligent harms shall be sanctioned through a punishment equal to half of that which corresponds to malicious harm committed.¹²⁶

¹¹⁹ Ley del SINAGER, Arts. 44 y 45.

¹²⁰ Id. Art. 47.

¹²¹ Ley Orgánica de la Marina Mercante, Decreto 167-94, Arts. 1 y 2, available at: http://www.tsc.gob.hn/leyes/Ley_Organica_de_la_Marina_Mercante.pdf.

¹²² Id. Art. 117.

¹²³ Id. Arts. 121, 131 y 135.

¹²⁴ Id. Art. 124.

¹²⁵ Código Penal, Decreto 144-83, Art. 254, available at:

[http://www.poderjudicial.gob.hn/juris/Codigos/C%C3%B3digo%20Penal%20\(09\).pdf](http://www.poderjudicial.gob.hn/juris/Codigos/C%C3%B3digo%20Penal%20(09).pdf).

¹²⁶ Id. Art. 255.

Likewise, it establishes that there exists civil liability that is accessory to criminal responsibility, comprising restitution, reparation of harms, and compensation for damages.¹²⁷

The Code establishes as an aggravating circumstance when the objects in question are of scientific interest, and establishes specific punishments when the harms committed are malicious. However, no clarity exists as to whether reefs are considered to be objects or animals.

P. General Provisions of the 2017 General Budget of Income and Expenditures of the Republic

These annually-approved provisions represent a possibility for financing reef restoration, given they establish that all Central Administration institutions that generate or receive income, whether as a result of their own or occasional activities, or those emanating from laws in force, shall deposit in the General Income Account maintained by the General Treasury of the Republic in the Central Bank of Honduras the sum total of said income no later than five days after they have been received, utilizing for that purpose the procedures of the Module for the Execution of Income of the Integrated Financial Administration System (SIAFI), or the deposit receipt authorized by the Secretary of State in the Office of Finance. This same mechanism applies to the decentralized institutions which according to what is indicated by special laws are obligated to remit their own resources to the General Income Account of the General Treasury of the Republic.¹²⁸

The Secretary of State in the Office of Finance may authorize up to fifty percent (50%) of the net income generated by activities of their own nature alluding to the sale of goods and services so that they may be utilized for such agencies, as long as it can be shown that said funds have been raised.

Exceptions to the foregoing are made (with the limitation of authorizing 50%) for the institutions described below, for which the following percentages are authorized:

- 1) . . . to the Attorney General of the Republic, which shall be allocated up to eighty percent (80%) of the income generated by the various activities its agencies implement; to the National Institute of Forest Development and Conservation, Protected Areas, and Wildlife (ICF), one hundred percent (100%) . . .
- 2) Ninety percent (90%) of the resources received by the Secretary of State in the Offices of Energy, Natural Resources, Environment, and Mines from environmental fees, taxes, certifications, or proof, and any other income related to its competency shall be allocated to it . . .

¹²⁷ Id. Arts. 105, 107, 108 y 109.

¹²⁸ Disposiciones Generales del Presupuesto General de Ingresos y Egresos de la República 2017, Decreto 171-2016, Art. 11, available at: <http://www.sefin.gob.hn/wp-content/uploads/Presupuesto/2017/aprobado/Disposiciones%20Generales%202017%20.pdf>.

8) One hundred percent (100%) of the value charged by the Bay Islands Free Tourist Zone (ZOLITUR) for services it renders shall be allocated to it.¹²⁹

Q. National strategy for complying with Honduras’ environmental legislation within the framework of the Dominican Republic-Central America Free Trade Agreement

The period of execution of the national strategy for complying with Honduras’ environmental legislation within the framework of the Dominican Republic-Central America Free Trade Agreement (CAFTA-DR)¹³⁰ is 2009-2021 and the entity responsible for said execution is *MiAmbiente*. With the signing and ratification of the Dominican Republic-Central America Free Trade Agreement (CAFTA-DR) through Legislative Decree 10-2005, the State of Honduras assumed the obligation to generate processes that lead to the application of its environmental framework, so as to faithfully comply with the Environmental Cooperation Agreement (ACA) which was also signed within the CAFTA-DR framework.

The general objective of the strategy is to implement in a coordinated and coherent fashion a set of actions that enable compliance with the country’s environmental legislation and therefore of the international environmental agreements and protocols that have been ratified by the State of Honduras. Its specific objectives are:

- Strengthen the legal system to ensure effective and expeditious application of the country’s environmental legislation.
- Generate environmental management capacity to develop, implement, administer, and apply environmental instruments, regulations, standards, and policies.
- Promote environmental protection, including developing initiatives for competing in the market and incentives for environmental management and voluntary compliance.
- Promote citizen participation, social audits, and the inclusion of environmental elements in the educational system (formal and informal) in order to generate a culture of environmental sustainability.

While the strategy does not expressly mention actions that should be taken to conserve and restore reefs, they are implicit in processes aimed at complying with Honduran environmental laws that require it.

¹²⁹ Id. Art. 11(1)(2) y (8).

¹³⁰ La Estrategia Nacional de Cumplimiento de la Legislación Ambiental de Honduras en el marco del Tratado de Libre Comercio entre Centro América y Estados Unidos de América y República Dominicana (CAFTA-RD), available at: http://www.fecomol.org/pdf/Estrategia_Nacional_De_Cumplimiento_De_La_Legislacion_Ambiental.pdf.

R. National Sustainable Tourism Strategy

The execution period of the National Sustainable Tourism Strategy (ENTS)¹³¹ runs from 2006 to 2021 and the Honduran Tourism Institute (IHT) is responsible for its execution. Its vision is to convert the country into a regional leader in the fields of development and tourism. Among its environmental objectives is to significantly contribute to conserving, protecting, and restoring existing ecosystems and harmonizing tourism development with natural resource conservation, highlighting coral reefs.

Among the tourism products that stand out are sun and beach, SCUBA diving, and archaeological tourism, including a specific strategy for SCUBA and cruise ship tourism, with the ENTS considering the former as being the most recognized at the regional and worldwide level, and which must be developed in a manner that is compatible with the reefs. To that end, it considers the intervention of knowing and preserving the maritime ecosystem, consisting of:

- Exhaustive knowledge of the islands' reef and coastal ecosystems
- Regulation of activities that can hurt or disturb them
- Control emissions of contaminants and sediments at the source that result in the proliferation of algae
- Identify and delimit the most fragile areas that would be submitted to a special-use regimen, such as the reefs south of Barbareta (located to the east of Roatan in the Bay Islands)

In particular, the Bay Islands department [state], which is surrounded by coral reefs, is found in Development Zone I and identified as having High Strategic Priority. The vision is that “sun-and-beach tourism should complement other products, primarily traditional SCUBA diving, the slow sector, and the emerging and prosperous cruise ship sector; the few, small, picturesque, and paradisiacal island beaches should be converted into places of excellence for international tourists: clean waters, tranquility, and a high level of equipment” (ENTS 2005). Executive Decree PCM-011-2014 declared the tourism sector to be a priority factor in the country's development, and delegated the Ministry of Economic Development, and through it the Honduran Tourism Institute (IHT), to update the ENTS, reaffirming the desire to develop environmentally-friendly tourism activities that take into consideration the challenges posed by climate change and promote a culture of protection and conservation of the country's natural ecosystems. However, to date an updated ENTS is not known.

¹³¹ La Estrategia Nacional de Turismo Sostenible, available at: <http://portalunico.iaip.gob.hn/Archivos/InstitutoHondurenodeTurismo/Planeacion%20y%20rendicion%20de%20cuentas/Planes/Plan%20Estrategico/2015/Plan%20%20Estrategico.pdf>.

S. Strategic Plan of the National Protected Areas System

The execution period of the Strategic Plan of the National Protected Areas System (PESINAPH)¹³² runs from 2010 through 2020 and the entities responsible for its execution are the institutions that co-manage Honduras' protected areas, including the National Institute of Forest Conservation, Protected Areas, and Wildlife [*sic*] (ICF) and *MiAmbiente* as the executing entities of natural resources and biodiversity management policy, as well as other Public Administration institutions, municipalities, and civil society organizations that sign co-management agreements for protected areas.

PESINAPH establishes strategic guidelines (SGs), among which SG5 stands out, consisting of promoting scientific and applied research of biodiversity in protected areas in order to generate information for decision-making that ensures its restoration and conservation, respectively. The strategic objectives [SOs] of this guideline are as follows:

- SO1: Strengthen the capacity of institutions involved in research, innovation, and technological development in the area of biodiversity conservation.
- SO2: Define and apply technical and legal regulations in developing scientific and applied research of biodiversity.
- SO3: Promote and establish alliances between national and international institutions for developing research in the area of biodiversity.
- SO4: Ensure the effective transfer of research results to key actors.

T. National Sustainable Tourism Policy and Strategic Guidelines for the National Protected Areas System of Honduras

The National Sustainable Tourism Policy and Strategic Guidelines for the National Protected Areas System of Honduras (SINAPH)¹³³ was approved by the National Institute of Forest Development and Conservation, Protected Areas, and Wildlife (ICF) through Agreement No. 034-A-2013, as the official instrument containing the regulations and procedures to follow in any tourism activity that exists and/or is implemented in protected areas. Although the principal authority and governing entity in SINAPH for planning, administering, and controlling tourism is ICF, both the law as well as reality require the combined efforts of multiple sectors and frequent coordination between ICF and other important actors in the public sector, such as the Honduran Tourism Institute

¹³² El Plan Estratégico del Sistema Nacional de Áreas Protegidas, available at: <https://mocaph.files.wordpress.com/2012/11/2009-plan-estrategico-sinaph-2010-2020.pdf>.

¹³³ La Política Nacional de Turismo Sostenible y Lineamientos Estratégicos para el Sistema Nacional de Áreas Protegidas de Honduras, available at: <http://icf.gob.hn/wp-content/uploads/2015/09/AP-Politica-de-Turismo-Sostenible.pdf>.

(IHT), *MiAmbiente*, the Permanent Contingency Commission (COPECO), and municipalities. Likewise, the participation of the private sector (tourism service providers) and civil society (organizations that co-manage protected areas and all other organizations providing support and local communities' organizations) is of the utmost importance.

The Policy punctually facilitates and contributes to elements contained in the 2010-2020 PESINAPH, such as Strategic Objective 4.3 consisting of establishing conditions for marketing offerings of environmental goods and services in protected areas, and the 2004 National Ecotourism Strategy that is included both in this policy as well as in the ENTS. Strategic guidelines are established and Public Use Plans (PUPs) and Sustainability Threshold (ST) are introduced for guiding tourism actions to be developed in the vicinity of protected areas.

Despite not considering specific actions for conserving and restoring coral reefs, its relevance lies in the fact that significant coral reef cover is found in heavily-touristed protected areas, such as the Bay Islands National Marine Park (PNMIB), Cayos Cochinos Archipelago Natural Marine Monument, the Banco Cordelia Important Wildlife Site (SIPVS), and Tela Coral Reef System (SACT).

U. National Biodiversity Strategy and Plan of Action

The National Biodiversity Strategy and Plan of Action (ENBYPA)¹³⁴ was drafted for the 2001-2011 period; however, due to a delay in developing an updated version for 2012-2022, it continues to be in force. The strategy's objective is to "formulate a practical, coherent guide to enable the implementation of recommendations deriving from the Convention on Biological Diversity, as well as having an effective tool when determining the priorities for developing solutions that produce benefits in the conservation and sustainable use of biological diversity within and outside of protected areas and obtaining societal participation within a context of human and economic development" (2001 National Biodiversity Strategy). In the thematic area of conservation, the ENBYPA establishes as policy the promotion of ex-situ biodiversity conservation in order to research, assess, access, and utilize natural resources through sustainable use. Currently an ENBYPA is in the process of being approved by the Ministry of Economic Development, updated for the period 2017-2022.

V. National Program on Forestry, Protected Areas, and Wildlife

The National Program on Forestry, Protected Areas, and Wildlife (PRONAFOR)¹³⁵ is valid between 2010 and 2030, and the entity responsible for its execution is the National

¹³⁴ Estrategia Nacional de Biodiversidad y Plan de Acción, available at: <https://www.cbd.int/doc/world/hn/hn-nbsap-01-es.pdf>.

¹³⁵ El Programa Nacional Forestal, Áreas Protegidas y Vida Silvestre, available at: <http://extwprlegs1.fao.org/docs/pdf/hon121723.pdf>.

Institute of Forest Development and Conservation, Protected Areas, and Wildlife (ICF). PRONAFOR is structured around four sub-programs, including numbers 3 (Environmental Services, Ecosystem Restoration, and Climate Change) and 4 (Protected Areas and Biodiversity). While sub-program 3 contains the restoration component, it focuses on forested areas and water resources. Sub-program 4 can be considered to include reefs, given that significant coverage for them is found within declared protected areas. The following are objectives of this sub-program:

- Promote the sustainable management and use of biodiversity by recognizing scenes, population dynamics, potential, and local needs through studies and management plans that regulate their use and promote the restoration and rehabilitation of degraded ecosystems in protected areas.
- Promote scientific research of biological diversity, with an eye to conserving and restoring threatened and endangered genetic resources.

W. National Policy for Forest Development and Conservation, Protected Areas, and Wildlife

The National Policy for Forest Development and Conservation, Protected Areas, and Wildlife¹³⁶ was developed for the period 2013-2022 and approved through Agreement 013A-2013 by the National Institute of Forest Development and Conservation, Protected Areas, and Wildlife (ICF), which is in charge of its application. The policy integrates actions proposed by the 2010-2030 PRONAFOR, though does not add a specific section on reef conservation or restoration. Specific Guideline 5 deals with conservation, ecosystem restoration, and climate change, including as an instrument of policy the adoption of measures for protecting, conserving, managing, recuperating, and restoring ecosystems in order to preserve biological diversity and guarantee the sustainability of environmental goods and provision of environmental services in light of climate change, which can be applied to reefs.

X. National Climate Change Strategy

The National Climate Change Strategy (ENCC) was approved as a governmental policy by Executive Decree PCM 046-2010 that considers the guidelines defined in the 2010-2022 Country Plan, though in and of itself does not have a defined period of duration. The institution charged with its execution is *MiAmbiente*'s National Office on Climate Change (ONCC).

The analysis of vulnerability to and impacts of climate change projected for priority sectors and systems recognizes that for coastal-marine communities, the increase in sea level will involve changes in the composition, distribution, and structure of the mangroves, seagrasses, and coral reefs. Likewise, it notes that the increase in

¹³⁶ La Política Nacional de Conservación y Desarrollo Forestal, Áreas Protegidas y Vida Silvestre, available at: <http://icf.gob.hn/wp-content/uploads/2015/08/POLITICA-NACIONAL-FORESTAL-AREAS-PROTEGIDAS-Y-VIDA-SILVESTRE-2013-2022.pdf>.

temperature will diminish the productivity of the mangroves and seagrasses, while an increase in the acidity of seawater will provoke coral bleaching.

Among ENCC's Strategic Guidelines are the coastal marine systems, whose strategic objective is to preserve the structure and dynamics of coastal marine ecosystems in light of the effects of climate change, particularly the rise in sea level and changes in air temperature and surface temperature of the ocean. A strategic objective for mitigation [SOM] is to maintain national initiatives for conserving and restoring mangroves in bays, estuaries, and islands, and establish frameworks for action to prevent and reduce the deterioration of reef ecosystems by promoting their restoration and conservation in light of climate change (SOM Numbers 10.2 and 10.3, respectively).

Y. Honduras National Wetlands Policy

The Honduras National Wetlands Policy is in the process of being developed and adapted in accordance with the directives for drafting public policies issued by the government of Honduras in 2017. Its proposed period runs from 2018 through 2038; however, due to delays in its approval and publication, it is not known if it will be adopted prior to the close of 2018.

The general objective is to guarantee the integration of actions to conserve wetland ecosystems in tandem with other sectoral policies on conservation, sustainable management of natural resources, and social development. One of the strategic objectives is to guarantee the conservation, recuperation, maintenance, and improvement of wetlands by applying an ecosystem approach – ensuring the quantity and quality of goods and services provided to the population – by favoring the rational use of same, implementing restoration programs, [and] maintaining and improving the wetlands' functional and heritage-related conditions.

Strategic Guideline 4 on technical-scientific knowledge establishes research regarding coral reefs as a key issue. Strategic Guideline 9, regarding strengthening the role of Honduras in complying with international treaties, lists as one of the actions supporting and strengthening the Ramsar Convention Regional Initiative on Reefs and Mangroves. With respect to institutional aspects, it establishes among the actions “the creation of a National Reef Committee as a thematic roundtable within the National Technical Committee on Wetlands.”

CONCLUSION

The General Environment Law (LGA) and Regulations of the LGA continue being, despite their age, key legal instruments for the allocation of responsibilities for environmental harm because they have maintained their essence as instruments for conservation, unlike new instruments such as the Regulations of the National Environmental Impact Evaluation System, which disregards the prevention principle and reduces the role of an Environmental Impact Assessment to a mere formality without

considering its potential for preventing and mitigating potential harms or the magnitude of the impacts at issue.

In Honduras, it's necessary to adopt a law on biodiversity and/or a law on reefs. Draft laws on biodiversity have remained without any discussion in the National Congress, without recognizing the importance of biodiversity for tourism, among other community benefits.

MÉXICO

In Mexico, the maximum hierarchy of law governing environmental matters is the federal Constitution and international treaties signed by Mexico (as long as they are consistent with the Constitution). From these supreme legal instruments emanate laws that establish the legal framework for issues like wildlife, environmental impact assessment, and fishing. Below these laws, there are regulations and laws such as the *Normas Oficiales Mexicanas* (NOMS), which are binding due to their relation with the laws.

No specific legislation regarding reef restoration exists at the national level. The majority of the instruments that establish regulations for restoring species of coral are found in the Natural Protected Areas management programs.

Due to their arrangement on the continental shelf, coral reefs comprise part of what the Constitution of the United Mexican States declares as national assets, thereby involving regulations at the federal level and preventing third parties from appropriating them.

As regards environmental matters, the framework law is the General Law of Ecological Balance and Environmental Protection, which establishes the bases for ecosystem restoration in Mexico by emphasizing Natural Protected Areas.

The General Wildlife Law, which regulates species in risk categories, such as some species of coral, is applicable in regulating exploitation and the permits required for restoring reefs, leaving the General Fisheries and Sustainable Aquaculture Law to administer all other coral species not listed as having protected status.

One distinctive feature in the Mexican legal system is the participation of the Ministry of the Navy in the application of coral reef restoration techniques when they involve the deployment of structures in the sea, an activity considered by the Law on Dumping in Mexican Marine Zones to be a discharge and thus requiring of authorization in order to proceed.

Terms related to the issue under analysis in the present study are contained in Mexican legislation. '**Restoration**' is defined by the General Law of Ecological Balance and Environmental Protection as "the set of activities aimed at recuperating and reestablishing the conditions favoring the evolution and continuity of natural processes." The General Wildlife Law defines '**recuperation**' as "the *reestablishment* of natural processes and genetic, demographic, or ecological parameters of a population or species, in terms of its condition when recuperation activities begin, as well as its local abundance, structure, and dynamics in the past, in order to once again fulfill its ecological and evolutionary roles with subsequent improvements in habitat quality."

In addition, the Regulations of the General Wildlife Law define '**remediation**' as "the set of activities aimed at resolving, according to technical criteria and through management

or control measures, specific problems associated with specimens and populations that become harmful, or the *restoration* and recuperation of wild species' habitats.”

Lastly, the General Fisheries and Sustainable Aquaculture Law defines ‘*repopulation*’ as “the act of introducing living native aquatic organisms in any stage of their life cycle into bodies of water under federal jurisdiction with the goal of maintaining, recuperating, or increasing natural fish populations.”

A. General Law of Ecological Balance and Environmental Protection

Among the purposes of the General Law of Ecological Balance and Environmental Protection (LGEEPA)¹³⁷ is to *restore* ecological balance¹³⁸ and establish the foundations for it. This law defines ‘*restoration*’ as the set of activities aimed at recuperating and reestablishing the conditions favoring the evolution and continuity of natural processes.¹³⁹

LGEEPA empowers the Ministry of Environment and Natural Resources (SEMARNAT) to “formulate, issue, and execute, in coordination with other agencies, marine ecology management programs. These programs shall have the purpose of establishing the guidelines and precautions to which the preservation, *restoration*, protection, and sustainable use of the existing natural resources in specific areas or surface areas located in Mexican maritime zones are subject.”¹⁴⁰ The foregoing represents an opportunity to establish, through the marine management programs, Environmental Management Units for reef restoration and the criteria for carrying out said activities.

This law mandates that plans to carry out “[w]orks and activities in Natural Protected Areas under the jurisdiction of the Federation”¹⁴¹ require environmental impact authorization. The environmental impact evaluation is the procedure through which SEMARNAT establishes the conditions that will govern the implementation of works and activities that can cause ecological imbalance, in order to prevent or reduce to a minimum their negative effects on the environment.

In terms of Natural Protected Areas, this law contains the category of Biosphere Reserves, which shall be created in areas “*requiring preservation and restoration.*”¹⁴² Likewise, the law establishes that in those areas presenting evidence of degradation or grave ecological imbalance, SEMARNAT “*must formulate and execute ecological restoration programs*, with the goal of necessary actions being taken to recuperate and

¹³⁷ Ley General del Equilibrio Ecológico y la Protección al Ambiente (LGEEPA), available at: http://www.diputados.gob.mx/LeyesBiblio/pdf/148_240117.pdf.

¹³⁸ Id. Art. 1.

¹³⁹ Id. Art. 3 Fracción XXXIV.

¹⁴⁰ Id. Art. 20 Bis 6 (negrita y cursiva son nuestras).

¹⁴¹ Id. Art. 28 fracción XI.

¹⁴² Id. Art. 48 párrafo primero (cursiva es nuestra).

reestablish conditions favoring the evolution and continuity of natural processes that transpired therein.”¹⁴³

In those cases “producing accelerated processes of . . . degradation that entail the loss of resources that are very difficult to regenerate, recuperate, or reestablish, or irreversible impacts to the ecosystems or their elements,” SEMARNAT must promote the issuance of declarations for establishing *ecological restoration zones*.¹⁴⁴ To that end, it shall draft prior studies justifying its declarations [and] its declarations must be published in the *Diario Oficial de la Federación* [Official Newspaper of the Federation].¹⁴⁵

The declarations on the *ecological restoration zones* must contain the “demarcation of the zone that is subject to ecological restoration, detailing the surface area, location[;] . . . [t]he necessary actions to take to regenerate, recuperate, or reestablish the natural conditions of the zone[;] . . . [t]he conditions to which will be subject, within the zone, . . . the use of the natural resources, flora, and fauna, as well as the execution of any kind of works or activities; . . . [t]he guidelines for developing and executing the corresponding ecological restoration program, as well as for the participation in said activities by . . . social, public, or private organizations, indigenous peoples, local governments, and all other interested persons; and . . . [t]he timeframes for executing the respective ecological restoration program.”¹⁴⁶

B. General Wildlife Law

The objective of the General Wildlife Law (LGVS)¹⁴⁷ is to “establish concurrence . . . regarding the conservation and sustainable use of wildlife and its habitats within the territory of the Mexican Republic and in zones in which the nation exercises its jurisdiction.”¹⁴⁸ The relevance of this law for the present analysis is that it regulates the species in at-risk categories; that is, that are listed in Official Mexican Rule NOM-059-SEMARNAT-2010: Environmental Protection – Native Wild Species of Flora and Fauna of Mexico – Categories of Risk and Specifications for their Inclusion, Exclusion, or Change – List of At-Risk Species.

The authority charged with its application is the Ministry of Environment and Natural Resources (SEMARNAT) through a General Directorate, and exceptionally applies to endangered coral species (in accordance with the respective official rule and international treaties). This is one of the principal obstacles in comprehensive coral reef protection, given that it informs the distribution of authority through a rule in the area of fisheries.

¹⁴³ Id. Art. 78 (cursiva es nuestra).

¹⁴⁴ Id. Art. 78 bis.

¹⁴⁵ Id.

¹⁴⁶ Id. Art. 78 bis.

¹⁴⁷ Ley General de Vida Silvestre, available at: http://www.diputados.gob.mx/LeyesBiblio/pdf/146_191216.pdf.

¹⁴⁸ Id. Art. Primero.

Based on the national wildlife policy contained in Article 5, “the requirement of ensuring optimal levels of sustainable use” can be established, as well as [the requirement] for authorities to plan for the “protection, restoration, and comprehensive management of natural habitats” as principal factors in the conservation and recuperation of wild species. Said policy – regarding restoration and comprehensive management from an ecosystem perspective – is not established or broken out in the law’s articles; therefore, it is advisable that it be established as such in the rules regulating the permits.

Extractive exploitation is only permissible with an authorization from the authority charged with applying this law, which defines it in its Article 83, as well as defining, among its objectives, that of “restoration, recuperation, repopulation, and reintroduction.” The [resource] exploitation – including that of species that are already appropriate – must expand its framework of authorization to include the symbionts contained in the coral species to be protected, given that currently, it has been noted that they are managed as separate species, entailing a duality of permits – with dual authorities – for a single process.

The law defines ‘*recuperation*’ as “[t]he *reestablishment* of natural processes and genetic, demographic, or ecological parameters of a population or species, in terms of its condition when recuperation activities begin, as well as its local abundance, structure, and dynamics in the past, in order to once again fulfill its ecological and evolutionary roles with subsequent improvements in habitat quality.”¹⁴⁹

The LGVS states that the objectives of the national policy regarding wildlife and its habitats should include “promoting the restoration of its diversity and integrity, as well as increasing the wellbeing of the country’s inhabitants.”¹⁵⁰

An essential instrument for reef restoration is contained in this law – Wildlife Conservation Management Units – which may have specific objectives of restoration, recuperation, reproduction, repopulation, reintroduction, research, rescue, protection, rehabilitation, [and] environmental education, among others.¹⁵¹

Similar to LGEEPA, this law states that when problems arise regarding the destruction, contamination, degradation, desertification, or imbalance in wildlife habitats, SEMARNAT will formulate and execute, as soon as possible, programs on prevention, response to emergencies, and *restoration* in order to recuperate and reestablish conditions favoring the evolution and continuity of the natural processes of wildlife.¹⁵²

¹⁴⁹ Id. Art. 3 fracción XXXVIII.

¹⁵⁰ Id. Art. 5.

¹⁵¹ Id. Art. 39.

¹⁵² Id. Art. 70.

C. Regulations of the General Law of Ecological Balance and Environmental Protection in the area of Environmental Impact Evaluations

Similar to LGEEPA, the Regulations of the General Law of Ecological Balance and Environmental Protection in the area of Environmental Impact Evaluations¹⁵³ require an environmental impact authorization in order to carry out works in Protected Natural Areas; this is also required for the construction or installation of artificial reefs or other modifications of the habitat so as to attract and proliferate aquatic life.¹⁵⁴ Nonetheless, the Regulations establish an exception to this obligation when the works or activities “in the face of a disaster are undertaken with preventive ends, or are executed in order to rescue an emergency situation.”¹⁵⁵ However, notice that said actions will be taken must be given to SEMARNAT in all cases within a period “not to exceed 72 hours counted as of when the works are initiated, with the goal that they will take the necessary measures, as appropriate, to attenuate impacts to the environment.”¹⁵⁶

D. Regulations of the General Wildlife Law

The Regulations of the General Wildlife Law define ‘*remediation*’ as “[t]he set of activities aimed at resolving, according to technical criteria and through management or control measures, specific problems associated with specimens and populations that become harmful, or the *restoration* and recuperation of wild species’ habitats.”¹⁵⁷

The Regulations state [that] SEMARNAT “shall evaluate management plans based on the scientific, technical, or empirical information it has for the purpose of applying management methods for conserving wildlife, comprehensively managing natural habitats, [and taking] actions for maintaining and, as appropriate, *restoring* or *recuperating* the conditions favoring the continuity of ecosystems, habitats, and populations in their natural environs that enable the sustainable use of wildlife.”¹⁵⁸

The Ministry, “in coordination with the authorities of the federative entities [states] or municipalities, or with principals of UMA or persons with an interest in wildlife management, may formulate and execute *restoration* programs to recuperate and reestablish the conditions favoring the evolution and continuity of the natural processes of wildlife. . . . Said programs may be implemented at the national, regional, or local level.”¹⁵⁹

¹⁵³ Reglamento de la Ley General de Equilibrio Ecológico y Protección al Ambiente en materia de Evaluación de Impacto Ambiental, available at:

http://www.diputados.gob.mx/LeyesBiblio/regley/Reg_LGEEPA_MEIA_311014.pdf.

¹⁵⁴ Id. Art. 5.

¹⁵⁵ Id. Art. 7.

¹⁵⁶ Id.

¹⁵⁷ Id. Art. 2 (XVII) (negrita y cursiva son nuestras).

¹⁵⁸ Id. Art. 43 (negrita y cursiva son nuestras).

¹⁵⁹ Id. Art. 76 (negrita y cursiva son nuestras).

This instrument declares that SEMARNAT may authorize the extractive exploitation of specimens of at-risk species when priority is given to collection and capture for activities aimed at restoration, repopulation, reintroduction, and scientific research, for which purpose the interested party must indicate the specifications of the programs, projects, or activities dealing with restoration, recuperation, repopulation, reintroduction, and oversight for which authorization is being requested.¹⁶⁰

E. Regulations of the General Law of Ecological Balance and Environmental Protection with regard to Natural Protected Areas

The ecological *restoration* programs formulated by SEMARNAT and executed in Natural Protected Areas (NPAs) must contain at a minimum a description of the affected ecosystem(s), indicating the wildlife species characteristic of the zone, and specifically, those that are at risk; a diagnostic of the damage done in the ecosystem(s); restoration actions that must be taken, including ways to induce the recuperation of natural populations, *repopulation*, reintroduction, or translocation of specimens and populations in accordance with what is established by the General Wildlife Law; the planned works and practices related to water and soil conservation; and the methods for controlling pests and diseases.¹⁶¹

SEMARNAT may promote before the Federal Executive Branch the issuance of declarations to establish *ecological restoration zones* within NPAs.¹⁶² The studies justifying the issuance of said declarations must contain:

I. General information that includes:

- a) The names of the organizations, institutions, governmental bodies, or non-governmental organizations that participated in the drafting of the study;
- b) Name of the proposed area;
- c) Federative entity [state] and municipalities wherein area would be located;
- d) Surface area;
- e) Georeferenced location;
- f) Access roads; and
- g) Map containing a description of adjacent areas.

II. Diagnostic study containing:

- a) Reasons justifying the restoration system;

¹⁶⁰ Id. Art. 91 Bis.

¹⁶¹ Reglamento de la Ley General del Equilibrio Ecológico y Protección al Ambiente en materia de Áreas Naturales Protegidas, Art. 67, available at: http://www.diputados.gob.mx/LeyesBiblio/regley/Reg_LGEEPA_ANP.pdf.

¹⁶² Id. Art. 68.

- b) Description of the accelerated processes of desertification, degradation, or irreversible impacts on the ecosystems or their elements;
- c) Identification of the resources that are very difficult to regenerate, have been lost, and which they plan will be recuperated or reestablished;
- d) National and regional relevance of the ecosystems to be restored; and
- e) Identification of human activities or natural phenomena that led to the degradation, such as forest fires, floods, plagues, or others of a similar nature.

III. Description of physical characteristics, including:

- a) Physiography and topography;
- b) Geology;
- c) Soil types;
- d) Hydrology; and
- e) Meteorological factors.

IV. Socio-economic aspects, including:

- a) Social conditions in the region;
- b) Activities on which its economy is based;
- c) Human settlements;
- d) Land tenure;
- e) Litigation currently underway;
- f) Soil uses; and
- g) Traditional uses of the region's wildlife.

V. Institutions that have carried out research projects in the area.

The declarations for establishing ecological restoration zones within NPAs must also contain their duration.¹⁶³

F. General Fisheries and Sustainable Aquaculture Law

Pursuant to the Organic Law of Federal Public Administration, SEMARNAT will coordinate with the Ministry of Agriculture, Livestock, Rural Development, Fisheries, and Food (SAGARPA) to preserve [and] *restore* the ecological balance and protect the environment, and promote areas for protecting, restoring, rehabilitating, and conserving coastal and lake ecosystems under the terms established by LGEEPA.¹⁶⁴

This law establishes principles both for formulating and managing the National Fisheries and Sustainable Aquaculture Policy, as well as applying the programs and instruments.¹⁶⁵ Among the principles that are relevant to the present analysis is that scientific and

¹⁶³ Id.

¹⁶⁴ Ley General de Pesca y Acuacultura Sustentables, Art. 9 fracción III, available at: http://www.diputados.gob.mx/LeyesBiblio/pdf/LGPAS_190617.pdf.

¹⁶⁵ Id. Art. 17.

technological research should be consolidated as an essential element for defining and implementing the policies, instruments, measures, mechanisms, and decisions related to the conservation, *restoration*, protection, and sustainable use of fisheries and aquatic resources, in addition to being an instrument that considers the implementation of actions related to fisheries and sustainable aquaculture for mitigating and adapting to climate change.¹⁶⁶

G. Federal Environmental Responsibility Law

This law establishes that environmental responsibility shall be objective when the harms caused to the environment lead directly or indirectly to any action or omission related to dangerous materials or waste, the use or operation of ships in coral reefs, the performance of activities considered highly risky, and those situations and behavior set forth in Article 1913 of the Federal Civil Code.¹⁶⁷

The law does not establish clear procedures for determining the restoration for harms caused to the environment, and it has been very difficult to demand them in practice.

H. General Climate Change Law

This creates the National Institute [of] Ecology and Climate Change (INECC), whose purposes include coordinating and undertaking scientific and technological studies and projects with national and international academic and research institutions, both public and private, in the fields of climate change, environmental protection and preservation, and *restoration* of the ecological balance.¹⁶⁸

When formulating national climate change policy, the principle of conserving ecosystems and their biodiversity will be followed, including “prioritizing wetlands, mangroves, *reefs*, dunes, [and] coastal zones and lakes that provide environmental services essential to reducing vulnerability.”¹⁶⁹

Another important element to highlight in this instrument is that it states that among the adaptation actions considered will be “ecosystem management, protection, conservation, and *restoration*.”¹⁷⁰

The public administration agencies and entities will implement adaptation-focused actions, including “[s]trengthening the resistance and resilience of terrestrial ecosystems, beaches, coasts and federal maritime zones, wetlands, mangroves, *reefs*, [and] marine and

¹⁶⁶ Id. Art 17 fracción IV.

¹⁶⁷ Ley Federal de Responsabilidad Ambiental, Art. 12, available at: <http://www.diputados.gob.mx/LeyesBiblio/pdf/LFRA.pdf>.

¹⁶⁸ Ley General de Cambio Climático, Art. 15, available at: http://www.diputados.gob.mx/LeyesBiblio/pdf/LGCC_010616.pdf.

¹⁶⁹ Id. Art. 26 fracción XI (negrita y cursiva son nuestras).

¹⁷⁰ Id. Art. 29 fracción III (negrita y cursiva son nuestras).

freshwater ecosystems through actions aimed at *restoring* ecological integrity and connectivity.”¹⁷¹

In order to reduce emissions, public administration agencies and entities will promote mitigation-focused policies and actions associated with the corresponding sectors, taking into account the strengthening of sustainable development and *restoration* of coastal-marine ecosystems, in particular mangroves and coral reefs.¹⁷²

I. Law on Dumping in Mexican Marine Zones

This law defines ‘dumping’ in Mexican marine zones as the placement of materials or objects of any nature with the goal of creating artificial reefs, docks, breakwaters, jetties, or any other structure,¹⁷³ among others. This law is applicable to the issue of restoration, given that authorization is needed from the Ministry of the Navy to build structures for holding coral specimens.

J. Official Mexican Rule NOM-059-SEMARNAT-2010: Environmental Protection – Native Wild Species of Flora and Fauna of Mexico – Categories of Risk and Specifications for their Inclusion, Exclusion, or Change – List of At-Risk Species

This instrument establishes the categories and species subject to special protection, given the fact that they could become threatened due to factors that negatively impact their viability. As such, it declares the need to foster their recuperation and conservation, or the recuperation and conservation of populations of associated species. The Rule lists three species of black coral, two species of soft coral or sea fans, elkhorn coral, and staghorn coral.¹⁷⁴ The NOM has not been updated in terms of coral species and it is necessary to integrate all of the species into it.

K. National Wetlands Policy

This deals with the wetlands classification system proposed by the Ramsar Convention, which includes coral reefs. Six coral reef zones have been identified in Mexico: the one with the greatest diversity is in the Caribbean Sea (45-56 species of coral that form reefs), which is a part of the Mesoamerican Reef System.

¹⁷¹ Id. Art. 30 fracción XVIII (negrita y cursiva son nuestras).

¹⁷² Id. Art. 34 fracción III(d).

¹⁷³ Ley de Vertimientos en Zonas Marinas Mexicanas, Art. 3 fracción VI, available at: <http://www.diputados.gob.mx/LeyesBiblio/pdf/LVZMM.pdf>.

¹⁷⁴ NOM-059-Semarnat-2010, Anexo Normativo III, Lista de Especies en Riesgo, available at: dof.gob.mx/nota_detalle_popup.php?codigo=5173091.

L. Species Conservation Program (PACE): staghorn coral (*Acropora cervicornis*) and elkhorn coral (*Acropora palmata*)

The objective of this program is to reestablish the functionality and structure of sites damaged during environmental contingencies such as hurricanes and ships running aground, as well as recuperating the habitat of the *Acropora* genus through standardized, coordinated procedures for rescuing and introducing colonies. The following are among this program's activities:

- Restore sites affected by meteorological phenomena and/or human activities.
- Implement primary restoration procedures included in the programs attending to environmental contingencies when they occur.
- Develop a reef area restoration program, both in natural environments as well as artificial structures, in sites that are favorable for introducing the *Acropora* genus.
- Monitor the recuperation of those zones in which restoration actions are carried out.
- Review and evaluate existing reef restoration projects, identifying the fastest and most practical and economical methods, depending on the severity of the damage.
- Develop regional experimental restoration programs, selecting pilot or demonstration sites that are identified based on their high and significant ecologic, economic, and social value and the fact that they are degraded.
- Request assistance from and transfer technology with international institutions and organizations.

International Judicial Instruments

Various relevant international agreements exist under which the governments undertake the restoration of the Mesoamerican Reef System. Below, we describe the most relevant provisions from some of these agreements.

A. Declaration of Tuxtla Gutiérrez “Tuxtla I”

The presidents of Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and México meeting on January 10 and 11, 1991, reached agreement on the Declaration of Tuxtla Gutiérrez (Tuxtla I), under which the parties agreed on the importance of international cooperation to protect and *restore* the environment¹⁷⁵. A meeting in 1996 delineating other areas of cooperation between the Central American countries and Mexico resulted in a second agreement known as “Tuxtla II.”

B. Declaration of Tulum

In 1997, the presidents of Mexico, Guatemala, Honduras and the Prime Minister of Belize, met in the city of Tulum, Mexico to continue the dialogue and the cooperation between Central America and Mexico, initiated through the agreements of Tuxtla I and Tuxtla II. In Tulum, the countries adopted the *Tulum Declaration to protect the Meso-American Caribbean Reef System* and decided:

2. To promote the conservation of the reef system through sustainable use, contributing to its well-being to present and future generations. The effect of said system will maintain:
 - a) As environments, highly diverse and biologically productive that serve as refuge and sustenance to a great variety of living marine resources;
 - b) As agents that prevent the erosion of coasts
 - c) As promoters of the tourism industry’s generating of funds;
 - d) As a provider of basic products of the production of medicine in demand;
 - e) As an efficient structure of protection against hurricanes and storms.
3. To instruct the responsible authorities of the Environment and Natural Resources of the countries so that they make an Action Plan ... and put into effect the activities and give respect to the compromises adopted in this Initiative;
4. To carry out the actions that were outlined in the Action Plan, in particular:

¹⁷⁵ Declaration of Tuxtla I, January 11, 1991, para. 11, available at: http://www.sice.oas.org/TPD/MEX_NIC/Negotiations/DeclaracionTuxtlaGutierrezI_s.pdf.

- a) Support the execution of the Mesoamerican Biological Corridor Project, that promotes the incorporation of wetlands and coastal marine zones in its initiatives...
 - b) Establish a joint work program to reduce the waste from contaminants originating from human activity in the coastal marine zone.
 - c) Establish mechanisms of exchange of information about vigilance activities; contingency prevention; emergency work in case of disaster, and others,
 - d) Strengthen the existing financial mechanisms and search for the obtaining of new resources...
6. Promote the development of cooperative programs and projects to achieve the objectives of the initiative; including the participation of international entities[.]¹⁷⁶

This agreement creates the most specific commitment of cooperation between the countries of the MAR for coral reef restoration in the region.

C. Convention on Biological Diversity

The four MAR countries are part of the Convention on Biological Diversity (CBD)¹⁷⁷, which is an international treaty with three primary objectives: the conservation of biological diversity, the sustainable use of its components, and the just and equitable sharing of benefits derived from the use of genetic resources. Its general objective is to promote measures that ensure a sustainable future.

The CBD emphasizes the “importance of, and the need to promote, international, regional and global cooperation among States and intergovernmental organizations and the non-governmental sector for the conservation of biological diversity and the sustainable use of its components.”¹⁷⁸ Each part of the agreement promises that “*Rehabilitate and restore degraded ecosystems and promote the recovery of threatened species, inter alia, through the development and implementation of plans or other management strategies.*”¹⁷⁹

The Conference of the Parties of the CBD created the Strategic Plan for Biological Diversity 2011-2020, describing of a shared vision, a mission, strategic objectives and 20 goals known as the Aichi Biodiversity Targets.¹⁸⁰ The Strategic Plan serves as a flexible marker for the establishment of national and regional objectives and promotes the coherent and effective continuation of the three objectives of the CBD.

¹⁷⁶ Declaration of Tulum, June 5, 1997, available at: http://www.inecc.gob.mx/descargas/ai/doc_32.pdf.

¹⁷⁷ Biodiversity Convention, available at <https://www.cbd.int/doc/legal/cbd-es.pdf>.

¹⁷⁸ Id. Preamble.

¹⁷⁹ Id. Art. 8(f).

¹⁸⁰ Strategic Plan for Biodiversity 2011-2020, including Aichi Biodiversity Targets, available at: <https://www.cbd.int/sp/>.

For the present analysis, it is important to review the Fourth Goal of Aichi, which declares in part: “By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are *restored and safeguarded*, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.”¹⁸¹ With the Fourth Goal of Aichi, the MAR countries together and individually could try to procure financing from the Global Environment Facility and other sources.

D. Agreement for the Protection and Development of the Marine Environment in the Greater Caribbean Region (Cartagena Convention)

The four MAR countries (Belize, Guatemala, Honduras and Mexico) are Parties to the Agreement of the Protection and Development of the Marine Environment of the Greater Caribbean Region (known as the Cartagena Agreement) (however, not all the countries have ratified all of the related protocols).¹⁸² This agreement was signed on March 24th, 1983 and entered into law on October 11th, 1986,¹⁸³ and recognizes the importance of regional cooperation to protect the ecosystem in the Greater Caribbean Region, which includes the MAR.

The Cartagena Convention primarily focuses on the protection of Caribbean ecosystems (not restoration), but provisions exist that tackle many of the threats to the reef, including one that requires the adoption of adequate measures to prevent, reduce and control contamination.¹⁸⁴

E. Protocol Concerning Specially Protected Areas and Wildlife to the Cartagena Convention (SPAW Protocol)

The SPAW Protocol to the Cartagena Convention was adopted in Kingston, Jamaica by the member governments of the Caribbean Environment Programme (CEP) on 18 January 1990. Of the four MAR countries, only Belize and Mexico are signatories to the SPAW Protocol (and only Belize has ratified). Under the SPAW Protocol Parties commit to take necessary measures to “protect, preserve and manage in a sustainable way” “areas

¹⁸¹ Id. Target 14 (emphasis added).

¹⁸² Convention for the Protection and Development of the Marine Environment in the Wider Caribbean Region (known as the Cartagena Convention), available at <http://www.cep.unep.org/cartagena-convention>.

¹⁸³ The Agreement has three Protocols:

- 1) The Protocol Concerning Co-operation in Combating Oil Spills in the Wider Caribbean Region (Oil Spill Protocol), adopted on March 24th, 1983 and entered into force on October 11, 1986. (Ratified by Belize and Guatemala.)
- 2) The Protocol Concerning Specially Protected Areas and Wildlife (SPAW) in the Wider Caribbean Region, adopted on 18 January 1990 and entered into force on 18 June 2000. (Ratified by Belize.)
- 3) The Protocol Concerning Pollution from Land-Based Sources and Activities, adopted on 6 October 1999 and entered into force on 13 August 2010. (Ratified by Belize)

¹⁸⁴ Id. Art. 7

that require protection to safeguard their special value” and “threatened or endangered species of flora and fauna.”¹⁸⁵ Parties commit to establishing protected areas where necessary and taking other steps to protect species include coral species. Although the Protocol is not aimed at restoration, adoption of the Protocol by all of the MAR countries would benefit the Mesoamerican Reef.

F. Constituent Agreement of the Central American Commission of the Environment and Development

The presidents of Costa Rica, El Salvador, Guatemala, Honduras, and Nicaragua, signed a Constitutional Agreement of the Central American Commission on Environment and Development (CCAD) establishing a regional regimen of cooperation for the optimal and rational use of natural resources in the area, the control of contamination *and the reestablishment of ecological equilibrium*.¹⁸⁶ The objectives of CCAD include promoting coordinated action of governmental, non-governmental and international entities for the *reestablishment of ecological equilibrium*,¹⁸⁷ the strengthening of national institutions responsible for managing natural resources and the environment,¹⁸⁸ and obtaining regional and international financial resources to meet the objectives.¹⁸⁹

G. Mesoamerican Biological Corridor

In 1997, the seven Central American countries and Mexico agreed to cooperate on the Mesoamerican Biological Corridor (MBC) initiative to conserve biodiversity in the region. The MBC could be a model of cooperation among the MAR countries. Through the MBC initiative, countries have advanced the shared objectives through national initiatives and international cooperation. Entities like the World Bank have supported the initiative.¹⁹⁰

The Plan Director CBM-2020 Gestión Territorial Sostenible en el Corredor Biológico Mesoamericano, finalized May 20, 2013, aims to “[m]aintain the social ecosystem functionality of areas, passageways and zones of connectivity, already terrestrial, coastal

¹⁸⁵ SPAW Protocol to the Cartagena Convention, Art. 3(1), available at:

<http://www.cep.unep.org/cartagena-convention/spaw-protocol/overview-of-the-spaw-protocol>.

¹⁸⁶ Constitutional Agreement of the Central American Commission on Environment and Development (CCAD), Art. I (emphasis added), available at:

http://www.csj.gob.sv/AMBIENTE/LEYES/ACUERDOS/CONVENIOS/CONVENIO_CONSTITUTIVO_COMISION_CENTROAMERICANA_AMBI.pdf.

¹⁸⁷ Id. Art. II (c).

¹⁸⁸ Id. Art. II (e).

¹⁸⁹ Id. Art. II (d).

¹⁹⁰ Regional Program Review: The Mesoamerican Biological Corridor, Independent Evaluation Group, The World Bank Group, 2011, available at

http://ieg.worldbankgroup.org/sites/default/files/Data/reports/mbc_rpr.pdf.

or marine, with high value of biodiversity and provisions of ecosystem services that conform in the MBC.”¹⁹¹

Among the strategies and lines of action, the Plan addresses the prevention of risks and promotes ecological *restoration*.¹⁹² The Plan promotes the joint action of organizations and institutions to achieve objectives of sustainable development, through programs and projects at the local a local, zonal, national or supra-national scale.

H. Objectives of Sustainable Development

In September 2015, more than 150 heads of state met at the United Nations Sustainable Development Summit, and adopted the 2030 Agenda of for Sustainable Development. This Agenda is a plan of action including 17 objectives to achieve a sustainable world by the year 2030.¹⁹³

The Sustainable Development Goals (SDGs) follow the Millennium Development Goals (MDGs) and look to amplify successes achieved, as well as advancing goals that have not been met. For the present analysis, SDG 14 (“Conserve and sustainably use the oceans, seas and marine resources for sustainable development”) is most relevant.¹⁹⁴

Among the goals of the SDG 14 it’s important to revisit for the present analysis:

14.2 -- By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans;

14.5 -- By 2020, conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on the best available scientific information;

14.a -- Increase scientific knowledge, develop research capacity and transfer marine technology, taking into account the Intergovernmental Oceanographic Commission Criteria and Guidelines on the Transfer of Marine Technology, in order to improve ocean health and to enhance the contribution of marine biodiversity to the development of developing countries, in particular small island developing States and least developed countries;

¹⁹¹ Plan Director CBM-2020 Gestión Territorial Sostenible en el Corredor Biológico Mesoamericano, available at https://www.google.com.mx/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0ahUKEwivmrCPgfPXAhVV2MKHY8xCeUQFggnMAA&url=http%3A%2F%2Fwww.biodiversidad.gob.mx%2Fcorredor%2Fcobioired%2Findex.php%2Fnoticias%2Fitem%2Fdownload%2F6_630a22caad750331f301af38843c3f3b&u sg=AOvVaw22MrY0eAAUUTnTvDE1p3nr.

¹⁹² Id. No. IX.

¹⁹³ Transforming our world: the 2030 Agenda for Sustainable Development, available at http://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E.

¹⁹⁴ Objetivo 14: Conservar y utilizar en forma sostenible los océanos, los mares y los recursos marinos para el desarrollo sostenible.

14.c -- Enhance the conservation and sustainable use of oceans and their resources by implementing international law as reflected in the United Nations Convention on the Law of the Sea, which provides the legal framework for the conservation and sustainable use of oceans and their resources.

I. Convention relating to the Wetlands of International Importance Especially as Aquatic Bird Habitats

The Convention on Wetlands of International Importance especially as Waterfowl Habitat (known as the Ramsar Convention)¹⁹⁵ applies a wide definition of wetlands including lakes, rivers, subterranean aquifers, swamps, salt marshes, wet pastures, peat bogs, estuaries, deltas, tidal zones, mangroves, other coastal zones, *coral reefs*, rice fields, reservoirs and salt mines.¹⁹⁶

The Strategic Plan adopted at the 6th meeting of the Conference of the Contracting Parties (COP6) outlined “three pillars” of action:

- Work together toward wise use of wetlands;
- Further identification, designation, and management of wetland sites suitable for the list of Internationally Important Wetlands (the “Ramsar List”); and
- Cooperate internationally through management of transboundary water resources.¹⁹⁷

¹⁹⁵ Convention on Wetlands of International Importance especially as Waterfowl Habitat (the Ramsar Convention), signed 2 February 1971 and entered into force 21 December 1975, available at https://www.ramsar.org/sites/default/files/documents/library/scan_certified_e.pdf.

¹⁹⁶ Ramsar Convention Manual, 5th Edition (2016), available at https://www.ramsar.org/sites/default/files/documents/library/handbook1_5ed_introductiontoconvention_s_f inal.pdf.

¹⁹⁷ See: http://archive.ramsar.org/cda/en/ramsar-about-faqs-what-are-three/main/ramsar/1-36-37%5E7722_4000_0__.