



Ocean Governance Study ANTIGUA AND BARBUDA

January 2023

DOALOS/Norad Programmes of Assistance to meet
the strategic capacity needs of the developing
States in ocean governance and the law of the sea

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Ocean Governance Study: Antigua and Barbuda

Division for Ocean Affairs and the Law of the Sea Capacity-Building Programme

The Division for Ocean Affairs and the Law of the Sea (DOALOS) of the Office of Legal Affairs of the United Nations has been providing information, advice and assistance to States and intergovernmental organizations in the field of oceans and the law of the sea since the adoption of the United Nations Convention on the Law of the Sea (UNCLOS) in 1982.

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For more information, please visit the capacity-building website or contact the Division.

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Programmes of Assistance to meet the strategic capacity needs of developing States in the field of ocean governance and the law of the sea

The Programmes of Assistance project provides capacity development and technical assistance for developing States to enhance their capacity to implement the United Nations Convention on the Law of the Sea (UNCLOS) and related Agreements, and to better harness the benefits of the blue economy including through more effective implementation of the 2030 Agenda for Sustainable Development.

The Government of Norway provides funding for the project as part of its Oceans for Development programme, which is managed by the Norwegian Agency for Development Cooperation (Norad). The Division for Ocean Affairs and the Law of the Sea (DOALOS) implements the project, drawing on its long-standing experience in delivering responsive programmes of assistance in ocean affairs and the law of the sea.

The project comprises four main categories of activities:

- Regional consultations, through which the Division consults with regional intergovernmental organizations and others to gain insight about ongoing regional programmes and activities on ocean governance and to identify capacity-building needs and priorities in the region.
- Customized training courses, to reinforce the capacity of government officials and relevant stakeholders in the implementation of ocean governance strategies at the regional and national level.
- National Ocean Governance Studies (OGS), to help beneficiary States gain strategic insights into their legal and institutional frameworks relating to ocean affairs and the law of the sea and related capacity-building needs.
- Technical Assistance, to facilitate beneficiary States implement key actionable findings of their ocean governance studies.

This report was produced under the third project activity. The facilitation of an OGS assists States in the identification of their key national ocean governance frameworks; in enhancing their implementation of the Convention and related Agreements, as well as the 2030 Agenda for Sustainable Development and its Sustainable Development Goals; and in developing effective policies for relevant ocean sectors, including in strengthening their blue economy strategies.

The OGS provide a high-level overview of the beneficiary State's legal and institutional frameworks on ocean affairs and the law of the sea, including in priority sectors identified by the beneficiary State, as well as a prioritized inventory of capacity-building needs. Gender and oceans, as well as the blue economy, are the two cross-cutting issues addressed in the studies.

Where possible, the OGS are conducted by consultants from the beneficiary State or the region. The project also seeks to involve early career ocean academics or professionals to build capacity of local researchers. The work of the consultants, including ensuring broad national stakeholder engagement, is facilitated by beneficiary State National Focal Points. They also enable the State's review of the work undertaken by the consultants and its dissemination once complete.

Participation in an OGS is open to States included on the list of countries eligible for official development assistance maintained by the Development Assistance Committee of the Organisation for Economic Co-operation and Development.

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Acronyms and Abbreviations

ABDF	Antigua and Barbuda Defence Force	HS	High Seas
ADOMS	Antigua and Barbuda Department of Marine Services and Merchant Shipping	ICZM	Integrated Coastal Zone Management
AOSIS	Alliance of Small Island States	ILO	International Labour Organisation
APUA	Antigua Public Utilities Authority	IMO	International Maritime Organization
AW	Archipelagic Waters	IRENA	International Renewable Energy Agency
BBNJ	Biological Diversity Beyond National Jurisdiction	ISA	International Seabed Authority
CAHFSA	Caribbean Agricultural Health and Food Safety Agency	ISPS	International Ship and Port Facility Security
CARICOM	Caribbean Community	ITLOS	International Tribunal for the Law of the Sea
CCREEE	Caribbean Centre for Renewable Energy and Energy Efficiency	IUU	Illegal, Unreported and Unregulated Fishing
CITES	Convention on International Trade In Endangered Species of Wild Fauna and Flora	IW	Internal Waters
CBD	Convention on Biological Diversity	IWC	International Whaling Commission
CRFM	Caribbean Regional Fisheries Mechanism	MPA	Marine Protected Area
CS	Continental Shelf	MRE	Marine Renewable Energy
CZ	Contiguous Zone	NEP	National Energy Policy
DCA	Development Control Authority	NOGC	National Ocean Governance Committee
DOALOS	United Nations Division for Ocean Affairs and the Law of the Sea	OECS	Organisation of Eastern Caribbean States
DOBE	Department of the Blue Economy	OGS	Ocean Governance Studies
DOE	Department of Environment	ONDCP	Office of National Drug and Money Laundering Control Policy
DOF	Department of Fisheries	OSPESCA	Organisation of the Fisheries and Aquaculture Sector of the Central American Isthmus
DOGA	Directorate of Gender Affairs	SDG	Sustainable Development Goal
ESS	Environmental and Social Safeguards	SEAP	Sustainable Energy Action Plan
EEZ	Exclusive Economic Zone	SIDS	Small Island Developing States
EIA	Environmental Impact Assessment	SIRF	Sustainable Island Resources Framework Fund
EIMAS	Environmental Information Management and Advisory System	SIRMZP	Sustainable Island Resource Management and Zoning Plan
FAO	Food and Agriculture Organization of the United Nations	SOLAS	Convention for the Safety of Life At Sea
FZ	Fisheries Zone	TAPSEC	Technical Assistance Programme for Sustainable Energy In the Caribbean
GBV	Gender-Based Violence	TS	Territorial Sea
GDP	Gross Domestic Product	UN	United Nations
GIFT	Gender In Fisheries Team	UNCLOS	United Nations Convention on the Law Of the Sea
GIS	Geographic Information Systems	UNESCO	United Nations Educational, Scientific and Cultural Organization
		WOA II	Second World Ocean Assessment

I. Executive Summary

Antigua and Barbuda is an archipelagic State with two main inhabited islands located on the eastern edge of the Caribbean Sea. It has extensive maritime space. Its exclusive economic zone (EEZ) and continental shelf (CS) project uninterrupted into the Atlantic Ocean, allowing for the establishment of both maritime zones in accordance with the United Nations Convention on the Law of the Sea (UNCLOS). Consequently, its economy is fundamentally tied to the ocean, a point recognised in creating a Department of the Blue Economy in the Ministry of Social Transformation and the Blue Economy, which has implications for the National Ocean Governance Framework.

The present report analyses the country's legal and institutional frameworks to strengthen Antigua and Barbuda's system of ocean governance and its ability to utilise its ocean resources sustainably. Three priority sectors - mariculture, ocean renewable energy, and ocean mining - identified by Antigua and Barbuda for this project are briefly highlighted as are two cross-cutting issues – the blue economy and gender and the ocean. The final section of the report offers conclusions, observations, and a prioritised inventory of capacity-building needs.

Antigua and Barbuda is a party to many international agreements relevant to ocean governance and the protection and preservation of the marine environment and has a strong national legislative framework to implement these international obligations. It has established the breadths of its maritime zones to the maximum limits as provided in UNCLOS,¹ and it has put in place a fisheries management system, an environmental regulatory framework, and a regulatory regime for shipping and ports. The three priority sectors subject to the specific focus of this report are on the early stages of development in Antigua and Barbuda. The second cross-cutting area, gender equality in ocean-related sectors, is receiving increasing attention.

Some observations are made in the report regarding legislative or institutional frameworks, as seen below. The primary observation is in relation to coordination and harmonisation. As is evident from the sections related to the environment, gender, and the blue economy, these wide-ranging topics require active coordination and cooperation between several ministries, units, and other entities. Clear lines of authority and continuous monitoring and evaluation systems are required. Gaps between the mandates of ministries, such as the Ministry of Social Transformation and the Blue Economy, and other bodies, frameworks, or committees, including the National Ocean Governance Committee (NOGC), should be filled. The traditional sectoral approach to governance is not nimble or effective enough to manage the numerous, interdependent issues of ocean governance.

Regarding capacity-building needs, Antigua and Barbuda would benefit from additional legislative drafting resources, training, and funding. These resources could be employed to review and amend national statutes and regulations to expressly cover all areas related to ocean governance to the full extent required by international instruments. For example, express regulation of offshore activities needs to be included in existing statutes (including mariculture and ocean mining) or introduced by new statutes specific to a particular area (ocean renewable energy). In addition, Antigua and Barbuda would benefit from additional resources to help map and rationalise the authority allocations between different government ministries and units across all ocean sectors, particularly the marine environment and blue economy.

¹ Note that the Commission on the Limits of the Continental Shelf has not considered a submission by Antigua and Barbuda: DOALOS, "Submissions, through the Secretary-General of the United Nations, to the Commission on the Limits of the Continental Shelf, pursuant to article 76, paragraph 8, of the United Nations Convention on the Law of the Sea of 10 December 1982", available at www.un.org/depts/los/clcs_new/commission_submissions.htm. Accessed on 27 October 2021.

II. Introduction

Antigua and Barbuda is an archipelagic State with two main inhabited islands located on the eastern edges of the Caribbean Sea with approximately 440 square km of land territory and an extensive maritime domain (map 1). Due to the unimpeded nature of its eastward projection into the Atlantic Ocean, Antigua and Barbuda has a large exclusive economic zone and an extensive geographical continental shelf.

Map 1. Antigua and Barbuda Physical Map



Source: Worldometer 2021²

2 www.worldometers.info/maps/antigua-and-barbuda-map/



Photo provided by the Antigua and Barbuda Government, © BlueOrange Studio/Shutterstock in association with Sandals.

Antigua and Barbuda is a member of the Organisation of Eastern Caribbean States (OECS) and the Caribbean Community (CARICOM) and is a party to a wide range of treaties, including those related to ocean governance and the environment. It is classified as a semi-arid country and includes several small near-shore islands (map 1), and the uninhabited island of Redonda (located 40 km southwest of Antigua and measuring 1.3 km²). The islands are the emergent parts of the Barbuda bank, which is one of the largest submarine platforms in the Eastern Caribbean (spanning 3,400 km²) with water depths ranging from 27 to 33 m (Antigua and Barbuda, 2012a).

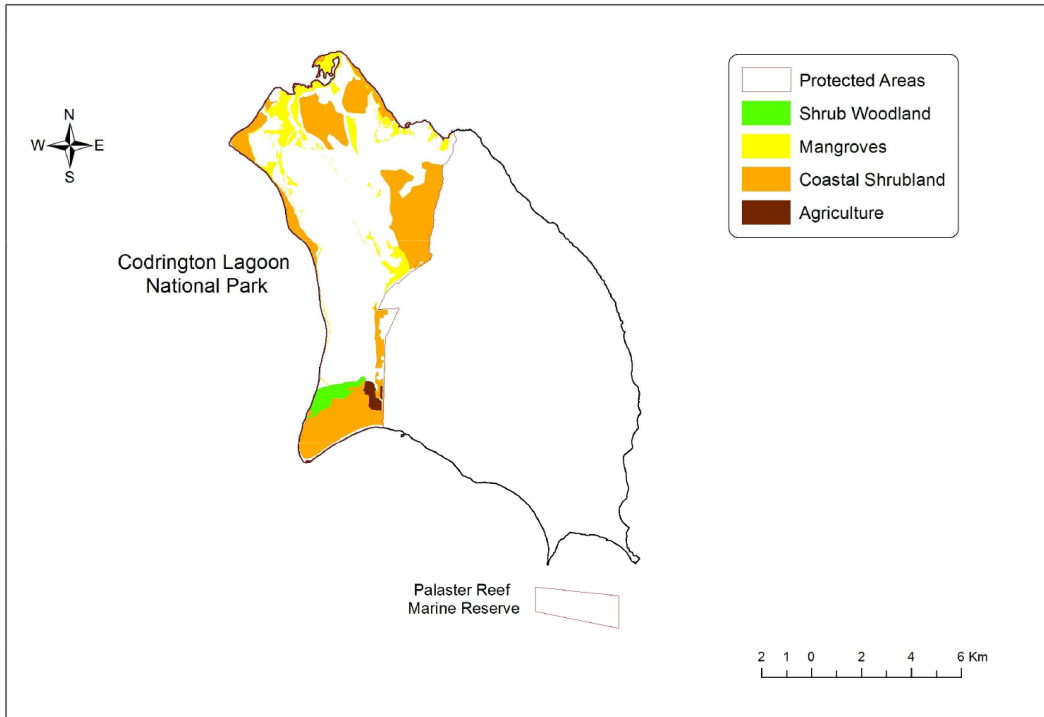
The economy of Antigua and Barbuda is fundamentally linked to the oceans and the marine environment; the blue economy portion of the report (sect. 6.1) discusses this matter. It means that ocean governance will remain a critical topic for the country for the foreseeable future.

Small Island Developing States (SIDS) like Antigua and Barbuda face a unique set of economic vulnerabilities, including, for example, small size, remoteness from markets and a narrow resource base. Although SIDS are among the least responsible for climate change, they are particularly vulnerable to its effects. Furthermore, the cumulative impact of climate change on SIDS, coupled with the increase in the cost of oil and imports are exhausting Antigua and Barbuda's national capital at an astounding rate (Antigua and Barbuda, 2020e). Therefore, it is increasingly important for Antigua and Barbuda to diversify its resource portfolio and to pursue domestic renewable energy sources.

The Government of Antigua and Barbuda understands the need to diversify its economy and protect its environment and resources by shifting to sustainable development practices. Accordingly, it has set forth priorities and actions to reduce vulnerabilities, pursue sustainable economic development, enhance economic resilience, improve socioeconomic standards, and create opportunities for climate change adaptation. As part of that process Antigua and Barbuda has established marine protected areas (map 2).

Map 2. Antigua and Barbuda Protected Areas Maps

Protected Areas of Barbuda showing Vegetation Cover



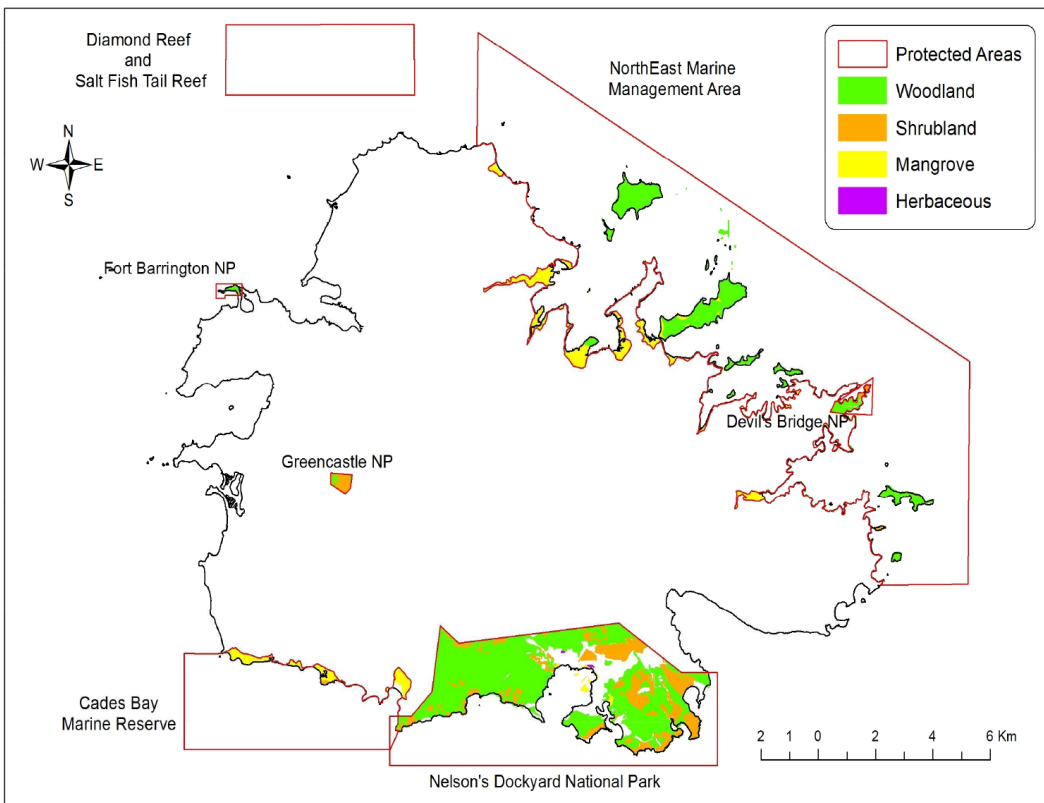
Data Sourced from the Environmental Information Management and Advisory System developed by the Sustainable Island Resource Management Mechanism Project in Antigua and Barbuda. Data originally obtained from digitizing 2004 aerial photos and expert knowledge of the area. Original data set was modified (explanations follow in document).

Data to be used in the Antigua and Barbuda Systems Plan for Protected Areas.

Map published by the Environment Division, Ministry of Agriculture, Lands, Housing and the Environment.

20th March, 2012

Protected Areas of Antigua showing Vegetation Cover



Data Sourced from the Environmental Information Management and Advisory System developed by the Sustainable Island Resource Management Mechanism Project in Antigua and Barbuda. Data originally obtained from digitizing 2004 aerial photos and expert knowledge of the area. Original data set was modified (explanations follow in document).

Data to be used in the Antigua and Barbuda Systems Plan for Protected Areas.

Map published by the Environment Division, Ministry of Agriculture, Lands, Housing and the Environment.

2nd March, 2012

Source: Antigua and Barbuda, 2012a

As a cross-cutting aspect of ocean governance implementation, it will be important for Antigua and Barbuda to address operational mandates and capacities, and coordinate and cooperate at all levels in the reinforcement and development of ocean governance framework.

The report aims to provide a national-level inventory and analyses of legal and institutional frameworks of Antigua and Barbuda for ocean governance and its implementation of UNCLOS and related instruments by:

- Providing a high-level overview of the legal and institutional framework of Antigua and Barbuda for oceans.
- Promoting integrated ocean management by enhancing the awareness within Antigua and Barbuda regarding its overall legal and institutional framework for oceans, including potential linkages, overlaps and gaps.
- Facilitating the analysis of the compatibility of the national legal and institutional framework with the core requirements under UNCLOS and related applicable international instruments.
- Assisting Antigua and Barbuda in the identification and prioritisation of capacity gaps in the development and implementation of frameworks for oceans.
- Providing a knowledge base of the national legal and institutional frameworks for oceans, including within the three priority sectors identified by the Government of Antigua and Barbuda (mariculture, marine renewable energy, and seabed mining).

2.1 Methodology

This report was produced following several months of desk work combined with a written survey instrument. Follow-up consultations and interviews were undertaken through email, telephone, and online meetings. No country visit was possible given the impact of the coronavirus disease 2019 (COVID-19) on international travel.

The survey relied upon a series of 30 open-ended questions, grouped under the four categories: Legal Framework, Institutional Framework, Capacity Needs and Stakeholder Identification. DOALOS and the Government of Antigua and Barbuda reviewed the report.

2.2 National legal sources

The statutes, regulations, subsidiary instruments and orders of Antigua and Barbuda considered in the present report have been checked against the University of West Indies Faculty of Law Library's Antigua and Barbuda Consolidated Index of Statutes and Subsidiary Legislation to 1 January 2017 (UWI, 2017). They have also been checked against the legal instruments available on both the official Antigua and Barbuda's Ministry of Legal Affairs, 'Laws of Antigua and Barbuda' website and the FAOLEX database (Antigua and Barbuda, 2021c; FAO, 2021a). Any other amendments or updates not available in those sources, or not specifically provided by the Government of Antigua and Barbuda, have not been considered.

III. UNCLOS and Other Ocean-Related International Instruments

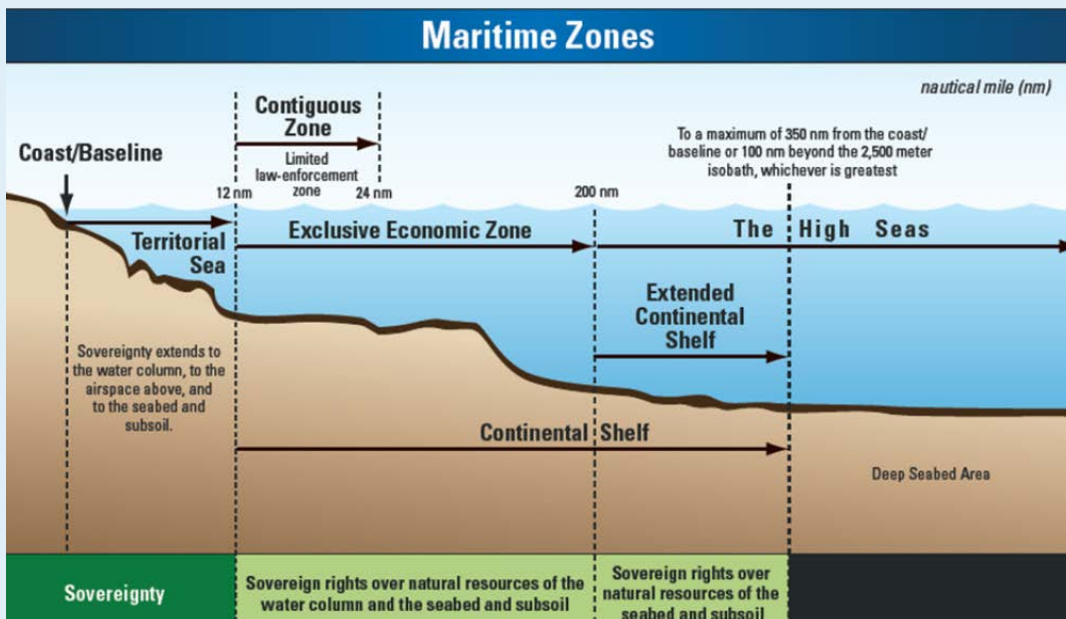
3.1 Introduction to UNCLOS

The 1982 United Nations Convention on the Law of the Sea (UNCLOS) sets out the legal framework within which all oceans and sea activities must be carried out (UN, 1982). An immense treaty, UNCLOS both codifies and progressively develops the law of the sea.

Two subsequent implementing agreements support UNCLOS, the 1994 Agreement relating to the implementation of part XI of the United Nations Convention on the Law of the Sea of 10 December 1982 (UN,1994a) and the 1995 Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (UN, 1995). Currently, negotiations are ongoing on an international legally binding instrument under UNCLOS on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction (BBNJ) (UN, 2020).

UNCLOS sets out the broad framework for ocean governance by allocating different levels of jurisdiction or competence on ocean matters to States, based on maritime zones, marine resources, and marine-related activities. Concerning maritime zones within its national jurisdiction, the coastal State enjoys more extensive rights and jurisdiction in maritime zones closer to its baselines. Figure 1 visually illustrates the main UNCLOS zones.

Figure 1. UNCLOS Maritime Zones



Source: Bohan, 2021

Figure 1 depicts the maritime zones recognized under UNCLOS, including those within which coastal States enjoy sovereignty or sovereign rights. The following section provides an overview of the maritime zones relevant to Antigua and Barbuda's Ocean governance.

3.2 UNCLOS regimes and Antigua and Barbuda

UNCLOS provides for maritime zones and creates rights and obligations. Antigua and Barbuda is a party to such an instrument. Accordingly, UNCLOS prescribes the maritime domain and the rights and obligations the country has within that domain. Therefore, the Government requires adequate legal and institutional frameworks and the capacity to take advantage of its maritime domain and fulfil its Convention obligations.

Under UNCLOS, Antigua and Barbuda is entitled to the following maritime zones: internal waters, archipelagic waters, territorial sea, contiguous zone, exclusive economic zone, and continental shelf. Antigua and Barbuda also has the right to determine baselines and archipelagic baselines pursuant to the Convention. Further, it may exercise its jurisdiction and control over vessels flying its flag on the high seas.

The following discussion briefly explains the regime created by UNCLOS and it refers to its specific articles as appropriate.³ It also identifies the sections of the Antigua and Barbuda Maritime Areas Act, 1982, which establish maritime zones in national law under UNCLOS.

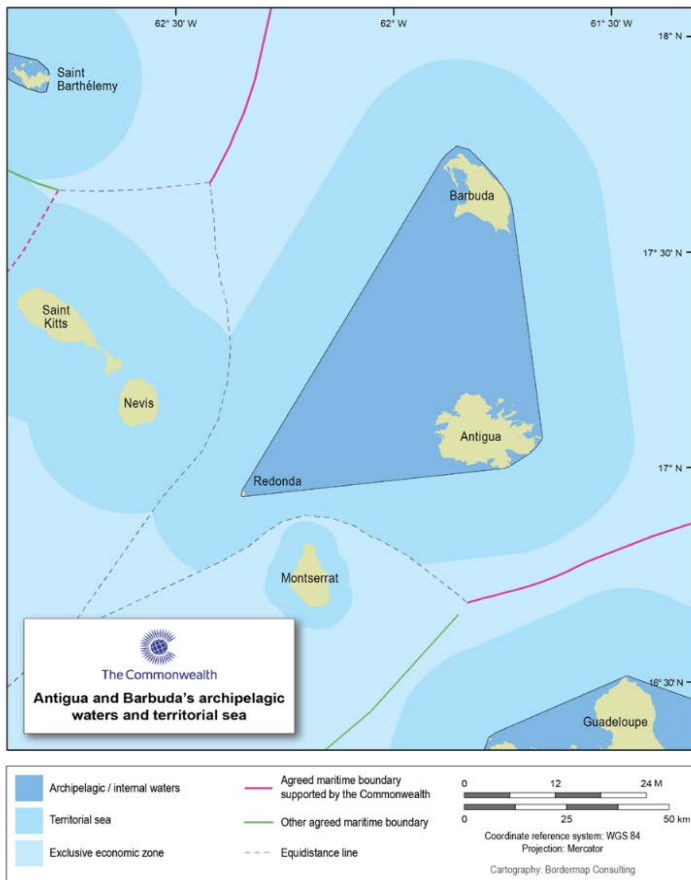
Pursuant to article 8 of UNCLOS, a coastal State enjoys sovereignty over its internal waters (IW), waters on the landward side of the baselines. Antigua and Barbuda enjoys sovereignty over its internal waters, the airspace above them, seabed and subsoil (regardless of depth), and natural resources, subject to UNCLOS and other rules of international law, can exercise civil and criminal jurisdiction in its IW. Section 3 of the Antigua and Barbuda Maritime Areas Act describes the country's internal waters as areas of the sea on the landward side of either the low water mark, or closing lines as prescribed by the Minister.⁴ Section 6 describes baselines as straight archipelagic baselines.⁵

Under UNCLOS, special rules apply to archipelagic States. The archipelagic States comprise groups of islands which are "so closely interrelated that such islands, waters and other natural features form an intrinsic geographical, economic and political entity, or which historically have been regarded as such" (art. 46(b)). Furthermore, they are permitted to draw archipelagic baselines (art. 47) from which the breadth of their maritime zones will be measured (art. 48) and enjoy sovereignty over archipelagic waters (AW): the waters enclosed by archipelagic baselines (art. 49). The AW subject to UNCLOS and other international law rules, fall under the sovereignty of the archipelagic State. This sovereignty extends to the AW, airspace above them, seabed, and subsoil (regardless of depth), and natural resources (art. 49). Within AW, ships may exercise rights of innocent passage (art.52) and archipelagic sea lanes passage (art. 53). Through its Maritime Areas Act, 1982, Antigua and Barbuda has established straight archipelagic baselines (sect. 6) and AW (sect.4). It asserts sovereignty over AW, including "the airspace over the bed and subsoil" (sect. 12(b)), and recognizes the right of innocent passage in AW (sect. 18(1)). However, section 18(2) specifies that foreign warships "shall not navigate in archipelagic waters and the territorial sea without the prior permission of the Competent Authority obtained by the State to which the ship belongs", and section 19 defines non-innocent passage. The Act provides for archipelagic sea lanes (sect. 21). Antigua and Barbuda's archipelagic baselines are illustrated in map 3, and the extent of its exclusive economic zone is on the map 4.

³ All references to treaty articles in this section are to the provisions of UNCLOS, and references to statutory sections are to the Antigua and Barbuda Maritime Areas Act, 1982, unless otherwise indicated.

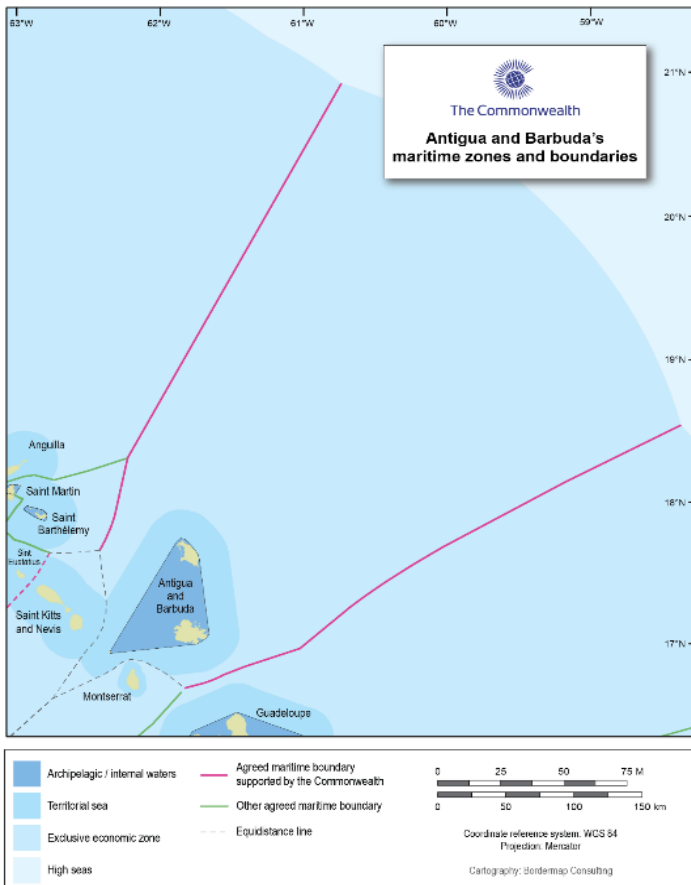
⁴ Closing lines are prescribed by the Maritime Areas (Closing Lines-Internal Waters) Order, 1986: Antigua and Barbuda, 'Maritime Areas (Closing Lines – Internal Waters) Order, 1986 (S.I. No. 49 of 1986).

⁵ Archipelagic baselines are prescribed by the List of Geographical Co-ordinates showing the Archipelagic Baselines of Antigua and Barbuda, 1986.



Map 3. Antigua and Barbuda Archipelagic Waters and Territorial Sea Map

Source: Antigua and Barbuda Maritime Boundary Delimitation Committee, 2022



Map 4: Antigua and Barbuda Maritime Zones and Boundaries

Source: Antigua and Barbuda Maritime Boundary Delimitation Committee, 2022

As a result, subject to UNCLOS and other rules of international law, Antigua and Barbuda has sovereignty over its natural resources in its internal and archipelagic waters. Accordingly, it may be required to permit pre-existing arrangements, such as those related to traditional fishing rights or submarine cables (art. 51). In addition, the same restrictions that apply to foreign vessels in the territorial sea (TS) would apply to foreign ones engaged in innocent passage or archipelagic sea lanes passage in archipelagic waters.

Subject to UNCLOS and other rules of international law, Antigua and Barbuda has sovereignty over its TS, which extends to the airspace above it, bed and subsoil (art. 2). The TS extends from the coastal State's baselines seaward up to 12 nautical miles (art. 3). Antigua and Barbuda has claimed a 12 nautical miles territorial waters in section 5 of the Act and exercises sovereignty over the airspace, the seabed and subsoil of the territorial sea (regardless of depth) (sect. 12). The proximity of two neighbouring territories – Nevis and Montserrat – potentially limit the breadth of Antigua and Barbuda's territorial sea in its western and southern sectors (map 4).

Within its territorial sea, Antigua and Barbuda must permit innocent passage by foreign vessels; passage to and from its ports, or through its TS (arts. 18-19). It is empowered to prevent non-innocent passage (art. 25) and can exercise criminal jurisdiction for certain illegal acts, including illicit traffic in narcotics or psychotropic substances (art. 27). Antigua and Barbuda may enact rules relating to innocent passage, *inter alia*, to protect its environment, including its fisheries, and to prevent vessels from extracting natural resources or engaging in marine scientific research or hydrographic surveys without express permission (art. 21). In the Act, Antigua and Barbuda provides for innocent passage (sect. 18) and defines non-innocent passage (sect. 19). As noted earlier, section 18 (2) states that foreign warships require prior permission from Antigua and Barbuda to navigate in archipelagic waters and the territorial sea. Under section 30, Antigua and Barbuda provides for powers of arrest and detention in some cases where offences are committed on board a foreign ship (being a merchant ship or a government ship operated for commercial purposes) during its passage through the territorial sea. Section 31 generally excludes civil jurisdiction about a person on board a vessel passing through the territorial sea.

Compared to the territorial sea, more limited jurisdiction is granted over the contiguous zone (CZ), which extends from the outer limit of the territorial sea to up to 24 nautical miles from the baselines (art. 33). Antigua and Barbuda may exercise control in the CZ necessary to prevent and punish violations of its customs, fiscal, immigration or sanitary laws and regulations within its territory or territorial sea (art. 33). The contiguous zone and exclusive economic zone (EEZ) overlap. Both zones start at the edge of the TS, therefore, the rules of the EEZ also apply to the contiguous zone. Under the Act, Antigua and Barbuda establishes a CZ beyond and adjacent to its territorial sea, to 24 nautical miles seaward of its baselines (sect. 7(1)). It asserts in the contiguous zone that "such sovereign rights as Antigua and Barbuda deems necessary to prevent, or punish the infringement, within Antigua and Barbuda (including the archipelagic waters and the territorial sea), of any enactment providing controls or prohibitions for or with respect to customs, excise, immigration or sanitation" (sect. 7(3)).

Antigua and Barbuda enjoys sovereign rights in the exclusive economic zone to explore, exploit, conserve and manage natural resources about certain economic activities (art. 56). It also enjoys jurisdiction over the establishment and use of artificial islands, installations and structures, marine scientific research, and protecting and preserving the marine environment. The exclusive economic zone extends from the outer limits of the TS to up to 200 nautical miles from the coastal State's baselines (arts. 55 and 57). Section 10 of the Act establishes Antigua and Barbuda's EEZ, which is beyond and adjacent to the territorial sea. It extends seaward from the baselines to 200 nautical miles, or "such other lesser distance from the nearest point of

the baselines as the Minister by order prescribes.”⁶ Section 13 provides for the State’s sovereign rights, jurisdiction and “such other rights and duties for which provision is made in international law” in the EEZ.

Under UNCLOS and other rules of international law the coastal State’s continental shelf (CS) comprises both the seabed and subsoil (art. 76). The CS may extend at least 200 nautical miles from the baselines, and beyond 200 nautical miles in certain circumstances, where the continental margin extends further seawards (art. 76). According to the article 77, the coastal State has exclusive sovereign rights to explore and exploit its natural resources on the CS, including mineral and other non-living resources and living organisms belonging to sedentary species. The status of the waters and airspace above this area, however, is unaffected by the continental shelf regime (art. 78).

The above means, for example, that waters above a CS falling within the EEZ are subject to the exclusive economic zone regime. Under section 8(1) of the Maritime Areas Act, 1982, “the continental shelf of Antigua and Barbuda comprises those areas of the seabed and subsoil of the submarine areas that are beyond and adjacent to the territorial sea throughout the natural prolongation of the land territory of Antigua and Barbuda to the outer edge of the continental margin, or to a distance of two hundred nautical miles from the nearest point of the baselines when the outer edge of the continental margin does not extend up to that distance.”

Section 8(3) specifies that the CS consists of the “seabed and subsoil of the shelf, the slope and the rise, but does not include the deep ocean floor with its oceanic ridge or the subsoil thereof.”⁷ Section 9 provides for delimitation of the CS in cases where the equidistance line between Antigua and Barbuda and a foreign State is less than 200 nautical miles. Section 15 provides for sovereign rights and jurisdiction in respect of the CS. Freedom of navigation, overflight, laying submarine cables and pipelines and other related activities on or within the CS or EEZ are recognised in section 16 of the Act.

Waters falling outside the EEZ, in the high seas (HS), are governed by its regime. The HS includes all parts of the sea not falling within the internal waters, territorial sea, exclusive economic zone, or archipelagic waters (art. 86). On the HS, all States, subject to conditions laid down by UNCLOS and other rules of international law, may exercise freedom of the high seas, including freedom of navigation, freedom of overflight, freedom to lay submarine cables and pipelines, freedom to construct artificial islands and other installations permitted under international law, freedom of fishing, and freedom of scientific research (art. 87). These freedoms shall be exercised with due regard for the interests of other States in their exercise of the freedom of the high seas, and rights under UNCLOS with respect to activities in the Area (art. 87). Jurisdiction over ships on the HS is exercised by their flag States/States of nationality (arts. 91 and 92). Other States have very limited authority over foreign vessels on the high seas (arts. 97, 99-110). The HS are not subject to coastal State sovereignty (art. 89). On the HS all States have the duty to take, or to cooperate with other States in taking, such measures for their respective nationals as may be necessary for the conservation and management of the living resources of the high seas (arts. 117-120). This duty extends to cooperating to establish subregional or regional fisheries organizations, as appropriate (art. 118).

The seabed, ocean floor and subsoil beyond the limits of national jurisdiction are called the Area (art.1(1)). The Area and its resources are the common heritage of humankind (art. 136) and cannot be subject to appropriation or claims of sovereignty (art. 137). The rights and obligations of States in the Area are set

⁶ Section 2 of the Maritime Areas Act, 1982, defines Minister as meaning “the Minister responsible for External affairs”, namely, the Minister of Foreign Affairs, International Trade, and Immigration. CAP 260.

⁷ Section 3 of the Antigua and Barbuda Beach Control Act, 1959, declares the “floor of the sea” which is defined to include the “soil and subsoil of the sea” within the territorial sea to be vested in the Crown. As a result, persons are not allowed to encroach upon or use the foreshore or floor of the sea without a licence granted under the Act, and are liable on summary conviction, to imprisonment or a fine for breaching the Act (sect. 4). Some exemptions are provided for rights related to, or uses of, the beach or foreshore existing prior to the commencement of the Act, including by fishers (sect.10). Antigua and Barbuda, 1959.



Photo: iStockPhoto

out in part XI of UNCLOS as modified by the 1994 Agreement relating to the implementation of part XI of the United Nations Convention on the Law of the Sea of 10 December 1982 (UN, 1994a). The International Seabed Authority, established under UNCLOS and the 1994 Agreement, is the organization through which States Parties to UNCLOS organize and control activities in the Area, particularly with a view to administering the resources of the Area (art.157).

Part IX of UNCLOS, governing enclosed or semi-enclosed seas, requires States bordering such seas to endeavour directly or through an appropriate regional organisation to, *inter alia*, “coordinate the management, conservation, exploration and exploitation of the living resources of the sea [and] coordinate the implementation of their rights and duties with respect to the protection and preservation of the marine environment” (art. 123(a)-(b)). Antigua and Barbuda borders the Caribbean Sea, which is a semi-enclosed sea, and implements its obligations under part IX of UNCLOS through cooperation with other States in the region, including through regional mechanisms on fisheries management (sect. 3.4.1 of this report).

Part XII sets out a regime for the protection and preservation of the marine environment by, *inter alia*, seeking to prevent, reduce and control pollution of the marine environment (art. 194 and sect. 5) and the introduction of alien or new species to the marine environment (art. 196). Antigua and Barbuda’s Environmental Protection and Management Act, 2019 (Antigua and Barbuda, 2019d), implements these obligations. Section 2 of UNCLOS part XII requires cooperation at the global and/or regional level, and section 3 provides for scientific and technical assistance to developing States. Section 4 provides for monitoring and environmental assessment and section 6 for enforcement, including by flag States and port States (arts. 217-219). Section 7 requires safeguards.

Part XIII sets out rights, obligations, and general principles with respect to marine scientific research. Section 2 of part XIII promotes international cooperation for marine scientific research, section 3 provides for the conduct and promotion of marine scientific research, and section 4 deals with scientific research installations or equipment in the marine environment. Sections 5 and 6 deal with the responsibility of States and competent international organisations, and the settlement of disputes regarding marine scientific research, respectively. Antigua and Barbuda’s Environmental Protection and Management Act, 2019 regulates scientific research, including research on genetic resources; these provisions apply to marine scientific research.⁸

⁸ In relation with part XXI and XIII see further section 4.1.4 Environmental Protection and Management.

Part XIV of UNCLOS promotes the development and transfer of marine technology, including through international cooperation, and among international organisations (sects. 2 and 4, respectively). The establishment or strengthening, particularly in developing coastal States, of national and regional marine scientific and technological research centres (sect. 3). Development and transfer of marine technology is particularly important for SIDS. Antigua and Barbuda participates in regional mechanisms that aim to assist members in building capacity on marine science and technology, including the Sub-Commission for the Caribbean and Adjacent Regions and the Maritime Technology Cooperation Centre Caribbean.

Part XV provides for dispute settlement, which must be by peaceful means (art. 279). States are free to settle disputes by peaceful means of their own choice (art. 280), subject to their obligations under general, regional, or bilateral agreement (art. 282) and the obligation to exchange views (art. 283). If no settlement has been reached by recourse to a peaceful means chosen by the parties to the dispute, and their agreement does not exclude any further procedure, in that case the dispute may be settled by the procedures provided in part XV, including conciliation (art. 284) and compulsory procedures entailing binding decisions (sect. 2, arts.286-296). Article 287(1) allows States to choose at any time, by means of a written declaration, one or more of the following means for the settlement of disputes: the International Tribunal for the Law of the Sea, the International Court of Justice, an annex VII arbitral tribunal, or a special arbitral tribunal constituted in accordance with annex VIII (art. 287(1)). Article 298(1) allows States to declare that they exclude the application of the compulsory procedures entailing binding decisions for the settlement of disputes in respect of certain specified categories of disputes. Antigua and Barbuda has not made any declarations or reservations in relation to these UNCLOS dispute settlement provisions (UN, 2022). Section 3 of part XV provides for limitations and exceptions to the applicability of section 2.

3.3 Antigua and Barbuda's participation in UNCLOS and its implementing agreements

Antigua and Barbuda signed the UNCLOS on 7 February 1983 and ratified it on 2 February 1989. It is likewise party to the first implementing agreement, the 1994 Agreement relating to the implementation of part XI of UNCLOS, acceding to it on May 3, 2016.

Antigua and Barbuda is not a party to the second implementing agreement, the 1995 United Nations Fish Stocks Agreement.⁹ The country has been actively participating in the ongoing Biological Diversity Beyond National Jurisdiction Agreement (BBNJ Agreement) negotiations (UN, 2020).

With respect to the non-ratification of the 1995 United Nations Fish Stocks Agreement, it should be noted that Antigua and Barbuda is one of the participating States in the Lesser Antilles Pelagic Ecosystem Project, which has produced data indicating that country fishers catch dolphinfish, large and regional pelagics. Some large pelagics are shared, highly migratory, or straddling stocks, therefore, as noted by the FAO, "some form of international cooperation is required for their management" (FAO, 2021b). The country has recognised the potential value of these large pelagics to its capture fishery and sport fishing or recreational fishery (Antigua and Barbuda, 2015d).

⁹ Status as available at United Nations Treaty Collection. Available at treaties.un.org/Pages/Home.aspx?clang=_en. Accessed on 21 September 21. Antigua and Barbuda is not a party to any of the five 1958 Geneva treaties: Convention on the Territorial Sea and the Contiguous Zone, Convention on the High Seas, Convention on Fishing and Conservation of the Living Resources of the High Seas, Convention on the Continental Shelf, and Optional Protocol of Signature concerning the Compulsory Settlement of Disputes. However, since these treaties have been superseded by later treaties, no recommendation is made for Antigua and Barbuda to ratify them.

Antigua and Barbuda had meant to implement the obligations of the 1995 United Nations Fish Stocks Agreement through a draft High Seas Act and Regulations; still, it has not done so at this time (Antigua and Barbuda, 2010).¹⁰ The FAO Caribbean Fisheries Legal and Institutional Study notes that “there is currently a draft High Seas Fishing Act and Regulations awaiting approval that incorporate the general obligations in the Compliance Agreement and the UN Fish Stocks Agreement [but that in] the absence of the legislative framework for management, it is the policy of the Government of Antigua and Barbuda not to flag foreign fishing vessels” (FAO, 2016, p 46).

Antigua and Barbuda is already obliged to conserve and manage straddling fish stocks and highly migratory fish stocks under the agreements establishing the Caribbean Regional Fisheries Mechanism (CRFM) and the Caribbean Community Common Fisheries Policy (CARICOM, 2002; CRFM 2020). Since the 1995 United Nations Fish Stocks Agreement provides a framework for international cooperation in the conservation and management of straddling and highly migratory fish stocks, and the Government

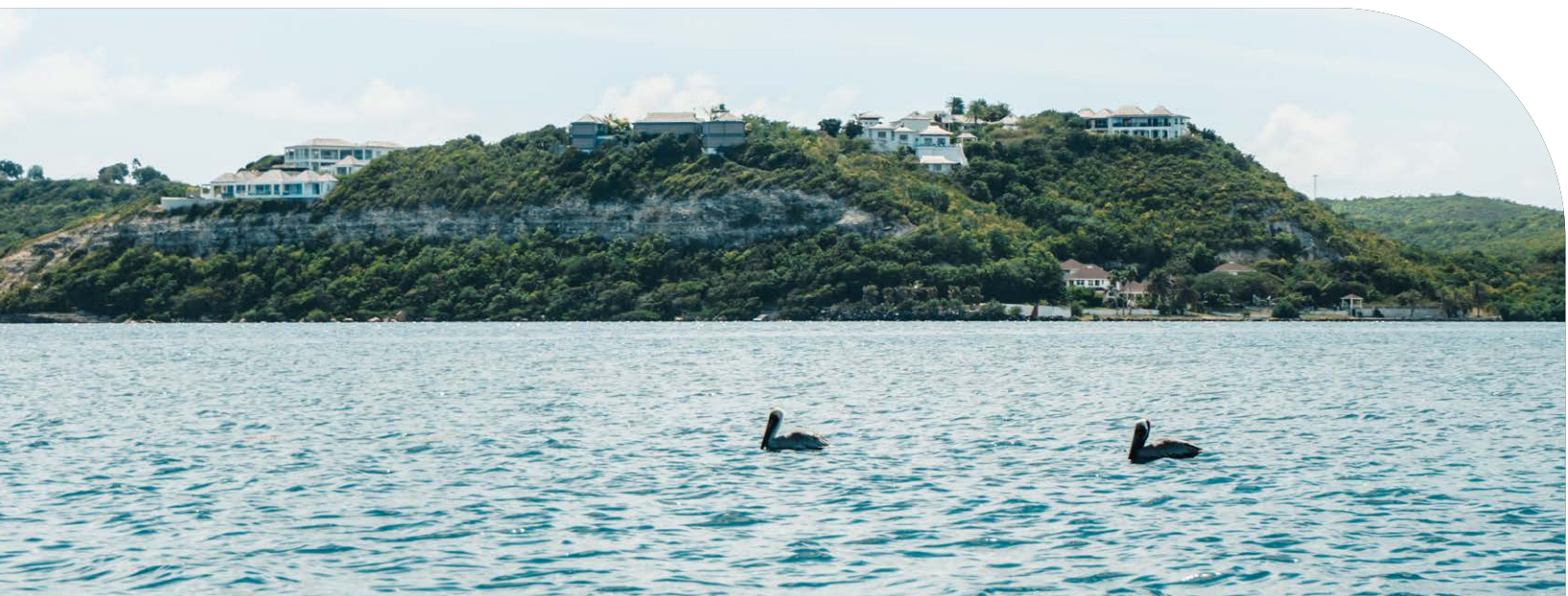
is intending to legislate its obligations, Antigua and Barbuda may consider ratifying the 1995 United Nations Fish Stocks Agreement. By ratifying this Agreement, Antigua and Barbuda would be able to fulfil its duties more effectively regarding conservation and management of the living resources of the high seas, and the protection and preservation of the marine environment, as set out under part VII of UNCLOS.

Antigua and Barbuda has been active in the ongoing negotiations towards an international legally binding instrument under UNCLOS on BBNJ Agreement.¹¹ The elements under this negotiation in the BBNJ package include marine genetic resources, questions on the sharing of benefits, measures such as area-based management tools, marine protected areas, environmental impact assessments, capacity-building and the transfer of marine technology (UNGA, 2015). This international legally binding instrument, could potentially provide an important platform for Antigua and Barbuda to join international efforts for the conservation and sustainable use of the marine biological diversity of areas beyond national jurisdiction, to participate in its envisaged frameworks for benefit-sharing, capacity-building, and the transfer of marine technology and to fulfil its duties more effectively regarding the protection and preservation of the marine environment as set out under part XII of UNCLOS.

10 Confirmation was received that as of 30 November 2021, the High Seas Fishing Act and Regulations have not yet been enacted. However, drafts of the statute and regulation have been completed. Still, they have not been brought into force because of, *inter alia*, the lack of appropriate frameworks and infrastructure required for their effective implementation. Private correspondence, The Department of Blue Economy-DOBE.

11 Latest information provided by the secretariat of the BBNJ Intergovernmental Conference (Division for Ocean Affairs and the Law of the Sea) webpage: www.un.org/bbnj accessed on 7 September 2022

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3.4 Other Ocean Governance Instruments to which Antigua and Barbuda is a Party

UNCLOS requires States to give effect to international rules and standards contained in complementary international instruments of binding character established through competent international organizations or diplomatic conferences. Such complementary international instruments need to be implemented by States to fulfil their obligations under the Convention. States are also required to cooperate to conclude new instruments implementing the framework obligations contained in UNCLOS. Antigua and Barbuda is party to a range of such instruments relating to ocean governance and the blue economy listed below by subject area in alphabetical order.

3.4.1 Fisheries management

- Agreement establishing the Caribbean Community Common Fisheries Policy (CARICOM, 2011).
- Agreement establishing the Caribbean Regional Fisheries Mechanism (CARICOM, 2002).
- Agreement establishing common fisheries surveillance zones of participating member States of the Organisation of Eastern Caribbean States (OECS, 1991).
- International Convention for the Regulation of Whaling (UN, 1946).

3.4.2 Maritime criminal jurisdiction

- Agreement between the Government of the United States of America and the Government of Antigua and Barbuda concerning maritime counter-drug operations (United States and Antigua and Barbuda, 1995).
- Exchange of notes constituting an agreement amending the Agreement of 19 April 1995 between the Government of the United States of America and the Government of Antigua and Barbuda concerning maritime counter-drug operations (United States and Antigua and Barbuda, 1996).
- International Convention relating to the Arrest of Seagoing Ships (UN, 1952).
- Protocol between the Government of the United States of America and the Government of Antigua and Barbuda to the Agreement concerning maritime counter-drug operations (United States and Antigua and Barbuda, 2003).

3.4.3 Maritime zones

- Agreement between the Government of the Republic of France and the Government of Antigua and Barbuda on the delimitation of maritime space between the Republic of France and Antigua and Barbuda in the Caribbean region (France and Antigua and Barbuda, 2017).¹²
- Treaty between the Governments of the United Kingdom of Great Britain and Northern Ireland and Antigua and Barbuda establishing a Maritime Boundary between Anguilla and Antigua and Barbuda (Antigua and Barbuda and the United Kingdom, 2021b).

¹² The 2017 Agreement establishes boundaries between Antigua and Barbuda and the Republic of France (Guadeloupe and Saint Barthélemy), ratified by the Delimitation of Maritime Space (Antigua and Barbuda and the Republic of France in the Caribbean Region). Ratification of Agreement (No. 30 of 2017).

3.4.4 Ocean governance institutions

- Agreement for the Establishment of the Commission of Small Island States on Climate Change and International Law (2021).
- Protocol on the Privileges and Immunities of the International Seabed Authority (UN,1998a).

The text of the 2021 Agreement for the Establishment of the Commission of Small Island States on Climate Change and International Law is not yet publicly available as of the preparation of this report. However, the Prime Ministers of Antigua and Barbuda and Tuvalu signed the Agreement on 31 October 2021, to create a Commission to, *inter alia*, open the way for ground-breaking litigation before international courts, offering “a novel legal path to address the severe damage to Small Island States caused by climate change” (Bique-Charles, 2021; Observer, 2021). The Commission is expected to “request advisory opinions from the International Tribunal for the Law of the Sea (ITLOS) on the legal responsibility of States for carbon emissions, marine pollution, and rising sea levels.¹³” Gaston Browne, the Prime Minister of Antigua and Barbuda, within this context has stated: “We will be writing to the International Tribunal on the Law of the Sea to get a final determination on the liability [of larger countries for their role in global warming and its impact on the most vulnerable States] and I am pretty sure by the next [COP]¹⁴ ... we would have made a lot of progress and this matter will become far more significant” (Graham, 2021).

3.4.5 Protection and preservation of the marine environment

- Amendment to Article XXI of the Convention of 3 March 1973 on International Trade in Endangered Species of Wild Fauna and Flora (UN, 1983b).
- Cartagena Protocol on Biosafety to the Convention on Biological Diversity (UN, 2000).
- Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region (UN, 1983a).
- Convention on Biological Diversity (UN, 1992a).
- Convention on the Conservation of Migratory Species of Wild Animals (UN, 1979a).
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (UN, 1973).
- Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (London Convention) (UN,1972a).
- Convention on the Protection of the Underwater Cultural Heritage (UN, 2001a).
- Doha Amendment to the Kyoto Protocol (UN, 2012).
- International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage (IMO, 1971).
- Kyoto Protocol to the United Nations Framework Convention on Climate Change (UN, 1997b).
- Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity (UN,2010).
- Nairobi International Convention on the removal of wrecks (IMO, 2007).

¹³ Bique-Charles, 2021

¹⁴ Conference of the Parties to the United Nations Framework Convention on Climate Change.

- Protocol of 1978 relating to the International Convention for the Prevention of Pollution From Ships, 1973 (IMO, 1978c).¹⁵
- Regional Agreement on Access to Information, Public Participation and Justice in Environmental Matters in Latin America and the Caribbean (UN, 2018b).
- Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (UN, 1998b).
- Stockholm Convention on Persistent Organic Pollutants (UN, 2001b).
- Treaty banning nuclear weapon tests in the atmosphere, in outer space and under water (UN, 1963).
- Treaty on the Prohibition of the Emplacement of Nuclear Weapons and Other Weapons of Mass Destruction on the Seabed and the Ocean Floor and in the Subsoil Thereof (UN, 1971).
- Protocol to the International Convention on Civil Liability for Oil Pollution Damage (IMO, 1976).
- United Nations Framework Convention on Climate Change (UN, 1992b).

3.4.6 Shipping and ports

- Amendments to articles 17, 18, 20 and 51 of the Convention on the International Maritime Organization (UN, 1979b).
- Amendments to the Convention on the International Maritime Organization (UN, 1993).
- Amendments to the Convention on the International Maritime Organization (institutionalization of the Facilitation Committee) (IMO, 1991).
- Convention (No. 108) concerning Seafarers' National Identity Documents (ILO, 1958).
- Convention (No. 114) concerning Fishermen's Articles of Agreement (ILO, 1959).
- Convention and Statute on the International Regime of Maritime Ports (LN, 1923).
- Convention for the Suppression of Unlawful Acts Against the Safety of Maritime Navigation, 1988 (IMO, 1988d) and its 2005 Protocol (IMO, 2005a).
- Convention on Facilitation of International Maritime Traffic, 1965 (IMO, 1965b).
- Convention on the International Maritime Organization, 1948 (IMO, 1948).
- Convention on the International Regulations for Preventing Collisions at Sea, 1972 (IMO, 1972b).
- Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972 (IMO, 1972a), and the 1996 London Protocol (IMO, 1996). International Convention for the Control and Management of Ship's Ballast Water and Sediments (IMO, 2004).
- International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 (IMO, 1978c).
- International Convention for the Safety of Life at Sea, 1974 (IMO, 1974), its Protocol of 1978 (IMO, 1978a) and Protocol of 1988 (IMO, 1988a).
- International Convention on Civil Liability for Bunker Oil Pollution Damage, 2001 (IMO, 2001b).
- International Convention on Civil Liability for Oil Pollution Damage, 1969 (IMO, 1969a) and its Protocol of 1992 (IMO, 1992a).
- International Convention on Load Lines, 1966 (IMO, 1966) and its Protocol of 1988 (IMO, 1988b).
- International Convention on Maritime Search and Rescue, 1979 (IMO, 1979).

¹⁵ Note that, according to the International Maritime Organization (IMO), the 1978 MARPOL Protocol absorbed the parent Convention and the combined instrument entered into force on 2 October 1983. IMO: International Convention for the Prevention of Pollution from Ships (MARPOL) as available at International Convention for the Prevention of Pollution from Ships (MARPOL) (imo.org). Accessed on 28 November 2021.

- International Convention on Oil Pollution Preparedness, Response and Cooperation, 1990 (IMO 1990).
- International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978 (IMO 1978b).
- International Convention on the Control of Harmful Anti-Fouling Systems on Ships, 2001 (IMO, 2001a)
- International Convention on Tonnage Measurement of Ships, 1969 (IMO, 1969b).
- Maritime Labour Convention (ILO, 2006).
- Nairobi International Convention on the Removal of Wrecks (IMO, 2007).
- Protocol of the Convention of 10 March 1988 for the Suppression of Unlawful Acts Against the Safety of Fixed Platforms located on the Continental Shelf (IMO, 1988c) and its 2005 Protocol (IMO, 2005b).

3.4.7 Additional ocean governance instruments to be considered for ratification

Antigua and Barbuda is not a party to other ocean governance treaties, including the Agreement on the Privileges and Immunities of the International Tribunal for the Law of the Sea (ITLOS) (UN, 1997a), the Food and Agriculture Organization of the United Nations (FAO)'s Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing¹⁶ (FAO, 2009b), and the FAO's Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas (FAO, 1993).

The Agreement on the Privileges and Immunities of the International Tribunal for the Law of the Sea recognises the legal personality of the ITLOS. Accordingly, it creates a regime of privileges and immunities for Members of the Tribunal, officials, experts, agents, counsel, advocates, witnesses, experts, and persons performing missions, including protection of freedom of movement. Furthermore, it provides privileges and immunities for the Tribunal's property, assets, funds, archives, and communications and exempts the Tribunal from taxes, customs duties, import and export restrictions, and currency restrictions.

The Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing seeks to prevent, deter, and eliminate illegal, unreported and unregulated (IUU) fishing through the adoption and implementation of effective port State measures as a means of ensuring the long-term conservation and sustainable use of living marine resources. The Agreement is to be applied widely and effectively by Parties, in their capacities as port States, for vessels not entitled to fly their flags; when they seek entry to, or while in, Parties' ports.

The Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas aims to ensure that a State strengthens its control over fishing vessels entitled to fly its flag to ensure compliance with international conservation and management measures. This Agreement also seeks to deter the reflagging of vessels by their nationals to avoid compliance with applicable conservation and management rules for fishing activities on the high seas.

Antigua and Barbuda may consider ratifying the three agreements mentioned above. Both the Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing and the Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas would support Antigua and Barbuda's Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated (IUU) Fishing (Antigua and Barbuda, 2010), uphold its

¹⁶ Approved by the FAO Conference at its Thirty-sixth Session (Rome, 18-23 November 2009) under paragraph 1 of Article XIV of the FAO Constitution, through Resolution No 12/2009 dated 22 November 2009; in force 5 June 2016.

obligations to prevent it under articles 4.3(d) and 14.3(a) of the Agreement establishing the Caribbean Community Common Fisheries Policy (CARICOM, 2011), and allow it to more effectively fulfil its duties regarding conservation and management of the living resources of the high seas, and the protection and preservation of the marine environment, as set out under parts VII and XII of UNCLOS, respectively. Ratifying the Agreement on the Privileges and Immunities of the International Tribunal for the Law of the Sea would ensure that Antigua and Barbuda joins other States in the international community in ensuring the effective functioning of ITLOS.

3.5 Role of non-legally binding instruments

The international legal regime for ocean governance is complemented by a wide range of non-legally binding instruments, including the 2030 Agenda for Sustainable Development and the annual resolutions of the United Nations General Assembly on oceans and the law of the sea, and those on sustainable fisheries which provide internationally agreed policy guidance, commitments, goals, and targets.

Such non-legally binding instruments also include those adopted under competent international organizations, such as FAO, International Atomic Energy Agency, International Civil Aviation Organization, International Labour Organization, International Maritime Organization (IMO) and the Intergovernmental Oceanographic Commission of the United Nations Educational, the United Nations Educational, Scientific and Cultural Organization (UNESCO), to facilitate the implementation of UNCLOS and relevant instruments. For example, FAO has adopted a series of international codes of conduct and guidelines, such as the FAO Code of Conduct for Responsible Fisheries (FAO, 1995) and its several related international guidelines: the International Guidelines on Bycatch Management and Reduction of Discards (FAO, 2011), the International Guidelines for the Management of Deep-sea Fisheries in the High Seas (FAO, 2009a), the Voluntary Guidelines for Flag State Performance (FAO, 2015b), and the Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication (FAO, 2015a).

Antigua and Barbuda may rely on these non-binding instruments to help guide its ocean governance policies, laws, and programmes. As seen below in sections 5 and 6 of the report, examining Governance Frameworks Applicable to Selected Priority Sectors and Cross-Cutting Issues of Ocean Governance in Antigua and Barbuda, respectively, Antigua and Barbuda’s legal regime and institutional practices are already taking into consideration many provisions of these non-binding instruments.

Photo: Ed-Ni-Photo



3.6 Role of regional and international organisations

Antigua and Barbuda is a member of several international bodies of relevance to ocean governance, including the International Whaling Commission (IWC), the Western Central Atlantic Fisheries Commission, the Caribbean Regional Fisheries Mechanism (FAO, 2016), and the Organisation of Eastern Caribbean States.¹⁷

Membership in the International Whaling Commission provides Antigua and Barbuda with access to a wide range of information about whales and whale conservation management and the opportunity to participate in the deliberations of the organs of the IWC and its scientific research (IWC, 2021). Membership in Western Central Atlantic Fisheries Commission allows the country to participate in the work of the Commission, which promotes the effective conservation, management and development of the living marine resources of the Western Central Atlantic, under the FAO Code of Conduct for Responsible Fisheries. It addresses common problems of fisheries management and development faced by Members of the Commission (FAO, 2006, Art 1).

Membership in the CRFM enables Antigua and Barbuda to participate in deliberations and decisions related to the responsible utilization of Caribbean fisheries and other aquatic resources. The CRFM provides legal and policy support for a wide range of topics, through fishery reports, technical and advisory documents, research papers, statistics and information reports, and annual reports (CRFM, 2021). The CRFM was responsible for creating the Caribbean Community Common Fisheries Policy (CARICOM, 2011; CRFM, 2020).

As a member of the OECS, Antigua and Barbuda has benefited from both legal and policy support on a range of law of the sea issues, and has access to a variety of reports and other publications on areas such as the blue economy (OECS, 2020b; 2020c), the marine environment and marine spatial planning (OECS, 2020d; 2020e), fisheries management (OECS, 1999), and gender and fisheries (Williams, 1990). The OECS also provided the venue for the creation of the Agreement establishing common fisheries surveillance zones of participating member States of the Organisation of Eastern Caribbean. Participation in such organisations can reinforce the uniform understanding and implementation of common approaches and standards related to ocean governance. Importantly, it may also assist Antigua and Barbuda in aligning, as appropriate, its laws and policies, and provide fora for consultation, information-sharing, cooperation, and capacity-building.

¹⁷ Antigua and Barbuda is also a member of, and/or participates in, several other international bodies due to its United Nations membership. These include the Food and Agriculture Organization of the United Nations, the United Nations Development Programme, the United Nations Environment Programme, the United Nations Global Environmental Facility and the Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization, among others.

IV. Oceans Governance in Antigua and Barbuda

National institutional framework, several Ministries, Departments and other entities have competence over ocean governance for Antigua and Barbuda, as summarised briefly in the table 1, and further explored in section 4.2.

Table 1. Entities of Antigua and Barbuda involved in ocean governance

SECTOR	ENTITY	ROLE
Blue Economy	Ministry of Social Transformation and the Blue Economy	The Ministry is responsible for social and community services with an emphasis on combating poverty, enhancing equality, and improving the standard of living for all citizens, specifically focus on the blue economy’s role. The Ministry also provides oversight of Disaster Preparedness and Gender Affairs. This Ministry, and its Department of the Blue Economy, could play a critical coordinating role for all the ministries and departments that need to be involved in blue economy planning.
	National Ocean Governance Committee	Inter-agency Committee that advises on ocean governance and marine policy and planning.
Ocean Governance	Ministry of Finance, Corporate Governance & Public Private Partnerships	Under the Office of the Prime Minister, this Ministry leads strategic national development including development related to ocean and marine policies. The Port Authority, Sea Ports, Merchant Shipping and Shipping Registration fall under this Ministry.
	Ministry of Education, Science & Technology	Provides oversight of science and technology, which includes marine science, capacity building and transfer of marine technology.
Shipping & Ports	Antigua and Barbuda Department of Marine Services and Merchant Shipping (ADOMS), of the Ministry of Finance, Corporate Governance & Public Private Partnerships	Manages shipping, routes, and vessel registry services for the country. The Director of the ADOMS also has authority over pollution from ships flying the flag of Antigua and Barbuda under part VII, and wrecks and salvage under part VIII of the Merchant Shipping Act, 2006, as amended. Both areas impact upon the marine environment.
	Antigua Port Authority	Administers and manages ports, cargo safety, and port security.
Sustainability & Environment	Department of Environment (DOE) of the Ministry of Health, Wellness and the Environment	Regulates coastal and marine planning aspects regarding pollution and the environment and promotes creation and management of marine protected areas.
	National Parks Authority	Manages protected areas, including marine protected areas, which have been declared under the National Parks Act. ¹⁸
	Ministry of Works and Minister of State in the Ministry of Finance & Corporate Governance	The Ministry administers and manages, <i>inter alia</i> , coastal infrastructure works and sea defences. It is also responsible for quarries.
	Central Housing and Planning Authority of the Ministry of Housing, Lands and Urban Renewal	Manages and advises on housing and coastal development.
	Antigua and Barbuda Marine Ecosystems Protection Area Trust	A non-governmental ecological restoration body concerned with sustainability and managing ecosystem services.
	Environmental Awareness Group	A non-governmental body concerned with promoting awareness of the importance of environmental conservation.

¹⁸ DOE has indicated that the National Parks Authority (NPA) only manages those protected areas declared under the National Parks Act and other categories of protected areas exist that can be declared under the Fisheries Act, Forestry Act, Physical Planning Act, and EPMA. Further, DOE notes that the National Parks Act allows for complete management authority to be conferred upon another agency for a specific national park. DOE Response to Draft Report.

SECTOR	ENTITY	ROLE
Fisheries	Department of Fisheries (DOF) of the Ministry of Agriculture, Fisheries and Barbuda Affairs	Administers and manages offshore and coastal fisheries and aquaculture, promotes marine protected areas (MPAs), and manages marine planning in Barbuda. The Ministry oversees Antigua Fisheries Ltd., Marine Resources and Barbuda Affairs. The DOF assists with negotiating treaties related to marine space.
	Ministry of Foreign Affairs, International Trade, and Immigration	Administers international borders and is involved in treaty negotiations (including for the proposed BBNJ Agreement). Also responsible for liaising with CARICOM and The United Nations Office for Project Services (UNOPS) and has oversight of the United Nations SDGs.
	Ministry of Legal Affairs, Public Safety and Labour	Responsible for legal affairs, legislative drafting, and treaties, including those related to marine affairs. Provides oversight for the Department of Labour and the National Labour Board, including labour matters for the tourism and shipping sectors.
Maritime Security	Designated Authority	The Permanent Secretary of the Ministry of Foreign Affairs is the chair of this committee. It comprises heads of various agencies with a law enforcement responsibility. It approves Port Security Plans, oversees maritime security, and sets maritime security levels.
	ISPS Code Maritime Safety and Security Committee	The principal advisor to the Designated Authority on the International Ship and Port Facility Security Code (ISPS). It is a technical committee comprising of members from various law enforcement agencies.
	Antigua and Barbuda Defence Force	Provides waterside security.
	Dept. of Immigration of the Ministry of Foreign Affairs, International Trade, and Immigration	Implements passenger screening.
	Customs & Excise Division of the Ministry of Finance and Corporate Governance	Implements cargo screening, including maritime cargo.
	Royal Police Force of Antigua and Barbuda	Maintains law and order in the territory (including ports).
	Office of National Drug & Money Laundering Control Policy	Provides counter drug and money laundering responses under the Office of National Drug and Money Laundering Control Policy Act, 2003 and other national criminal laws.
Tourism	Antigua and Barbuda Tourism Authority of the Ministry of Tourism and Investment	Promotes and advises on tourism development and investment, including on the coast and in marine areas. The Ministry also provides oversees beach protection, the National Parks Authority and heritage sites.
Ocean Energy	Ministry of Public Utilities, Civil Aviation and Energy	Regulates electricity generation and transmission including offshore energy generation.

Sources: Maritime Economy Plan: Antigua and Barbuda. Commonwealth Marine Economies Programme, March 2021 (2021c). Information is also derived from Antigua and Barbuda's Government Information and Services, A-Z Index of Ab Government Agencies. Available at ab.gov.ag/detail_page.php?page=1. Accessed on November 2021.

These entities are authorized to act under a wide range of legal instruments, as examined below.

4.1 National legal framework

Antigua and Barbuda has enacted many statutes, regulations, statutory instruments, and orders in a wide range of areas relating to ocean governance and the blue economy. These are listed in appendix A by topic area and are discussed, when relevant, in the text below. As is common across the Commonwealth Caribbean, statutes set out the binding framework for an area of law and regulations; statutory instruments and orders provide more detailed rules and procedures.

Antigua and Barbuda's statutes incorporate the State's obligations under customary international law and international legal agreements into its domestic law. It is a requirement under Antigua and Barbuda's legal system, which as a Commonwealth Caribbean State, has a dualist law system. Therefore, it cannot automatically incorporate treaties into its domestic legal system (Kaczorowska, 2015). Under the Antigua and Barbuda Ratification of Treaties Act (Antigua and Barbuda, 1989), treaties to which Antigua and Barbuda becomes a party must be ratified either by an Act of Parliament or by Resolution of the House of Representatives before their provisions can be enforced domestically. This means that treaties covered by the Act must be laid before Parliament or the House of Representatives for discussion and debate and that the instrument of ratification must be approved through an Act or Resolution. As a result, before such treaties can have any binding force or effect in domestic law, they must be incorporated by statute.¹⁹

Some key statutes related to oceans governance include the Maritime Areas Act, 1982; the Merchant Shipping Act, 2006; the Fisheries Act, 2006; and the Environmental Protection and Management Act, 2019. The first sets out its maritime zones and jurisdiction, the second provides rules for shipping and maritime safety and security, the third provides for fisheries management, and the fourth regulates the environment, including the marine environment. In addition, two other statutes are relevant to ocean security: the Defence Act, 2006, and the Maritime Piracy Act, 2013.

4.1.1 Maritime areas

The Antigua and Barbuda Maritime Areas Act, 1982 (Antigua and Barbuda, 1982b)²⁰ defines key UNCLOS terms for the purposes of national law and establishes the relevant maritime zones, including internal waters (sect. 3)²¹, archipelagic waters (sect. 4), territorial sea (sect. 5), baselines of the territorial sea (sect. 6), the contiguous zone (sect. 7), the continental shelf (sect. 8), and exclusive economic zone (sect. 10). It provides criteria for the delimitation of the CS (sect. 9) and defines a fishery zone (FZ) which is coterminous with the EEZ (sect. 11). It also describes Antigua and Barbuda's jurisdiction over IW, AW, and TS (sect. 12), as well as over the EEZ (sect. 13), FZ (sect. 14) and CS (sect. 15). Finally, it preserves the rights of other States and ships in the EEZ that are compatible with international law (sect. 16).

The Act sets out a framework for negotiating maritime boundaries (sect. 17), and delimitation of CS with neighbouring States (sect. 9). It recognizes the rights of innocent passage (sect. 18), transit passage through straits (sect. 20) and archipelagic sea lanes passage (sect. 21). It allows for the designation of sea lanes and air routes (sect. 32). Furthermore, it prohibits and describes non-innocent passage (sect. 19) and requires foreign warships to obtain prior permission before navigating in AW or the TS (sect. 18(2)).²²

¹⁹ Note that the Ratification of Treaties (Amendment) Bill, 2020, makes clear that such incorporation can take place through Act or Resolution, as appropriate. Antigua and Barbuda, 2020c.

²⁰ The Maritime Areas Act 1982 consolidated the Territorial Waters Act 1982. Antigua and Barbuda, 1982a.

²¹ Closing lines are prescribed by the Maritime Areas (Closing Lines-Internal Waters) Order, 1986 and archipelagic baselines by the List of Geographical Coordinates showing the Archipelagic Baselines of Antigua and Barbuda, 1986: Antigua and Barbuda Maritime Areas (Closing Lines – Internal Waters) Order, 1986 (S.I. No. 49 of 1986). Antigua and Barbuda, List of Geographical Coordinates Showing the Archipelagic Baselines of Antigua and Barbuda, 1986 (S.I. No. 50 of 1986).

²² Note that the Ratification of Treaties (Amendment) Bill, 2020, makes clear that such incorporation can take place through Act or Resolution, as appropriate. Antigua and Barbuda, 2020c.

Finally, the Act details policing powers (sect. 22),²³ immunity (sect. 23) and jurisdiction (sect. 24), as well as sets out powers of arrest (sect. 30) and civil jurisdiction (sect. 31) on foreign ships in the TS. To exercise the jurisdiction of the courts, the territory of Antigua and Barbuda includes the IW, AW, and TS (sect. 24(1)). The Act also provides for charts of maritime areas (sect. 25), their use in evidence (sect. 26), and their publicity (sect. 27). Additionally, the Act permits Regulations (sect.28), and it makes violation of certain of its provisions an offence (sect. 29).

Under the Act, Antigua and Barbuda establishes its baselines as straight archipelagic baselines (sect. 6) and maritime zones with the maximum breadth set out in UNCLOS: TS (12 nautical miles), CZ (24 nautical miles), EEZ (200 nautical miles), and CS (200 nautical miles or outer edge of continental margin). The FZ extends from the outer limits of the TS to 200 nautical miles and is therefore coterminous with the UNCLOS EEZ regime.

4.1.2 Merchant Shipping

Antigua and Barbuda has been a member of the IMO since 1986 and has a Ship and Yacht Registry with offices in St John's, Antigua and Barbuda, in Oldenburg, Germany (registration), and in Elsfleth, Germany (inspection and investigation) (Antigua and Barbuda, 2021f). As a flag State, Antigua and Barbuda was estimated in 2020 to have 721 ships flying its flag, amounting to 6,631 thousand dead weight to, or roughly 0.32 per cent of the world's fleet in tonnage (IMO, 2021b). It is a party to numerous IMO Conventions, listed in section 3.4.6, Shipping and ports, above.²⁴

Antigua and Barbuda has enacted a wide range of legislation to regulate shipping and related matters, including the Boats Regulation Act, 1933 (Antigua and Barbuda, 1933), Port Authority Act, 1973 (Antigua and Barbuda, 1973a),²⁵ the Small Craft Control Act, 2015 (Antigua and Barbuda, 2015c) and the Merchant Shipping Act, 2006 (Antigua and Barbuda, 2006f), as amended.²⁶ Regulations also have been made under the Merchant Shipping Act, 2006.²⁷

The Merchant Shipping Act, 2006, provides a framework for the regulation of shipping in the territorial sea and internal waters of Antigua and Barbuda, as well as of vessels flying the flag of Antigua and Barbuda. It

²³ Section 22 was repealed and replaced under the Law Revision (Miscellaneous Amendments) (No. 2) Act, 1995, in order to strengthen policing powers under the Act: Antigua and Barbuda Law Revision (Miscellaneous Amendments) (No. 2) Act, 1995 (No. 17 of 1995).

²⁴ Other IMO Conventions to which Antigua and Barbuda is a party include: the Protocols of 1978 and 1988 to the International Convention for the Safety of Life at Sea, the International Convention on Standards of Training, Certification and Watchkeeping for Fishing Vessel Personnel (STCW-F), 1995, the Convention on the International Maritime Satellite Organization (IMSO C), 1976, the Convention on Facilitation of International Maritime Traffic (FAL), 1965, the 1992 Protocol to the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage (FUND 1992), the Convention on Limitation of Liability for Maritime Claims (LLMC), 1976, and its 1996 Protocol, the International Convention on Oil Pollution Preparedness, Response and Co-operation (OPRC), 1990, the International Convention on Civil Liability for Bunker Oil Pollution Damage, 2001, the International Convention on the Control of Harmful Anti-fouling Systems on Ships (AFS), 2001, the International Convention for the Control and Management of Ships' Ballast Water and Sediments, 2004, and the Nairobi International Convention on the Removal of Wrecks, 2007. These Conventions are listed on the IMO website, with links to descriptions of their content: List of IMO Conventions. Available at www.imo.org/en/About/Conventions/Pages/ListOfConventions.aspx. Accessed on 25 November 2021. Official texts of some of these treaties can be obtained from the United Nations Treaty Collection website.

²⁵ In addition to the Merchant Shipping Act, 2006, the Port Authority Act, 1973, through its regulation of the full spectrum of port activities and services, provides a mechanism for the implementation of the International Code for the Security of Ships and of Port Facilities Code (ISPS Code): IMO International Code for the Security of Ships and of Port Facilities, as adopted, on 12 December 2002, by Resolution 2 of the Conference of Contracting Governments to the International Convention for the Safety of Life at Sea, 1974, (2002). In order to ensure the effectiveness and enforceability of the ISPS Code, Antigua and Barbuda may wish to review the Port Authority Act, 1973.

²⁶ The Merchant Shipping Act, 2006 has been amended by the Merchant Shipping (Amendment) Acts of 2006, 2007, 2014 and 2017: Antigua and Barbuda Merchant Shipping (Amendment) Act, 2006 (No. 9 of 2006), (2006c). Antigua and Barbuda Merchant Shipping (Amendment) Act, 2007 (No. 12 of 2007). Antigua and Barbuda Merchant Shipping (Amendment) Act, 2014 (No. 15 of 2014). Antigua and Barbuda Merchant Shipping (Amendment) Act (No. 31 of 2017).

²⁷ Regulations include the Shipping (Small Commercial Vessels) Regulations, 2008, the Shipping (Port State Control) Regulations, 2008, the Merchant Shipping (Vessels in Commercial Use for Sport or Pleasure) Regulations, 2011, the Merchant Shipping (Registration of Ships) Regulations, 2011, and the Merchant Shipping (Maritime Labour Convention 2006) Regulations, 2012. Antigua and Barbuda Merchant Shipping (Small Commercial Vessels) Regulations, 2008 (S.I. No. 31 of 2008). Antigua and Barbuda Merchant Shipping (Port State Control) Regulations, 2008 (S.I. No. 32 of 2008). Antigua and Barbuda Merchant Shipping (Vessels in Commercial Use for Sport or Pleasure) Regulations, 2011 (S.I. No. 49 of 2011). Antigua and Barbuda Merchant Shipping (Registration of Ships) Regulations, 2011 (S.I. No. 55 of 2011). Antigua and Barbuda Merchant Shipping (Maritime Labour Convention 2006) Regulations, 2012 (S.I. No. 15 of 2012).



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restricts coastal trade between the ports of Antigua and Barbuda to Antigua and Barbuda ships (sect. 3). It requires all Antigua and Barbuda ships which are involved in international commercial trade and all foreign ships anchoring in or trading in or from Antigua and Barbuda waters or entering a port in the country must carry third-party insurance (sect. 4).

The Act is meant to implement several international treaties, including, as set out in sections 2 and 8, the International Convention on Tonnage Measurement of Ships, 1969; the International Convention for the Safety of Life at Sea, 1974, and its Protocols of 1978 and 1988, as amended, the International Convention for the Prevention of Pollution from Ships, 1973, and its Protocol of 1978, the International Convention on Load Lines, 1966, and its Protocol of 1988, the Convention on the International Regulations for Prevention of Collisions at Sea, 1972, the International Convention on Standards of Training, Certification and Watchkeeping, 1978, as amended, the 1992 amendments to the International Convention on Civil Liability for Oil Pollution Damage, 1969, the 1992 amendments to the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 1971 and the International Convention on the Control of Harmful Anti-Fouling Systems on Ships, 2001, as amended, the International Convention for the Control and Management of Ships' Ballast Water and Sediments, 2004, as amended, and the Maritime Labour Convention 2006, as amended.²⁸ Under section 289 if there is a conflict between an international convention or other international instrument and a provision of the Act, "the provision of the convention or instrument shall prevail unless the Minister otherwise provides."

Under the Act, the authority to regulate shipping is granted to the Director of the Antigua and Barbuda Department of Marine Services and Merchant Shipping (ADOMS), who reports to the Minister responsible for Merchant Shipping and Ship Registration (sect. 2, part II). Offices of ADOMS also may be established outside of Antigua and Barbuda.²⁹ The Minister may also make regulations and directives (sect. 7) and appoint Registrars of Antigua and Barbuda ships (sect. 9). Different sections of the Act deal with specific aspects of shipping.

²⁸ Antigua and Barbuda is not yet a party to the Protocol of 1992 to amend the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage. See the United Nations Treaty Series data on the Protocol. Available at treaties.un.org/Pages/showDetails.aspx?objid=08000002800a599a&clang=_en. The final three Conventions in the list were added by section 4 of the Antigua and Barbuda Merchant Shipping (Amendment) Act, 2014 (No. 15 of 2014).

²⁹ Section 6A of the Act. Antigua and Barbuda Merchant Shipping (Amendment) Act, 2007 (No. 12 of 2007).

Part III provides rules for the registration of ships, and regarding mortgages and maritime liens. Qualification for registration under the act requires a person or corporation to fulfil section 11 of the Act.³⁰ However, under the Companies Act (sect.11(4)-(5)), special provision is made for foreign maritime trust companies and external companies. The port of registry for ships flying the flag of Antigua and Barbuda is St John's, Antigua and Barbuda (sect. 12).³¹ An international Ships Register is also created under the Act (sect, 13); such ships must be surveyed annually by ADOMS, and they must be entered with a Recognised Organisation (sect. 18).³² Section 18A allows the Register to de-register unsuitable ships.³³

The provisions of this Act aim to prevent duplicate registration of vessels (sect.21) and provide for the granting of a certificate of registry (sect. 23) or provisional certificate of registry (sect. 24).³⁴ Section 26A and 26B provide for payment or refund of fees.³⁵ Chapter 2 provides rules and conditions for the registration, and deregistration, and conditions related to mortgages and liens, of chartered bareboats (sects. 27-33). Chapter 3 provides similar rules and conditions for permission of Antigua and Barbuda flagships for registration as a chartered bareboat in a foreign register, and for the withdrawal of that permission (sects. 34-39). Chapter 4 provides for transfers, transmissions, and mortgages in relation to Antigua and Barbuda ships or shares or interests therein (sects. 40-47), and chapter 5 deals with maritime liens (sects. 48-58). Finally, chapter 6 sets out rights and duties related to the national colours of Antigua and Barbuda ships (sects. 59-63).

Part IV deals with masters, officers, seafarers and cadets, with chapter 1 specifying rules related to manning and certificates, and enforcement of such rules, in compliance with the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978 (IMO, 1978b). Chapter 2 deals with the disqualification of seafarers and inquiries, chapter 5 with discipline, and chapter 6 with

30 Section 11(1)-(3) of the Merchant Shipping Act, 2006, provides:

(1) A ship shall not be registered as an Antigua and Barbuda ship unless she is owned wholly by persons to whom one of the following descriptions applies:

- (a) citizen of Antigua and Barbuda;
- (b) public bodies of Antigua and Barbuda;
- (c) public bodies corporate authorised under subsection (2);
- (d) a corporation registered under the International Business Corporation Act;
- (e) an external company or a partnership concern registered under the Companies Act; or
- (f) a national of a Member State;
- (g) any other person approved by the Cabinet.

(2) A public body corporate is authorised for the purposes of paragraph (c) of subsection (1) to register ships if:

- (a) it is established under and subject to the laws of Antigua and Barbuda; and
- (b) it has its principal place of business, or appoints a resident agent, in Antigua and Barbuda;
- (c) at least fifty-one percent of its share capital is held by citizens of Antigua and Barbuda;
- (d) the majority of directors, the Chairman of the Board of Directors and the Managing Director, if any, are citizens of Antigua and Barbuda. In case of a partnership concern, Antigua and Barbuda interests shall be deemed to be predominant in the capital and in the management, if the majority of the partners are Antigua and Barbuda citizens.

(3) Ships owned by multinational shipping enterprises or joint ventures between the Government of Antigua and Barbuda and the government of other member countries of the Caribbean Community or governments of other foreign countries, in which the Government of Antigua and Barbuda has a substantial interest and which are established by Acts of Parliament may be exempted from compliance with the requirements of subsections (1) and (2) in order to qualify for treatment as Antigua and Barbuda ships.

31 Section 12 has been amended by section 6 of the Antigua and Barbuda Merchant Shipping (Amendment) Act, 2014 to allow additional ports of registry in Antigua and Barbuda.

32 Section 2 of the Merchant Shipping Act defines "Recognised Organisation" as "a classification society which is a member of the International Association of Classification Societies, entrusted by ADOMS with the survey of Antigua and Barbuda ships for the purposes of the International Convention for the Safety of Life at Sea (SOLAS). SOLAS Convention is defined as "the International Convention for the Safety of Life at Sea, 1974, and its Protocols of 1978 and 1988, as amended from time to time."

33 Section 18A was added by section 12 of the Antigua and Barbuda Merchant Shipping (Amendment) Act, 2014 (No. 15 of 2014).

34 The Merchant Shipping (Amendment) Act, 2017, creates a new section 24A for the Merchant Shipping Act 2006 which extends provisional registration to cases where the owner of the ship has qualified or is in the process of qualifying under section 11 to own an Antigua and Barbuda registered ship.

35 Sections 26A and 26B were added by section 7 of the Merchant Shipping (Amendment) Act, 2007 (No. 12 of 2007).

relief and repatriation of a seafarer left behind.³⁶ Chapter 7 requires the keeping of a logbook according to international standards and requires seafarers to keep a seafarer's book; chapter 8 sets out the rights and duties of the master.

Part V establishes rules for the safety of navigation, including general those related to the prevention of collisions, and safety and security at sea (chaps. 1-3). The latter chapter includes the provisions and articles of, and the Annex and Protocols to, the International Convention for the Safety of Life at Sea (SOLAS) Convention (IMO, 1974) have the force of law in Antigua and Barbuda (sect. 1-3). Section 124 extends the application of this Convention, *mutatis mutandis*, "to ships entitled to fly the flag of a country or territory to which the SOLAS Convention does not apply or is not yet in force while such ships are in Antigua and Barbuda engaged on international voyages." Ships not complying with the SOLAS Convention may be detained (art. 127) and the Act creates offences for non-compliance with SOLAS Convention obligations (sects. 128-129 and 131-132). Chapter 4 makes the provisions of the articles of, and the Annexes and Protocol to, the International Convention on Load Lines, 1966 have the force of law in Antigua and Barbuda, and creates offences, and allows for detention, for non-compliance with its provisions. Chapter 5 sets out rules related to the carriage of dangerous goods and implements the International Maritime Dangerous Goods Code (IMO, 1965a). Chapter 6 deals with unseaworthy ships, creating offences and liability, and allowing for detention.

Part VI provides maritime security and special measures to implement further the SOLAS Convention and the International Code for the Security of Ships and of Port Facilities Code (ISPS Code) (IMO, 2002) for that purpose. Chapter 1 sets out preliminary provisions, chapter 2 sets out rules applicable to ships and implements the ISPS Code, including by provision of International Ship Security Certificates.³⁷ Chapter 3 sets out control and compliance measures for ships in Antigua and Barbuda ports, including enforcement powers under sections 161 and 163. Chapter 4 governs port facilities in compliance with the ISPS Code and chapter 5 provides for enforcement.

Part VII provides measures to prevent and punish pollution per the International Convention for the Prevention of Pollution from Ships, 1973. It has the force of law in Antigua and Barbuda (sect. 173 and 182 A³⁸) together with specific Annexes and Protocols (IMO, 1978c), and the provisions of the articles of, and Annexes 1 to 4 to the International Convention on the Control of Harmful Anti-Fouling Systems on Ships, 2001 (IMO 2001a). Chapter 1 of part VII provides for criminal enforcement powers under the laws of Antigua and Barbuda. Chapter 2 for civil liability by *inter alia*, giving the "provisions of Articles I to XI of and the Annex to 1992 CLC Protocol" (IMO, 1992a) and "articles 1 to 36 quater and the Annex to the 1992 Oil Fund Protocol" (IMO, 1992b) the force of law in Antigua and Barbuda (sects. 183-184).³⁹ Section 186 requires insurance against liability for pollution and section 187 allows enforcement powers against breaches of section 186. Chapter 1A provides for surveys of anti-fouling systems, inspections and other duties and provides for offences and enforcement in cases of violations of provisions of the chapter. Finally, chapter 1B, established under the Merchant Shipping (Amendment) Act, 2014 (Antigua and Barbuda, 2014a), provides that the "provisions of the Articles of, and the Annex to, the International Convention for the Control

³⁶ Chapters 3 and 4, dealing with the engagement and discharge of crews and the payment of wages, were repealed by s 18 of the Merchant Shipping (Amendment) Act, 2014 (No. 15 of 2014).

³⁷ Section 2 of the Act defines the ISPS Code as meaning "the International Code for the Security of Ships and of Port Facilities consisting of Part A (the provisions of which shall be treated as mandatory) and part B (the provisions of which shall be treated as recommendatory), as adopted, on 12 December 2002, by resolution 2 of the Conference of Contracting Governments to the International Convention for the Safety of Life at Sea, 1974, as amended from time to time."

³⁸ Section 182A is included in the new chapter 1A created under the Merchant Shipping (Amendment) Act, 2014 (No. 15 of 2014).

³⁹ Section 2 defines the 1992 Civil Liability Convention or CLC Protocol as meaning "the 1992 amendments to the International Convention on Civil Liability for Oil Pollution Damage, 1969, as amended from time to time" and the "1992 Oil Fund Protocol" as meaning "the 1992 amendments to the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 1971, as amended from time to time."

and Management of Ships Ballast Water and Sediments, 2004 shall have the force of law in Antigua and Barbuda (IMO, 2004).

Part VIII defines rights and obligations concerning wrecks and salvage, including for ships in distress and measures to be taken in respect of wrecks, or unclaimed wrecks (chaps. 2-4). Chapter 5 provides for the removal of wrecks, chapter 6 for offences related to wrecks and chapter 7 to salvage.

Part IX provides for shipowner's liability and rules related to the carriage of goods, including for passenger ships (chap. 1). Chapter 2 sets out the limitation of liability⁴⁰ and chapter 3 the division of liability. Chapter 4 deals with the carriage of goods by sea. Part X sets up a regime for inquiries and investigations into marine casualties. Part XI provides for surveyors and inspectors and their powers. Part XII sets out the rules for jurisdiction and legal proceedings under the Act. It applies international legal rules related to State criminal jurisdiction, allowing Antigua and Barbuda to assert prescriptive jurisdiction under the territorial principle, the nationality principle and flag State jurisdiction (sects. 264, 265). Chapter 2 provides for detention and distress on foreign ships "found in any part of or place in Antigua and Barbuda or within the territorial limits thereof" to satisfy claims for damage to property or personal injuries, including fatal injuries (sect. 269). These powers include detaining, seizing, and selling (distress sale) a foreign ship (sects. 270-274). Chapter 3 provides rules for legal proceedings under the Act, and chapter 4 for offences.

Part XIII sets out the final provisions. It expressly recognizes several international legal principles which are reflected in UNCLOS, such as the freedom of the high seas, flag State jurisdiction, the right of innocent passage, jurisdiction over the territorial sea, and the right of foreign vessels to access the ports of Antigua and Barbuda "in accordance with the provisions of the Convention and Statute on International Regime of Maritime Ports, 1923" (sect. 285) (LN ,1923). Part XIII, section 286, specifies that a national shipping industry shall be a high priority for Antigua and Barbuda and allows Cabinet to take measures to this effect.

4.1.3 Fisheries

The Antigua and Barbuda Fisheries Act, 2006 (Antigua and Barbuda, 2006g) repeals the earlier Fisheries Act (CAP 173) and the Importation of Live Fish Act (CAP 209). Instead, it provides for the management and development of fisheries in all maritime zones covered by the Maritime Areas Act⁴¹ and expressly provides for extra-territorial application (sect. 2(2)).

Fish under section 2 of the Act includes "any aquatic animal, whether piscine or not and includes marine mammals, shellfish, turtles, molluscs, crustaceans, corals, sponges, echinoderms, their young and their eggs".⁴² The Act requires the Minister⁴³ "to promote the sustainable development and responsible management of fisheries and aquaculture activities in Antigua and Barbuda waters and the territory of Antigua and Barbuda to ensure the optimum utilization of the fisheries resources for the benefit of Antigua and Barbuda and to ensure the conservation of the fish resources and the ecosystems to which they belong" (sect. 4(1)).

Under the Act, the Chief Fisheries Officer must "prepare and keep under review a plan for the management and sustainable development of fisheries in Antigua and Barbuda's waters and in the territory of Antigua and Barbuda" (sect. 5). The Chief Fisheries Officer is required to adopt a precautionary approach to fisheries

⁴⁰ Note that chapter 2 in the Merchant Shipping Act 2006 was repealed and replaced by section 32 of the Merchant Shipping (Amendment) Act, 2014 (No. 15 of 2014).

⁴¹ See the description of "Antigua and Barbuda waters" in section 2 of the Act.

⁴² Note that the framework for marine genetic resources is established in the Environmental Protection and Management Act, 2019, discussed below.

⁴³ There is no definition of Minister in the Fisheries Act, 2006. However, fisheries fall under the portfolio of the Minister of Agriculture, Lands, Fisheries and Barbuda Affairs and therefore it is assumed that all references in the Act are to the latter.

management and must consult local fishers, local authorities, and others that will be affected in formulating the plan (sects. 5(2) and 5(4)). Similarly, the Chief Fisheries Officer must prepare a plan for aquaculture activities, which must adopt a precautionary approach and must follow consultation (sect. 6). Under the Act, the Minister may appoint a Fisheries Advisory Committee to assist with responsible management and sustainable development of fisheries and aquaculture activities (sect. 7).⁴⁴ The Minister is empowered to enter arrangements with other countries or competent regional organizations to, amongst other things, harmonize data collection systems, licensing systems, and enforcement mechanisms, as well as to establish or operate regional fisheries management bodies (sect. 8).⁴⁵

The Minister may designate an area as a local fisheries management area and a fisheries management authority for that area (sect. 9). That authority can make by-laws regulating the conduct of fisheries operations in the management area (sect. 10).

Under the Act, local fishing vessels must be registered and possess a certificate related to safety and sanitary conditions (sects. 11, 13). Owners of such vessels will commit an offence if not registered, if they do not satisfy certified conditions, or if they do not carry a certificate (sects. 11, 13, 14). The Chief Fisheries Officer is required to keep a register of local fishing vessels, and the Act provides for changes of registration (sects. 15-16), the death of a registered owner (sect. 17), and mortgages related to fishing vessels (sects. 19-22). In addition, the Chief Fisheries Officer is required to keep records of such matters (sect. 75) and may suspend or cancel a registration on various grounds (sect. 18), or because of an inspection (sect. 25). The Act also requires certain standards must be met for fishing vessels (sects. 23, 24). These include “such standards as may be prescribed to ensure the safe operation of the vessel and the health and safety of the crew” (sect. 23) and “any standards in respect of sea worthiness, safety equipment and sanitary or other condition prescribed under the Act” (sect. 24).

Foreign vessels may fish in Antigua and Barbuda if the Minister has entered into agreements with their State that provide fishing rights (sect. 26). Fishing is subject to local laws and regulations (sects. 28-29). No

⁴⁴ The Fisheries Advisory Committee was created under section 3 of the Antigua and Barbuda Fisheries Regulations, 2013 (S.I. No. 2 of 2013).

⁴⁵ Examples of such arrangements are discussed in section 3.6.

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foreign fishing vessel can fish in the waters of Antigua and Barbuda without a valid foreign fishing licence (sect. 27), and such unlawful fishing is an offence under the Act (sect. 27(6)-(7)).

Local fishing vessels are also required to be licensed (sect. 30).⁴⁶ Fishing licences are valid for no more than 12 months (sect. 32), require payment of fees (sect. 34), and may be cancelled or suspended on specified grounds (sect. 35). Persons have a right to appeal decisions of the Chief Fisheries Officer to the Minister, whose decision shall be final (sect. 37). Under the Act, the Minister may also grant licences to persons to operate fish processing establishments (sect. 39). Under section 39, the term fish processing establishment “means a vessel or premises on or in which fish or fishery products are processed, prepared for packaging or processing, [frozen], packaged or stored but does not include a fish market” (sect. 39(3)(a)).

The Act also provides for aquaculture and aquaculture licensing associated fees (sects. 40-41 and 43).⁴⁷ Aquaculture is defined in section 2 as meaning “the culture, propagation and ranching of aquatic plants and fish from eggs, spores, spats or seeds and includes the aggregation, capture or keeping of fish for the purposes of public exhibition or observation or other recreational purposes.” The Governor General, on the advice of the Minister, is empowered to lease land, including foreshore and seabed for aquaculture (sect. 42). Aquaculture licences allow the farming and harvesting of aquaculture products and, for sea-ranching or restocking, allowing the release of those products (sect. 44). The use of feed, drugs and disinfectant for aquaculture is regulated under the Act (sect. 48), and licence holders are required to immediately report to the Chief Fisheries Officer the presence of a disease or infected aquatic organism in an aquaculture facility (sect. 49). Offences are created related to the use or release of diseased or infected organisms in aquaculture (sect. 50), and sanctions (sect. 51). It is an offence for other persons to capture escaped aquaculture fish and to fish close to marine aquaculture facilities (sects.45-46). Aquaculture licences may be cancelled or suspended (sect. 47).

The Minister may also establish fishing priority areas (sect. 52) and marine reserves (sect. 53). Permission to engage in fisheries research may be granted by the Minister (sect. 54). The Act makes it an offence to introduce non-indigenous fish into the waters or territory of Antigua and Barbuda (sect. 55), and restrictions are imposed upon importation of live aquatic organisms (sect. 56).

The Act prohibits certain fishing methods including large driftnet fishing as well as types of fishing gear (sects. 57, 59). Enforcement powers under the Act related to prohibited conduct are granted to authorized officers (sects. 60-61), who possess a wide range of powers (sects. 62-63). For example, fishing vessels, fish and equipment can be seized, released on bond (sects. 62(2)-(3) and 68), or forfeited under the Act (sect. 69) and disposed of (sect. 72).

Under section 73 of the Fisheries Act, 2006, in certain circumstances offences committed outside of “Antigua and Barbuda waters”⁴⁸ may be tried by the courts as if committed within Antigua and Barbuda’s jurisdiction. Under section 62(4) an authorized officer may pursue a foreign fishing vessel that commits an offence in Antigua and Barbuda waters beyond the limits of those waters and continue to exercise authorized powers as permitted under international law (i.e., under the rules regarding ‘hot pursuit’). Regulations may be made under the Act (sect. 76).

The Antigua and Barbuda Fisheries Regulations, 2013, in part III, set out rules related to, *inter alia*, the registration, construction, certification and inspection of local fishing vessels. Part IV applies to foreign fishing

46 Section 30(1) of the Act provides: “No local fishing vessel shall be used for fishing or related activities in Antigua and Barbuda waters without a valid local fishing licence in respect of that vessel.”

47 See further discussion in section 5.1, Sector I: Mariculture.

48 Section 1 of the Fisheries Act, 2006, defines Antigua and Barbuda waters as meaning “the waters of the exclusive economic zone, fisheries zone, territorial sea, archipelagic waters and internal waters as defined in the Maritime Areas Act, 1982 (cap. 260) and any other waters over which Antigua and Barbuda claims fisheries jurisdiction and any low water elevation located in those waters.”

vessels and requires licences and payment of fees to allow such vessels to fish in the waters of Antigua and Barbuda. Part V provides for local fishing licences and part VI requires the Chief Fisheries Officer to keep a record of local licensed fishers. Part VII defines rules governing artificial reefs and fishes aggregating devices, and part VIII provides for fisheries conservation measures (Antigua and Barbuda, 2013d).

The Barbuda (Fisheries) Regulations, 2014, was enacted by the Barbuda Council in the exercise of the powers contained in section 19 of the Barbuda Local Government Act of 1976, as amended to implement the Fisheries Act, 2006 (Antigua and Barbuda, 2014d). The Regulations provide for a Barbuda Senior Fisheries Officer (sect. 3) and a Barbuda Coastal Management Advisory Committee (sects. 4-5). The regulations stipulate that persons shall not fish or attempt to fish in Barbuda without a valid Barbuda Special Area Permit issued by the Officer; except a person under the age of 16 who may engage in recreational fishing without such a permit, if he or she complies with all national and local regulations (sect. 6(1)). Permits may be suspended or revoked (sect. 7). In addition, the Regulations prohibit fishing for parrotfish and sea urchins, limit fishing for sharks to traditional use (sect. 11) and apply the limits on the take of lobster found in the Fisheries Regulations 2013 (sect. 9). Rules are also provided for fish pots (sect. 12) and the Council is empowered to prohibit the catch of certain species during times (closed seasons) to protect the species or public health (sect. 13). The creation of artificial reefs is also regulated (sect. 14). The Regulations also allow the Council to designate Barbuda fisheries rangers, who have duties and powers of enforcement (sects. 15-16) and may issue a notice of an offence (sect. 17). Offences under the Regulations attract fines and imprisonment (sect. 22).

4.1.4 Environmental protection and management

The Antigua and Barbuda Environmental Protection and Management Act, 2019 (Antigua and Barbuda, 2019d) sets out a detailed framework for environmental protection. It is described at some length here because it provides an excellent example of a legislative model which grants a solid coordinating role to a governmental department over a range of areas to achieve its legislated purpose. Under the Act, the Department of Environment (DOE) is responsible for coordinating, and encouraging cooperation on environmental protection and management between, a range of governmental entities, Antigua and Barbuda and third States or organisations. The Department of Environment has been provided with an authoritative legislative basis to undertake these functions. This is relevant to another department, the Department of the Blue Economy, discussed on section 6.1 of this report.

The Act's objectives include establishing "an integrated system for the sound and sustainable management of the environment for the benefit of present and future generations", providing "preventive and remedial measures for the control and mitigation of all forms of environmental degradation or pollution", fulfilling Antigua and Barbuda's obligations under multilateral environmental agreements,⁴⁹ ensuring sustainable financing for the management of the environment and conservation of natural resources, promoting a better understanding and appreciation for the environment, and creating a legal and regulatory environment for such purposes (sect. 3(1)). The Act also seeks to regulate social relations to, *inter alia*, protect the

⁴⁹ Section 2 of the Act defines multilateral environmental agreements as "any international or regional treaty ratified or acceded to by Antigua and Barbuda before or after the commencement of this Act and which addresses environmental matters." Thus, the Act aims to implement all multilateral environmental agreements to which Antigua and Barbuda is, or becomes, a party. These would include all the treaties listed in Section 6.4.4 Protection and Preservation of the Marine Environment. It is beyond the scope of the present report to assess whether the Environmental Protection and Management Act, 2019 satisfactorily implements all the obligations of Antigua and Barbuda under the multilateral environmental agreements falling within the scope of section 2. However, it may be helpful for a national study or assessment to be made of these multilateral environmental agreement commitments to close any gaps left by national legislation.

environment, protect human health, conserve biological diversity, prevent and limit pollution, and establish and manage a National Environmental Monitoring System (sect. 3(2)).

Several principles govern the implementation of the Act, including sustainable development, prevention and reduction of risk to human health, pollution prevention, public participation and awareness, polluter pays, protection of ecosystems and biological diversity, restoration and improvement of environmental quality in polluted areas, “integration of environmental protection policy into the sectoral and regional economic and social development policies” and access to justice (sect. 3(3)). A final principle requires the Act to be implemented so that “decisions pertaining to the environment are made in an integrated manner in which the Department of Environment, in collaboration with appropriate authorities, non-governmental organizations and other persons, determine priorities and facilitates coordination among governmental entities to effectively and where necessary, take action to protect, enhance and conserve the environment” (sect. 3(3)).

The Department of Environment established under the Act, holds the main responsibility for administering and implementing the Act (sect. 4(3)). The duties of the DOE include coordinating “the development and implementation of government’s sustainable development, climate change, environment and natural resources management policies and activities”, coordinating the implementation of multilateral environmental treaties, establishing, and administering a sustainable financing mechanism, and advising the Minister of Health, Wellness and the Environment of any amendments or other actions that may be required under the Act.⁵⁰

Several responsibilities of the Department of Environment under the Act are worth noting, including its general role in “coordinating environmental management functions performed by all governmental and non-governmental entities and statutory authorities in order to achieve the purposes of [the] Act” (sect. 4(3)(d)). In addition, the Department is responsible for managing and licensing bioprospecting (sect. 2), managing protected areas, and managing and administering the Act’s Sustainable Island Resources Framework Fund (SIRF). In carrying out its functions, the Department must employ three “sound principles of environmental management”: the polluter pays principle, the precautionary principle, and the avoidance principle (sect. 4(4)). In terms of authority, the Act succinctly states that the “Department has the power to do all things necessary or convenient to be done for the carrying out of its functions under this Act” (sect. 4(5)).

The Department’s leadership is comprised of a Director of Environment and Deputy Directors (sect. 5), who have a range of powers including those of advising, and reporting to, the Minister on several topics including protected areas to be declared under the Act (sect. 6). These powers may be delegated (sect. 8).

Inspectors are also to be appointed to assist in the work of the Department (sect. 7). These inspectors have powers of entry into and inspection of premises for the purposes of the Act, either by consent or following the issuance of a warrant by a magistrate, and perhaps accompanied by a police officer (sect. 12). Once on a premise, they may obtain information or samples, or confiscate illegal articles (sect. 12). The kinds of samples that may be taken and how to preserve them are detailed in sections 13 and 14. Inspectors may also compel certain works on a premise in the interest of the environment (sect. 15).

Under the Act, the Minister has the responsibility for collaborating with other ministers and establishing institutional linkages (national, regional, international) to ensure the effective implementation of the Act (sect. 10). In addition, an important responsibility of the Minister is that of “developing and promoting a National Environmental Management Strategy and Policy to ensure the integration of all aspects of

⁵⁰ Minister is defined in section 2 of the Act as “the Minister with responsibility for the environment.”

environmental management including ozone depletion, climate change, hazardous wastes, water quality, air quality, watershed, wetland, biodiversity and forestry management into decision-making” (sect. 10 (c)).

The Department of Environment is mandated to facilitate cooperation between persons, government agencies and any other entity toward environmental management (sect.17(1)). Similarly, other governmental entities which wish to act in an area falling within the competence of the Department of Environment are required to consult with it (sect. 17(3)). This reciprocal requirement for cooperation and consultation is supplemented by the stipulation that the Minister submit for approval to Cabinet administrative schemes for:

- The proper apportionment of environmental management functions between the Department of Environment and other Ministries, departments of Government or statutory bodies.
- The proper apportionment of the duties necessary for the performance of such functions between officers of the Department of Environment and officers of other Ministries, departments of Government or statutory bodies (sect. 17(3)).

These schemes could allow for close coordination and/or harmonisation of efforts of an extensive range of government entities towards environmental management. This is especially important because even though the Act requires integrated decision-making under the Department of Environment (sect. 3(3)), by its very nature the range of topics the Act covers requires actions by numerous governmental entities. It can be seen in the definition of appropriate authority in section 2, which expressly refers to a range of authorities that deal with different issues under the Act.⁵¹ The effective implementation of the Act requires cooperation between the Department of Environment and all other relevant departments and units.

Similarly, the Department of Environment is required to establish a National Environmental Policy Framework binding itself and other government agencies and statutory bodies (sect. 23) to further the objectives of the Act (sect. 18). This Framework must consider several issues related to any proposed policies, including climate change, social, human health, economic and ecological considerations, national priorities, policy objectives and actions, legal, financial, and institutional requirements, an action plan, and monitoring mechanisms (sect. 18(2)). In addition, environmental impact assessments (EIA) must be evaluated considering this Framework (sect. 22).

The Act also requires pollution control through a registry of sources of pollution and the implementation of pollution control permits (which are subject to public consultation processes), and associated levies (sects. 24-35). In addition, the Director has the power to order pollution to be discontinued, and an inspector has the power to order a prohibition notice, which may require a facility operator to cease activities and correct their harmful effects (sects. 36 -37).

Part VI of the Act deals with environmental impact assessment processes, including strategic environmental impact assessment (sect. 40) and regular EIA (sects 41-46). Then, part VII deals with environmental management and monitoring systems, including environmental management plans (sect. 48). Part VIII sets up natural resource conservation and management system, including freshwater resources, mangroves and coastal wetlands, and watersheds (sect. 53). The Department has extensive authority in this area (sect. 53(2)). Part VIII allows establishing protected areas and their management (sects. 54-55). Protected areas may be designated for “any area of land or any area within the territorial seas” (sect. 55(1)). However, this limitation to the territorial seas may be reconsidered, especially if Antigua and Barbuda seeks to establish such areas in other maritime zones within its national jurisdiction, such as its EEZ and CS, for the protection and preservation of the marine environment in other maritime zones.

⁵¹ These include the Antigua and Barbuda Port Authority, the Pesticides and Toxic Chemicals Control Board, the Central Board of Health, the Development Control Authority, the Fisheries Division, the Plant Protection Division and Forestry Unit, the National Park Authority, the Fire Department, the National Solid Waste Management Authority, and “such other entities as may be appropriate from time to time”.

Part VIII, sections 65 to 75, also contains provisions intended to implement the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) (UN, 1973).

Part IX of the Act deals with access and benefit sharing in relation to genetic resources and implements Antigua and Barbuda's rights and obligations under the Convention on Biological Diversity (CBD).⁵² The term biodiversity in the Act includes biodiversity in marine and other aquatic ecosystems, and biodiversity prospecting logically would include such actions in the marine environment. Biological resource includes genetic resources (sect. 2). However, the Act does not expressly define genetic resources as including marine genetic resources; neither does it exclude this possibility. Nevertheless, it is recommended that the Act be amended to provide greater certainty regarding its coverage of marine genetic resources.

Part IX establishes a regime for access and benefit sharing through an application process to the Department of Environment and to the Access and Benefit Sharing Clearing House of Antigua and Barbuda (sect. 80).

Part X creates an Environmental Information Management and Advisory System (EIMAS), a Geographic Information Systems (GIS) Unit, a Natural Resources Inventory, and an Environmental Registry (sects. 84-87).

Part XI requires the Minister of Health, Wellness and the Environment to ensure that Antigua and Barbuda collaborates with the OECS and CARICOM to create strong negotiating positions concerning multilateral environmental agreements and promote common positions on the negotiation and implementation of those agreements (sect. 90). The Minister must integrate international climate change and development principles into multilateral environmental agreement negotiations and establish mechanisms to facilitate the exchange of information about them (sect. 90). This part is relevant to Antigua and Barbuda's position in the negotiations towards the international legally binding instrument under UNCLOS on BBNJ.

Part XII of the Act establishes the Sustainable Island Resources Framework Fund to support Antigua and Barbuda's implementation of multilateral environmental agreements, its participation in regional

⁵² In section 76, the Government asserts sovereign rights in the following terms. Antigua and Barbuda exercises sovereign rights over the genetic resources existing for the benefit of present and future generations. It is the duty of the State to regulate the access to biological resources and the related use of community knowledge and technologies. The Government also recognises the need to promote and support traditional and indigenous technologies important in the conservation and sustainable use of genetic resources and to complement them by modern technologies, to ensure the implementation of the relevant provisions of the CBD, in particular article 15 on access to genetic resources and article 8(j) on the preservation and maintenance of knowledge, innovations and practices of indigenous and local communities.

Photo: iStockPhoto



environmental projects, ecosystem resilience, climate change adaptation, the management and expansion of protected areas for the conservation, protection, and maintenance of biodiversity, and “financial support to vulnerable groups and communities for disaster preparedness, disaster recovery and rehabilitation” (sect. 92). The functions of the Fund are wide-ranging (sect. 93).⁵³

Part XIII deals with compliance and enforcement through written notices of violations (sect. 102), the issuing of administrative orders and other legal actions (sects. 103-105). Private parties may also take actions to enforce the Act, and liabilities may extend to directors or officers of offending companies (sects. 106-107). Part XIV continues by specifying offences and penalties for, *inter alia*, discharges into watercourses and the atmosphere and offences against protected wildlife and protected areas (sects. 109-112).

Part XV rounds up the Act by providing for environment-related information gathering, a national laboratory programme, scientific, technical and management research, public information, education and training (sects. 113-116).

Final provisions of the Act include those encouraging use of scientific evidence (sect. 117), allowing appeals to the Minister (sect. 119) and public comments (sect. 120), and empowering the Minister to make a wide range of Regulations for the Act (sect. 121).

The Environmental Protection and Management Act, 2019, is complemented by the Marine Areas (Preservation and Enhancement) Act, 1972, (Antigua and Barbuda, 1972a) and the Dumping at Sea Act, 1975 (Antigua and Barbuda, 1975b). Section 3(1) of the Marine Areas (Preservation and Enhancement) Act allows the Minister to designate:

“any portion of the marine areas of Antigua and Barbuda as a restricted area where he considers that special steps are necessary for-

- a. preserving and enhancing the natural beauty of such areas;
- b. the protection of the flora and fauna and wrecks found in such areas;
- c. the promotion of the enjoyment by the public of such areas;
- d. the promotion of scientific study and research in respect of such areas.”

No person is allowed to go in or alight upon a restricted area and the Act creates an offence that makes persons liable to a fine (sect. 3(2)). The Marine Areas (Preservation and Enhancement) Regulations, 1973, were made under the Act (Antigua and Barbuda, 1973d). These assign responsibility for management and control of restricted areas to the Fisheries Officer (sect. 3), prohibit entry into restricted areas without written permission of the Fisheries Officer (sect. 4), including by boat or another vessel (sect.5), and prohibit the removal of fish, birds, flora and fauna, wrecks, buoys, and markers from restricted areas (sect. 6).

The Regulations also prohibit the poisoning, killing, injury or destruction of any bird or fish, the disposal of garbage, or interference with the seabed in a restricted area (sects. 7-9). To enforce these rules, the Fisheries Officer is granted powers to board any ship, boat, or vessel if it is operating in a restricted area, and to arrest without warrant a person if he suspects that person is guilty of an offence against the Regulations (sect. 10). The Fisheries Officer is also granted the “general powers and duties of a police officer”, and may seize and confiscate any fish, bird, flora and fauna, wreck, buoy, or marker taken from a restricted area (sect. 10). The Marine (Restricted Areas) Order, 1973, designates two sets of reefs as restricted marine areas, namely, the Diamond Reef and Salt Fish Tail Reef (Antigua) and Palaster Reef (Barbuda) (Antigua and Barbuda, 1973c).

⁵³ See also: Antigua and Barbuda SIRF Fund. Available at www.environment.gov.ag/sirf. Accessed on 4 December 2021.

The Dumping at Sea Act, 1975 (Antigua and Barbuda, 1975b) aims to implement the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (London Convention) and the Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft (Oslo Convention) (UN, 1972b).⁵⁴ Section 3 of the Act prohibits dumping at sea unless done under a licence.⁵⁵ Discharges incidental to normal operation of a ship, aircraft, vehicle, hovercraft or marine structure do not constitute dumping under the Act (sect. 3(3)), including certain deposits (sect. 3(4)-(5)). In addition, dumping to secure a ship's safety may also be excluded (sect. 3(7)). Persons violating the Act can be liable to summary conviction or indictment, and liable to either a fine or imprisonment (sect. 3(6)). Other provisions of the Act describe the licensing procedure (sects. 4-5), publication of information about licences and enforcement provisions (sects. 6-7). Section 8 provides that the Minister may order that a procedure under the London Convention or Oslo Convention be "an accepted procedure as between the Government of Antigua and Barbuda and the Government of any Convention State so specified" and to allow foreign enforcement officers to enforce the procedure on an Antiguan ship or hovercraft, and an Antiguan enforcement officer to enforce the procedure on a foreign ship or hovercraft.⁵⁶

4.1.5 Maritime security

Given the range of activities in the ocean, Antigua and Barbuda requires an effective maritime security framework, including monitoring, control and surveillance and enforcement systems. In addition to the traditional monitoring and enforcement mechanisms provided by the Police, Defence Force, Immigration and Customs authorities (see the discussion related to the Defence Act, 2006 below), Antigua and Barbuda also relies upon a range of government committees and organisations with maritime security responsibilities. Key entities include:⁵⁷

- The Designated Authority. The Permanent Secretary, Ministry of Foreign Affairs serves as the Designated Authority and is assisted by the Designated Authority Committee. The latter consists of representatives from the Antigua and Barbuda Department of Marine Services and Merchant Shipping (ADOMS), Antigua and Barbuda Defence Force (ABDF), Customs, Immigration, Office of National Drug and Money Laundering Control Policy (ONDCP) and Police. This Committee approves port security plans (including ISPS Code matters), provides maritime security oversight, and sets maritime security levels.⁵⁸

54 It is beyond the scope of the present report to assess whether the Dumping at Sea Act, 1975 satisfactorily implements all of the obligations under the multilateral environmental agreements to which Antigua and Barbuda is a party. However, it may be helpful for a national study or assessment to be made of these multilateral environmental agreement commitments in order to close any gaps left by national legislation.

55 Section 3(1) provides that "Subject to the provisions of this section, no person, except in pursuance of a licence granted under section 4 and in accordance with the terms of that licence shall-

(a) dump substances or articles in Antiguan waters;

(b) dump substances or articles in the sea outside Antiguan waters from an Antigua ship, aircraft, hovercraft or marine structure, or

(c) load substances or articles on to a ship, aircraft, hovercraft or marine structure in Antigua and Barbuda or in Antiguan waters for dumping in the sea, whether in Antiguan waters or not; or

(d) cause or permit substances or articles to be dumped or loaded as mentioned in paragraphs (a) to (c).

Section 3(2) clarifies that "substances and articles are dumped in the sea for the purposes of this Act if they are permanently deposited in the sea from a vehicle, ship, aircraft, hovercraft, or marine structure or from a structure on land constructed or adapted wholly or mainly for the purpose of depositing solids in the sea."

56 There is no definition of Minister in the Act. Since its focus is on marine pollution it is assumed that the relevant Minister is the Minister of Health, Wellness and the Environment.

57 These entities are described in the Antigua and Barbuda draft National Maritime Security Strategy, a confidential document viewed by the consultants. The Antigua and Barbuda National Maritime Security Strategy (18 Oct 2021 edn). Antigua and Barbuda, 2021a.

58 Note that there are plans to replace the Designated Authority Committee with the International Ship and Port Facility Security Code, Maritime Safety and Security Committee. The latter would be a technical committee comprising of members from various law enforcement agencies and which would advise the Designated Authority in relation to the ISPS Code on port and ship security. Communication from ADOMS, 28 April 2022.

- The National Security Council. Established under the National Security Council Act, 2006 (Antigua and Barbuda, 2006a; 2020g) and chaired by the Prime Minister with high-level representation from the Attorney-General's Department, Customs, ABDF, Immigration, ONDCP and Police, is the Government's principal forum for considering national security matters, including those related to maritime areas.
- The National Ocean Governance Committee. This Committee has two security-oriented sub-committees, namely, the Maritime Boundary Delimitation Sub-committee and Maritime Security Sub-committee.
- The ADOMS. The national authority for ship security includes both the International Ship Registry and the National Shipping Register.
- The ABDF. The Defence Force has broad law enforcement authority over the maritime zones in keeping with national laws and regulations.

Other relevant bodies include:

- The Office of National Drug and Money Laundering Control Policy. It operates under the Office of National Drug and Money Laundering Control Policy Act, 2003 (Antigua and Barbuda, 2003c), as amended,⁵⁹ and works to prevent terrorism, money laundering and drug trafficking, as well as to prevent unlawful uses of proceeds of crime. It is guided by the Prevention of Terrorism Act, 2005 (Antigua and Barbuda, 2005b), the Money Laundering (Prevention) Act, 1996 (Antigua and Barbuda, 1996), the Proceeds of Crime Act, 1993 (Antigua and Barbuda, 1993a), and the Misuse of Drugs Act, 1974 (Antigua and Barbuda, 1974), as amended.

Antigua and Barbuda's maritime security framework is also strengthened by its participation in global and regional security cooperation, through:

- The International Maritime Organization focuses on Maritime Security and Piracy (IMO, 2022).
- The Organisation of American States' Inter-American Committee against Terrorism has a Maritime and Port Security Program (OAS, 2022).
- The Organisation of Eastern Caribbean States, under the Ocean Governance and Fisheries Programme, aims to, amongst other things, 'maintain maritime safety and security' (OECS, 2022).
- CARICOM's Implementing Agency for Crime and Security is a regional institution of CARICOM with a focus on maritime security⁶⁰ (IMPACS, 2013; Ralby, *et al.*, 2020).
- The Caribbean Customs Law Enforcement Council, a multilateral regional organisation that facilitates exchanges of information, mutual assistance, and cooperation to prevent and repress customs offences in the Caribbean. This Council comprises thirty-eight Customs administrations and its Membership comprises Customs administration from the Caribbean and Latin America as well as Canada, the Republic of France, the Kingdom of the Netherlands, the Kingdom of Spain, the United Kingdom of Great Britain and Northern Ireland and the United States of America (CCLEC, 2022).
- The Regional Security System, headquartered in Barbados,⁶¹ is implemented in the laws of Antigua and Barbuda through the Regional Security System Act, 1998 (Antigua and Barbuda, 1998a). It is a regional body created by the Treaty Establishing the Regional Security System (RSS, 1996), comprising Member States of the OECS and Barbados (Antigua and Barbuda, Barbados, the Commonwealth of Dominica, Grenada, Saint Christopher and Nevis, Saint Lucia, and Saint Vincent and the Grenadines).

⁵⁹ The Office of National Drug and Money Laundering Control Policy Act, 2003, was amended in 2008, 2017 and 2020: Antigua and Barbuda, Office of National Drug and Money Laundering Control Policy (Amendment) Act, 2008 (No. 17 of 2008).

⁶⁰ Adopted at the 24th Inter-Sessional Meeting of the Conference of Heads of Government of CARICOM, 18-19 February 2013, Port-au-Prince, Haiti.

⁶¹ Barbados Regional Security System Act, 1998, CAP. 174b, (1998).

- The purposes of the Regional Security System, described in Article 4 of the Treaty, are wide-ranging and include:

to promote co-operation among the Member States in the prevention and interdiction of traffic in illegal narcotic drugs, in national emergencies, search and rescue, immigration control, fisheries protection, customs and excise control, maritime policing duties, natural and other disasters, pollution control, combating threats to national security, the prevention of smuggling, and in the protection of offshore installations and exclusive economic zones.

In addition, Antigua and Barbuda cooperates on a bilateral basis with the United States to suppress maritime crime (United States and Antigua and Barbuda, 1995; 1996; 2003).

The Defence Act, 2006 (Antigua and Barbuda, 2006b), as amended by the Defence (Amendment) Act, 2020 (Antigua and Barbuda, 2020b), establishes the Antigua and Barbuda Defence Force. Section 5 of the Act, as amended, authorises an Officer or soldier in command of any unit of the Antigua and Barbuda Defence Force, to stop, board and search, and direct to any place specified, any vessel reasonably suspected of engaging in an unlawful operation within the territorial waters. This power also includes the authorization to pursue and detain persons, and to use such force as may be necessary (sect. 5(2)).⁶² Under section 213(1)-(2) the Defence Force is empowered to:

“213. (1) ... (a) enforce the provisions of every law relating to

- (i) the regulation of any harbour or port of Antigua and Barbuda,
- (ii) quarantine,
- (iii) immigration,
- (iv) fisheries,
- (v) territorial waters and economic zones,
- (vi) safety at sea;

(b) detect and prevent contravention of laws relating to revenue and customs;

(c) prevents persons from boarding, holding or climbing on to any vessel without the permission of the master of the vessel, and, if necessary, remove any such person from the vessel.”

For the purposes of carrying out their duties, the members of the Defence Force “have the same powers, authorities, immunities and privileges as are conferred by law on members of the Police Force” (sect. 213(2)).

Defence Force officers also are empowered to board, stop, search vessels, break open any receptacle or break down any door, direct that a vessel be taken to such place as the officer specifies (and remain on board, if necessary), and deliver any property reasonably expected to have been stolen, unlawfully obtained, or prohibited, to a constable (sect. 216(1) (l)(e)). Defence Force officers has also the authority to arrest without warrant “any person upon reasonable suspicion on having committed or being about to commit a criminal offence,” including an offence against an enactment in the Third Schedule (sect. 216(2)(a) and 218(1)).⁶³

Finally, in maritime security, through the Maritime Piracy Act, 2013 (Antigua and Barbuda, 2013b), Antigua and Barbuda has created the offence of piracy in its national law. The Act subjects acts of piracy to serious

⁶² Section 5(1)-(2) are mirrored, with more detail, by section 216(1)-(2). The latter section applies to any “any vessel within the territorial waters or in any port, harbour, bay, river, roadstead or creek in Antigua and Barbuda” (sect. 216(1)(a)).

⁶³ The statutes listed in the Third Schedule are the Merchant Shipping Act, Misuse of Drugs Act, Proceeds of Crime Act, Money Laundering Prevention Act, Terrorism Prevention Act, Fisheries Act, and Immigration and Passport Act.

criminal sanctions including lengthy imprisonment and significant fines. Nevertheless, although the term piracy is defined to apply to actions on the high seas and outside of the jurisdiction of any State (sect. 2), enforcement under the Maritime Piracy Act is limited to acts committed in “the territorial waters of Antigua and Barbuda or on the high seas” (sect. 3).⁶⁴ As a result, the Maritime Piracy Act, as amended, limits its enforcement to acts of piracy committed within Antigua and Barbuda’s territorial seas or on the high seas; it thereby excludes enforcement over acts of piracy committed in the EEZ. This is an unnecessary restriction of Antigua and Barbuda’s jurisdiction. Under UNCLOS, jurisdiction may be enforced over crimes of maritime piracy in the territorial sea, the EEZ and the high seas.⁶⁵ Antigua and Barbuda may assert jurisdiction over acts of piracy wherever they are committed; it may enforce that jurisdiction within its national territory or, subject to the rules of international law, other areas (Crawford, 2012).

4.2 National institutional framework

As described above, the national legal instruments of Antigua and Barbuda provide roles for several institutions in ocean governance.⁶⁶

Some aspects of ocean governance and coastal zone management are overseen by the Department of Fisheries (DOF) in the Ministry of Agriculture, Lands, Fisheries and Barbuda Affairs. The Minister in charge can establish fisheries management areas, fishing priority areas, and marine reserves under the Fisheries Act, 2006 which, as mentioned earlier, governs the sustainable management of fisheries, aquaculture, licencing and registration systems for fishing and associated vessels.⁶⁷

The Department of Environment is the national government agency responsible for environmental management in Antigua and Barbuda. It is the focal point for implementing the Rio Conventions – the Convention on Biological Diversity (UN, 1992a), the United Nations Convention to Combat Desertification (UN, 1992b) and the United Nations Framework Convention on Climate Change (UN 1992a; 1994b) – and was accepted as a Direct Access Accredited Entity to the Green Climate Fund in 2017. In addition, it is guided by the national legislation of Antigua and Barbuda, particularly the Environmental Protection and Management Act, 2019, which implements a range of international environmental treaties in national law. The Department falls under the Ministry of Health, Wellness and the Environment.

Marine reserves under the Fisheries Act, 2006, may overlap with the protected areas that can be created under the Environmental Protection and Management Act, 2019, and thus there is a potential for overlapping

64 The scope of the enforcement section was extended to the high seas by means of section 3 of the Maritime Piracy (Amendment) Act, 2014. (No. 14 of 2014). The use of the phrase territorial waters refers to the territorial sea and is not defined in the Maritime Areas Act, which uses the terminology of UNCLOS. Section 3 of the Territorial Waters Act, which was consolidated by the Maritime Areas Act, defines territorial waters as comprising “those areas of the sea, having as their landward limit the baseline ... and as their seaward limit a boundary line which at every point is twelve nautical miles or such other distance from the nearest point of those baselines as the Minister by order prescribes.” The effect of this definition would be to make territorial waters equivalent to the territorial sea.

65 Article 100 of UNCLOS provides that “All States shall cooperate to the fullest possible extent in the repression of piracy on the high seas or in any other place outside the jurisdiction of any State”. Art 105 provides that “On the high seas, or in any other place outside the jurisdiction of any State, every State may seize a pirate ship or aircraft, or a ship or aircraft taken by piracy and under the control of pirates and arrest the persons and seize the property on board.” Article 58(2) extends these provisions to the EEZ: “2. Articles 88 to 115 and other pertinent rules of international law apply to the exclusive economic zone in so far as they are not incompatible with this Part.” There is no similar provision on piracy applicable to the territorial sea. However, in the territorial sea the coastal State has sovereignty subject to UNCLOS and the rules of international law (art. 2) and can take jurisdiction over a crime the consequences of which “extend to the coastal State” or which “is of a kind to disturb the peace of the country or the good order of the territorial sea” (art. 27(1)(a)-(b)). Violent crimes such as armed robbery may be argued to fall under the latter category, such allowing for prosecution of acts of piracy committed in the territorial sea. United Nations Convention on the Law of the Sea (Adopted 10 December 1982, in Force 16 November 1994) 1833 Unts 3.

66 For a visual representation see figure 2 set out in section 4.2. summarising key national components of the legal and institutional framework for ocean governance under UNCLOS and related instruments.

67 See section 4.1.3 Fisheries.

authority between the Ministry of Agriculture, Lands, Fisheries and Barbuda Affairs, on the one hand, and the Ministry of Health, Wellness and the Environment, on the other.⁶⁸

The National Ocean Governance Committee was established under the auspices of the Prime Minister's Office to provide advice to the Prime Minister and Cabinet on the management of the various maritime zones over which Antigua and Barbuda exercises sovereignty, sovereign rights, or jurisdiction under international law – including its internal waters, archipelagic waters, territorial sea, contiguous zone, exclusive economic zone and the continental shelf. The NOGC is an inter-agency Committee, including representatives from ministries, councils, units, departments, and statutory bodies with maritime responsibilities, including customs and immigration.⁶⁹

The NOGC is the mechanism for coordinating Government policy relating to the management of the maritime space under the jurisdiction of Antigua and Barbuda. Its scope is to carry out its responsibilities in consultation with the relevant implementing governmental ministries, agencies, and departments as with those non-governmental entities whose functions concern ocean governance issues.

The responsibilities of the NOGC include issues related to maritime boundary delimitation, management and sustainable use of fisheries and other living marine resources, exploration and exploitation of non-living marine resources including hydrocarbons, protection of the marine environment, marine scientific research, maritime customs, and immigration enforcement, as well as maritime administration including shipping.

Members of the NOGC are the Director of Marine Services and Merchant Shipping, the Permanent Representative to the International Maritime Organization, a senior representative of the Ministry of Foreign Affairs, a senior representative of the Ministry of Legal Affairs, the Chief Fisheries Officer, the Chief Environment Officer, the Chief Immigration Officer, the Comptroller of Customs, the Director of the ONDCP, the Chief of Defence Staff and the Commissioner of Police.

Under the NOGC, three initial sub-committees were established, each with a specific set of responsibilities and chaired by a member of the Committee, namely, the Maritime Boundary Delimitation, Legislation, and Marine Scientific Research sub-committees.

The sub-committee on Maritime Boundary Delimitation is responsible for settling the maritime boundaries of Antigua and Barbuda under articles 74(1) and 83(1) of UNCLOS.

The sub-committee on legislation coordinates the development of draft legislation related to the areas of competence of the NOGC in collaboration with the Office of the Attorney General.

The sub-committee on Marine Scientific Research reviews and examines applications from foreign States and competent international organizations to conduct marine scientific research in waters falling under the jurisdiction of Antigua and Barbuda, in accordance with the relevant provisions of UNCLOS.

The Department of the Blue Economy (DOBE) was created with a view to include ocean resources and the marine environment in one department, and to provide for the centralisation of information for projects in these areas. The mandate of the Department is not yet comprehensively defined, as is its legislative structure. It is meant to have overarching responsibility for the blue economy, which as illustrated below potentially covers an extensive range of areas, from the environment to tourism, fisheries, and renewable energy, etc.⁷⁰ Initially focusing on policy coordination, the DOBE is also working on projects which include both traditional and emerging maritime sectors. The aim of adding and exploring these new sectors is to provide increased

68 The DOE has indicated that rather than competition or conflict, both departments would seek a more collaborative approach. DOE Response to Draft Report.

69 Personal communication from ADOMS, 8 March 2022.

70 See section 6.1, Blue Economy.



Photo: iStockPhoto

social and economic benefits for current and future generations by protecting and restoring biodiversity while at the same time increasing the productivity and resilience of the natural resources found within marine ecosystems (Antigua and Barbuda, 2014b). Like the Department of Environment, the DOBE will be required to coordinate and encourage cooperation between a several governmental departments and units in diverse topic areas. Unlike the Department of Environment or the Department of Fisheries, the Department of the Blue Economy does not yet have a comprehensive statutory basis. Antigua and Barbuda may wish to establish such a statutory basis.

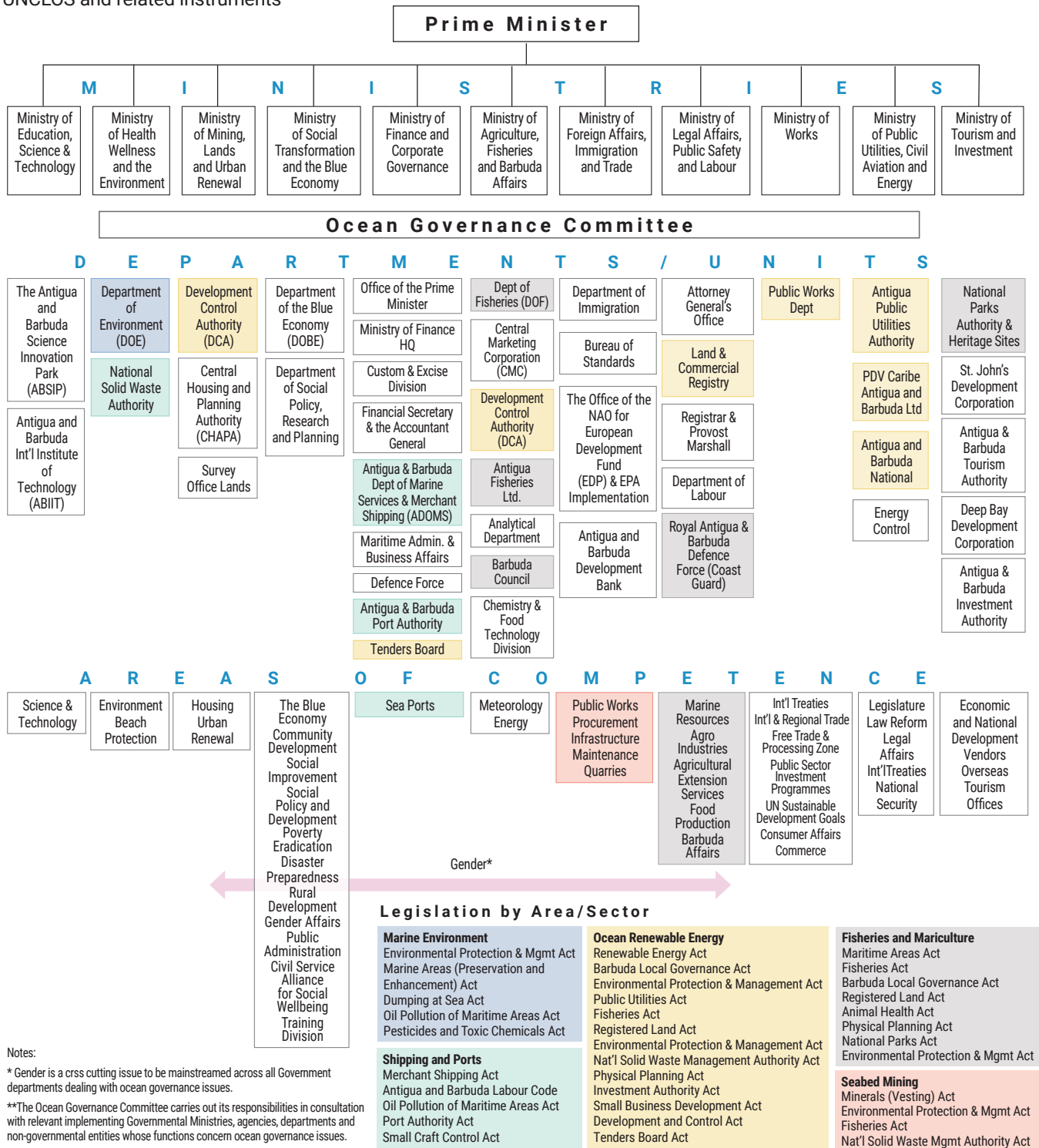
The DOF has been called upon to undertake a wide array of non-fisheries related projects and activities ranging from beach monitoring to providing advice on land-based proposals within the coastal zone area. Since technical expertise is lacking across ministries, frequently, departments are required to make piecemeal decisions affecting the marine environment without understanding the full context of environmental systems, or governing legislation.⁷¹ For example, the Development Control Authority (DCA) is mandated to oversee the development of projects. Some land-based projects can spill over into the marine environment, yet the DCA is not populated with the technical expertise to oversee such facets of these initiatives. This can lead to activities initially receiving approval and then, upon consultation with other entities it is determined that some aspects infringe upon international, multilateral, regional or national commitments.⁷² Similarly, large programmes focusing on climate change and coastal ecosystems are entrusted to the DOE although the data needed to inform them is collected by the DOF. Other programmes are initially shared between various departments such as the DOE, DOF and the Ministry of Works. However, the technical capacity often lies with one department who then bears the brunt of the work in implementing projects.

The relationship between ministries, departments and areas of competence is visually described in figure 2. Two important points to be highlighted are illustrated by this figure. Firstly, ocean governance and the blue economy together cover a very wide range of subject areas. Secondly, most sub-topic areas in the present report require complex interactions between a range of public authorities.

⁷¹ DOF responses to the applied questionnaire.

⁷² Ibid.

Figure 2. Key national components of the legal and institutional framework for Ocean Governance under UNCLOS and related instruments



Notes:

* Gender is a crss cutting issue to be mainstreamed across all Government departments dealing with ocean governance issues.

**The Ocean Governance Committee carries out its responsibilities in consultation with relevant implementing Governmental Ministries, agencies, departments and non-governmental entities whose functions concern ocean governance issues.

Note: Colour coding indicates connections between institutions and laws in topic areas. For example, the Fisheries Department implements or has competences under the Fisheries Act, 2006, and the Maritime Areas Act, 1982.

Source: Bohan, 2021

V. Governance Frameworks Applicable to Selected Priority Sectors

The Government of Antigua and Barbuda has identified mariculture, ocean renewable energy and seabed mining as the three priority sectors to be considered in sectoral ocean governance studies. These sectoral studies complement and expand upon the high-level overview already provided.

5.1 Sector I: Mariculture

Mariculture or marine aquaculture is the culture of aquatic organisms both plants and animals either entirely or partially in the marine environment (FAO, 2020; Sivalingam, 1981). Typically, mariculture involves keeping marine organisms in enclosures under conditions where they can thrive (FAO, 2020).

Production types can vary in scope, ranging from systems that simply exclude predators and control competitors (extensive) to those that enhance food supply (semi-intensive) to those that provide all the nutritional requirements (intensive). Generally, the higher the density of organisms in a system, the more management and resources are needed to maintain it. Correspondingly, as the density of individuals increases so does the quantity of waste produced as well as the risk of pathogens developing and spreading (Naylor *et al.*, 2000) widely depending on the species and the type of set-up used (Thomas *et al.*, 2019).

Predatory species require large quantities of resources such as fish meal and fish oil to grow. This can lead to the depletion of other wild fisheries stocks and can be costly (Naylor *et al.*, 2000). Species such as carp and molluscs, which are herbivorous or filter feeders, are better suited towards the goals of a blue economy system. These species require fewer inputs making their net contribution to food security higher (Naylor *et al.*, 2000). Seaweed farming requires the least amount of management and resource inputs. Therefore, this type of mariculture has the most potential to develop into a sustainable, prosperous and environmentally friendly blue economy option (FAO, 2020).

For SIDS, offshore mariculture has the potential to increase seafood production and facilitate sustainable economic growth. This is becoming increasingly desirable as land and freshwater resources become progressively more scarce (FAO, 2020). Once the mariculture industry is established, has a solid framework based on applied research technical capacity, and is supported by policy and legislation to protect the ecosystems; then one could see an increase in sustainable fish production.⁷³

Currently Antigua and Barbuda has one mariculture operator.⁷⁴ The “Caribbean Seamosm Farms” has been farming seaweed since 1994. Using a rope propagation technique, the operator produces ‘human grade’ *Eucheuma* (*Eucheuma cottonii*) on the northeastern side of Antigua (CSF, 2022).

⁷³ FAO, 2014; Naylor *et al.*, 2000; World-Bank and UNDESA, 2017 p.17

⁷⁴ DOBE. Responses to the applied questionnaire.

5.1.1 Applicable legal provisions

5.1.1.1 International legal provisions

Many international treaties have general obligations pertaining to a State's mariculture activities. UNCLOS recognizes a coastal State's sovereignty over its internal waters, archipelagic waters if applicable, and territorial sea (art. 2(1)), including the rights to regulate and manage mariculture operations. In the EEZ, a coastal State has "sovereign rights over the waters superjacent to the seabed and of the seabed and its subsoil for the purpose of exploring and exploiting, conserving, and managing the natural resources, whether living or non-living" (art. 56(1)(a)). Therefore, within its EEZ a coastal State can establish mariculture operations, put up structures and installations as well as create safety zones around such operations to protect them (art. 56(1)(b)(i)). Mariculture operations within these maritime zones are also subject to the coastal State's obligations under UNCLOS about navigation, protection, and preservation of the marine environment, as well as managing of straddling and highly migratory fish stocks.

5.1.1.1.1 Navigation

According to UNCLOS, mariculture activities may be permitted within a coastal State's IW, AW and TS. At the same time, they should not interfere with the exercise by other States of their rights to innocent passage through these maritime zones (arts. 8, 17, 52) and archipelagic sea lanes passage (art.53(2)). This suggests that coastal States have a duty to regulate mariculture projects (Percy *et al.*, 2013) and address potential conflicts between such activities and other activities in these maritime zones. The States do this by adopting laws and regulations regarding the safety of navigation and the regulation of maritime traffic (art.21(1)), and by designating sea lanes (arts. 22, 53(1)). Furthermore, the coastal State shall give due publicity to all such laws and regulations and charts marked with such sea lanes (arts. 21(3), 22, 53).

In establishing mariculture operations in EEZ, the coastal State shall have due regard to the rights and duties of other States (art. 56), including the freedom of navigation by all States (art. 58).

Photo: iStockPhoto



5.1.1.1.2 Protection and preservation of the marine environment

Article 56(1) of UNCLOS provides that within the EEZ, the coastal State has sovereign rights to explore and exploit, conserve, and manage the natural resources, whether living or non-living, of the waters superjacent to the seabed and of the seabed and its subsoil and has jurisdiction regarding the protection and preservation of the marine environment. Similarly, part XII of the Convention requires all States to protect and preserve the marine environment (art.192), while at the same time recognising that States have the sovereign right to exploit their natural resources pursuant to their environmental policies and in accordance with their duty to protect and preserve the marine environment (art. 193). Part XII also requires States to undertake environmental impact assessments if planned activities under their jurisdiction may cause substantial pollution (arts. 192, 206).

5.1.1.1.3 Management of migratory and straddling fish stocks

Articles 63 and 64 of UNCLOS acknowledge the need to limit the impacts on highly migratory species and on fish stocks that migrate between the exclusive economic zone of coastal States and the high seas. In addition, Article 5 of the United Nations Fish Stocks Agreement (UN, 1995) sets out a number of binding obligations that could affect mariculture activities within a States' EEZ. It details that in order to conserve and manage straddling and highly migratory fish stocks, States fishing on the high seas shall:

- a. adopt measures for long-term sustainability of straddling fish stocks and highly migratory fish stocks and promote the objective of their optimum utilization;
- b. ensure that measures are based on the best scientific evidence available and are designed to maintain and restore stocks to levels capable of producing maximum sustainable yield as qualified by relevant environmental and economic factors, including the special requirements of developing States, and taking into account fishing patterns, the interdependence of stocks and any generally recommended international minimum standards, whether subregional, regional or global;
- c. apply the precautionary approach in accordance with article 6;
- d. assess the impacts of fishing, other human activities and environmental factors on target stocks and species belonging to the same ecosystem or associated with or dependent upon the target stock;
- e. adopt, where necessary, conservation and management measures for species belonging to the same ecosystem or associated with or dependent upon the target stocks, with a view to maintaining or restoring populations of such species above levels at which their reproduction may become seriously threatened;
- f. minimize pollution, waste, discards, catch by lost or abandoned gear, catch of non-target species, both fish and non-fish species, (hereinafter referred to as non-target species) and impacts on associated or dependent species, in particular endangered species, through measures including, to the extent practicable, the development and use of selective, environmentally safe and cost-effective fishing;
- g. protect biodiversity in the marine environment;
- h. take measures to prevent or eliminate overfishing and excess fishing capacity and to ensure that levels of fishing effort do not exceed those commensurate with the sustainable use of fishery resources;

- i. take into account the interests of artisanal and subsistence fishers;
- j. collect and share, in a timely manner, complete and accurate data concerning fishing activities on, *inter alia*, vessel position, catch of target and non-target species and fishing effort, as set out in Annex I, as well as information from national and international research programmes;
- k. promote and conduct scientific research and develop appropriate technologies in support of fishery conservation and management; and
- l. implement and enforce conservation and management measures through effective monitoring, control and surveillance.

While Antigua and Barbuda is not a party to the United Nations Fish Stocks Agreement, 1995, it is a party to the Agreement Establishing the Caribbean Regional Fisheries Mechanism (CARICOM, 2002). The CRFM Agreement includes the objectives of “the efficient management and sustainable development of marine and other aquatic resources within the jurisdictions of Member States [and] the promotion and establishment of co-operative arrangements among interested States for the efficient management of shared, straddling or highly migratory marine and other aquatic resources” (art. 4(a)-(b)).

The Agreement also requires the CRFM to be guided by the following principles:

- a. maintaining biodiversity in the marine environment using the best available scientific approaches to management;
- b. managing fishing capacity and fishing methods so as to facilitate resources sustainability;
- c. encouraging the use of precautionary approaches to sustainable use and management of fisheries resources.
- d. promoting awareness of responsible fisheries exploitation through education and training;
- e. according due recognition to the contribution of small-scale and industrial fisheries to employment, income and food security, nationally and regionally and,
- f. promoting aquaculture [mariculture] as a means of enhancing employment opportunities and food security, nationally and regionally (art. 5 (a)-(f)).⁷⁵

As suggested in Section 3.3, in satisfying its obligations under the CRFM Agreement – including its proposed mariculture activities – Antigua and Barbuda may seek guidance from the provisions of the United Nations Fish Stocks Agreement.

5.1.1.1.4 High seas obligations

States have an obligation to preserve and protect the marine environment and give due regard for the interests of other States in their exercise of the freedom of the high seas. Part XII of UNCLOS on the preservation and protection of the marine environment sets out four obligations, among others, for States which apply to mariculture on the high seas:

- States have an obligation to take all measures necessary to prevent, reduce and control pollution of the marine environment from any source. States must use the best practicable means at their disposal and in accordance with their capabilities (arts. 192 and 194(1)).
- States must take all measures necessary to prevent the intentional or accidental introduction of species, alien or new, to a particular part of the marine environment, which may cause significant and harmful changes (art. 196)
- States are required, either directly or through competent international organizations, to monitor the risks or effects of pollution of the marine environment (art. 204)

⁷⁵ It should also be noted that under the CRFM Agreement every Member has one vote (art. 14 (1)), and that unless otherwise provided, decisions of the deliberative organs of the Mechanism shall be reached by consensus. In the absence of consensus decisions shall be deemed adopted if supported by a qualified majority of three-quarters of the Members (art. 14 (2)).

- When States have reasonable grounds for believing that planned activities under their jurisdiction or control may cause substantial pollution or significant and harmful changes to the marine environment, they must assess the potential effects of such activities and communicate reports of their assessments (art. 206).

To ensure accountability for violations of these obligations, UNCLOS also includes two provisions that are relevant to the responsibility of States for mariculture operations on the high seas:⁷⁶

- States are responsible for the actions of their nationals and are obliged to cooperate with other States in taking measures to ensure the conservation of all living resources of the high seas (art. 117).
- States must have adequate legislation to enable prompt and adequate compensation in respect of damage caused by pollution of the marine environment by natural or juridical persons under their jurisdiction (art.235(1)-(2)).

Where it is possible to identify the nationality of the operator, article 235 establishes State responsibility for the fulfilment of international obligations concerning the protection and preservation of the marine environment.

5.1.1.1.5 Convention on International Trade in Endangered Species of Wild Fauna and Flora

The Convention on International Trade in Endangered Species of Wild Fauna and Flora regulates the trade in aquatic species including those that can be commercially exploited through mariculture. The list of plants and animals covered under the Convention can be found in three appendices. Appendix I lists the species which are threatened with extinction for which trade is strictly restricted and only authorized for non-commercial scientific or educational purposes. Appendix II includes those that are not necessarily threatened with extinction but may become so unless their trade is regulated to ensure their survival. Appendix III includes those species protected by legislation enacted and in force within the jurisdiction of a party. Their trade is controlled and requires cooperation with other Parties (article II (1)-(3)).

5.1.1.1.6 Convention on Biological Diversity

The Convention on Biological Diversity underpins all fishing, aquaculture and mariculture activities. Articles 3 and 4 affirm that States have sovereign rights over their biological resources but are responsible for ensuring that their activities do not cause damage to the environment within their jurisdiction or to that of States beyond their national limits. Article 5 establishes that contracting parties should cooperate on matters of mutual interest to conserve and sustainably use natural resources. Article 6 asks contracting parties to develop national strategies, plans, and programmes to ensure the sustainable use of biological diversity and to include such plans in their cross-sectoral plans, programmes and policies. Additionally, article 7 asks parties to identify and monitor biological diversity.

The parties are also required to identify processes and activities that are likely to impact the conservation or sustainable use of biological diversity significantly, and to maintain a repository of relevant information. Where mariculture is concerned, article 8(d) states that ecosystems and natural habitats need to be maintained as do viable populations of species in their natural settings. Under article 8, the parties also need to promote environmentally sound and sustainable developments adjacent to protected areas, establish or maintain means to regulate the risk of releasing living modified organisms or introducing alien species into the environment, and endeavour to provide conditions for mariculture projects to exist whilst conserving the area. Under article 10 each party is required to integrate the conservation of biological diversity into its decision-making processes and to adopt measures to avoid impacting biological diversity when using a biological resource. Further on, article 14 the need for an impact assessment before setting up a mariculture project and outlines the impact assessment requirements.

⁷⁶ In order to adequately address these obligations, it may be necessary to expressly extend the scope of the Environmental Protection and Management Act, 2019 to govern pollution on the high seas.

Antigua and Barbuda actively strives to meet its commitments to the CBD, having completed many National Reports to the Convention on Biological Diversity and having based its National Strategic Plan for 2014-2020 to fully cover the scope of the CBD (Antigua and Barbuda, 2014b).

5.1.1.1.7 The Code of Conduct for Responsible Fisheries

The Code of Conduct for Responsible Fisheries sets out principles and international standards for an ecosystem-based approach for the conservation, management and development of all fisheries including mariculture. The Code is voluntary except for provisions related to UNCLOS and other compulsory instruments for their parties, such as the Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas, 1993 (FAO, 1993).

Article 9 refers to responsible aquaculture/mariculture under national jurisdictions. Articles 9.1.1-9.1.3 outline the need for States to establish and promote responsible mariculture development and to ensure that there are appropriate, up-to-date, scientifically sound legal frameworks and plans to facilitate it. Article 9.1.4 speaks to ensuring local communities have access to their fishing ground and are not negatively affected by mariculture developments. Finally, article 9.1.5 requires States, in relation to aquaculture, to undertake appropriate environmental assessment and monitoring to minimize adverse ecological changes and related economic and social consequences.

Article 9.2 outlines steps and mechanisms to ensure that transboundary aquatic ecosystems are unaffected by mariculture projects. Article 9.2.1 and 9.2.3 affirms that States should protect transboundary ecosystems by ensuring responsible mariculture practices within their national jurisdiction, that international law should be followed. Additionally, that neighbouring States should be consulted before introducing non-indigenous species into transboundary aquatic systems. Article 9.2.4 refers to setting up databases and information networks to collect, share and disseminate data. Article 9.2.5 speaks to cooperating in developing appropriate mechanisms to monitor the impacts of inputs used in mariculture projects.

Article 9.3 refers to using genetic resources for aquaculture, including culture-based fisheries. It also emphasizes the need to conserve genetic diversity and maintain natural, wild aquatic ecosystems and stocks by using appropriate management and adopting and implementing international practices, procedures and research when introducing and-or transferring aquatic organisms and broodstock (arts. 9.3.1, 9.3.5).

At the production level, article 9.4 encourages States to support local communities, producers and fish farmers by promoting responsible mariculture (art. 9.4.1). Under article 9.4.2 States should promote the active participation of fish farmers and their communities in developing responsible practices. Furthermore, under article 9.4.3, States should improve the selection of appropriate feeds, fertilisers and other inputs. To promote holistic management and fish health, States are to regulate the use of chemicals and dispose of waste in an environmentally friendly manner (arts. 9.4.4, 9.4.6). States are also to ensure and promote food safety in aquaculture products and maintain a high standard of food quality (art. 9.4.7).

5.1.1.2 Regional

Antigua and Barbuda is a party to the Caribbean Regional Fisheries Mechanism, an inter-governmental organization whose mission is to “promote and facilitate the responsible utilization of the region’s fisheries and other aquatic resources for the economic and social benefits of the current and future population of the region” (CRFM, 2020).

In 2011, members of CRFM adopted the Agreement Establishing the Caribbean Community Common Fisheries Policy. The focus of this binding treaty is to promote the cooperation and collaboration of Caribbean peoples, fishers and their governments in conserving, managing and sustainably using fisheries and related ecosystems (CRFM, 2020). In addition, members are, to the extent of their capabilities, required to promote and adopt measures to enhance the development of fisheries and mariculture sectors to

improve the welfare and socioeconomic conditions of fishers and fishing communities. To do this, they are to conduct research, collect data, prepare protocols and legislation related to mariculture and evaluate the social and economic performance of the sector.

In 2019 the member States of CRFM joined the Organisation of the Fisheries and Aquaculture Sector of the Central American Isthmus (OSPESCA) to sign the Declaration on CRFM-OSPESCA Cooperation for Sustainable Development of Fisheries and Aquaculture Resources. This declaration approves the Second Joint CRFM-OSPESCA Action Plan, 2020-2025, which includes the following priority areas related to mariculture (CRFM, 2020):

- The implementation of harmonised traceability programmes for fisheries and aquaculture products.
- The development of sustainable aquaculture.
- The development and implementation of policies and programmes on climate change adaptation and disaster risk management in fisheries and aquaculture.
- The development of ocean-based fisheries and aquaculture economic activities including through value chain development.

Safety related to the import and export of mariculture products is regulated at the regional level through the Caribbean Agricultural Health and Food Safety Agency (CAHFSA). This Agency was created as an inter-governmental organisation under CARICOM. The main objectives of CAHFSA are to create a mechanism to help coordinate technical support to stakeholders, provide a framework for monitoring and evaluating food safety programmes, facilitate regional and international guidelines for food safety, strengthen policy and legal frameworks related to food safety, arrive at a regional consensus on food safety issues, provide a framework for testing food and strengthening laboratory services, provide a regional mechanism for responding to emergencies related to food products, and help improve productivity and competitiveness in the market place (FAO, 2022).

Under the Antigua and Barbuda Food and Safety Bill, 2020, which is not yet in force, the Food Safety Service is required to liaise with, accept advice and implement recommendations from CAHFSA (sect. 48 (2), in relation to food safety matters (Antigua and Barbuda, 2020 h).

5.1.1.3 National

In Antigua and Barbuda, the Fisheries Act of 2006 sets out the regulatory framework for mariculture.⁷⁷ Under this framework, the Chief Fisheries Officer is required to develop and keep under review a mariculture development plan (sect. 6(1)). The plan must adopt a precautionary approach (sect. 6(2)) and outline areas where mariculture is permitted and prohibited (sect. 6(3)(a)). The plan also must identify the objectives of mariculture activities (sect.6(3)(c)), the target species (sect.6(3)(b)) and outline management measures (sect. 6(3)(d)).

Additionally, the mariculture plan must be reviewed by governmental and other local authorities, fishers, and any other person affected by the activities (sect. 6(4)). The Minister may appoint a Fisheries Advisory Committee to advise on the sustainable development of mariculture activities (sect. 7(1)). The Committee must include the Chief Fisheries Officer and can include any other person deemed capable of advising such activities (sect. 7(2)). Section 40 establishes that a mariculture licence from the Chief Fishery Officer is required to construct, reconstruct, adapt, acquire and or operate a mariculture facility in Antigua and Barbuda waters.

Operating or allowing a mariculture operation to operate without licence is an offence under section 51 of the Act, and persons may be fined. Conditions for a licence are outlined under section 41(1) of the Act.

⁷⁷ For additional discussion of the Fisheries Act, 2006 see section 3.4.1 Fisheries Management.

An aquaculture licence is only issued once all land development laws and regulations have been followed, including those that protect the environment (sect. 41(1)(a)). An environmental impact assessment is also required demonstrating there are no risks of creating significant pollution or adversely affecting the environment. The entity seeking to engage in a mariculture activity must also prove that it would not adversely impact other economic activities in the area (sect. 41). A mariculture licence outlines the species which will be cultured and gives the licence exclusive rights to the products within their project boundaries as established in sections 4(3) and 44 (1) (Antigua and Barbuda, 2006g).

Section 42 of the Fisheries Act, 2006, outlines the mechanism and fees by which land including the foreshores and seabed can be leased for mariculture projects and land leases fall under the same provisions as the Registered Land Act, 1975. On the advice of the Minister, the Governor-General can lease land, including areas of the foreshore and seabed for mariculture if he is satisfied that such lease will not substantially prejudice the rights of members of public. Once a lease is granted, the Minister notifies the public about the details of the lease, including the boundaries of the area (sect.42(4)).

Subject to the provisions of the Registered Land Act, 1975 a lease can restrict the use of the land, including the foreshore or seabed, to members of the public according to regulations under section 76 of the Act. This may be needed to regulate the catching and utilization of fish taken incidentally, or to ensure the quality and safety of fish and fishery products to be sold or offered for sale. The Act outlines the rights, limitations and fines involved recapturing escaped fish (sect. 45). In addition, it defines the proximity at which fishing is allowed near a mariculture pen or cage and outlines the measures required by the licensee to prevent the spread of diseases (sects. 45-46).

Section 48 of the Fisheries Act, 2006, states that the Minister prescribes general conditions for using feed, drugs and disinfectants in mariculture projects. The Chief Fisheries Officer can attach stipulations regarding their use of a mariculture licence. Section 49 outlines the fines for persons who contravene these procedures. The release, import, sale, transport, or use of diseased or infected organisms from a mariculture project is against the law and is liable to a fine according to section 50 of the Act.

5.1.1.3.1 Cross-cutting legislation: Animal Health Act

The Animal Health Act, 2017 (Antigua and Barbuda, 2017c) governs the treatment of aquatic animals, including fish or eggs of any kind whether genetically engineered, domestic or wild. The Act includes the following provisions which apply to mariculture.

5.1.1.3.1.1 Animal welfare and inspection

The Animal Health Act established a Veterinary Authority whose inspectors have permission to board and search vessels and to detain vessels and their captain. The Act outlines the procedures, offences and penalties for the treatment and quarantine of animals to ensure their welfare. It also outlines the procedures for storage, the removal of seized animals, the terms, and conditions for the detainment of animals, animal products or animal-related items as well as the disposal of infected or contaminated animals, animal products or animal-related items. The Veterinary and Livestock Division has been established within the Ministry of Agriculture, Fisheries and Barbuda Affairs to execute the Act.

5.1.1.3.1.2 Diseases and consumption

The Act outlines the rules for establishing a Disease Advisory Council, which can set up an animal disease surveillance system, declare an animal disease emergency and delineate an infected zone to prevent a serious threat to animals, humans or ecosystems. If needed, diagnostic, research or other laboratories can be designated as official or reference laboratories pursuant to the Act.



Photo: iStockPhoto

In addition, the Act outlines how animals should be disposed of following the standards of the CARICOM and Organization for Animal Health agreements. The Act also defines the mechanisms for the identification and traceability of animals and collaboration with the Food Safety and Quality Authority of the Ministry of Agriculture, Fisheries and Barbuda Affairs regarding animal products which are used as food for human consumption. The Act also outlines the requirements and procedures for exporting and importing animals, animal products, and animal-related items.

5.1.1.3.2 Space designation and pollution

The designation of maritime space for mariculture operations is based on the Physical Planning Act, 2003 (Antigua and Barbuda, 2003b) and it needs to be congruent with areas designated by the National Parks Act, 1984 (Antigua and Barbuda, 1984). The Environmental Protection and Management Act, 2019 addresses the protection and management of the environment, including the marine environment (Antigua and Barbuda, 2019d). Before establishing a mariculture project, an Environmental Impact Assessment must be conducted to determine the potential environmental, social, and health effects of the proposed project. Regulations related to EIA processes are detailed in part VI of the Act. A management plan and a monitoring plan must also be provided to receive project approval (parts VII and VII, sect. 48). Both plans need the monitoring of ecosystem and habitat health, including the monitoring of water quality and pollution which are overseen by part V of the Act. Part C of the Act administers the Convention on International Trade in Endangered Species of Wild Fauna and Flora, and outlines how CITES species can be managed, treated and traded.

5.1.1.3.3 Food safety

Food safety regulation is outlined in the Food Safety Bill, 2020 (Antigua and Barbuda, 2020 h), which section 3(h) refers to the inclusion of fish and aquaculture (mariculture) products at all stages of the food chain.

Though not yet in force, the objectives of the Food Safety Bill, 2020 that pertain to mariculture are listed in section 4, namely, to coordinate and integrate food safety at all stages of the food chain, to ensure food safety while enabling a competitive and commercially supported environment, establish an integrated regulatory approach to food safety in order to provide for a more efficient, effective, transparent and coordinated administration throughout the food chain, regulate food quality, and boost confidence in the food trade. Regional trade in mariculture products must follow the food safety guidelines and recommendations set by CAHFSA (sect. 48(1)).

5.1.2 Institutional roles and responsibilities

The Ministry of Agriculture, Fisheries and Barbuda Affairs houses the Department of Fisheries, which is responsible for mariculture operations.⁷⁸ However, mariculture is a cross-cutting issue concerning both aquatic species and the ecosystem they inhabit. Thus, the Ministry of Environment is also involved in the planning process, and shares responsibility for reviewing mariculture project proposals alongside the DOF.

The DOE maintains the natural resource inventory in the Environmental Information Management and Advisory System. This database houses key geospatial information on marine and coastal resources such as the location of habitat types (coral reefs, seagrass meadows and mangrove beds), benthic and geomorphic areas (sand deposits, tidal flats, estuaries), as well as the location of sensitive ecosystems (fish breeding areas, nursery areas) (Antigua and Barbuda, 2019d).

Monitoring of water quality is carried out by the DOE's Analytical Service, although standards for marine water quality have not been officially identified in legislation.⁷⁹ The DOE carries out the EIAs in conjunction with the DCA and DOF (Antigua and Barbuda, 2006g).⁸⁰ Should the site for a mariculture project be in Barbuda's waters, then approval would also be required from the Barbuda Council.

The Ministry of Legal Affairs, Public Safety and Labour's Land and Commercial Registry department are responsible for leasing maritime space in collaboration with the Ministry of Works, Public Works Department, and the Lands Department of the Ministry of Agriculture.⁸¹

5.1.3 Overview of relevant policy frameworks

The Fisheries Department is currently working with the Marine Stewardship Council to set up fisheries and mariculture resources standards, which will, *inter alia*, facilitate export agreements by guaranteeing that products meet international quality standards.⁸²

Antigua and Barbuda is also participating in the Climate Change Adaptation of the Eastern Caribbean Fisheries Sector Project which aims to increase resilience and reduce vulnerability to climate change impacts by introducing adaptation measures in fisheries management and capacity building of fisherfolk and mariculturists (FAO, 2021c).

The coastal zone and space use management of coastal waters are central to many sectors in Antigua and Barbuda including mariculture. In 2011, a Sustainable Island Resource Management and Zoning Plan (SIRMZP) for Antigua and Barbuda, including Redonda was prepared under the auspice of the Ministry of Education and the Development Control Authority and approved in 2012 (Antigua and Barbuda, 2021c). The goal was to produce a national spatial development framework to address current development issues and provide a platform for future private and public development initiatives. The document uses a geographic information system combined with stakeholder consultations to designate different land and marine resource use categories, including associated activities, guidelines, and regulations. It was intended to serve as a revised Draft National Physical Development Plan.

Similarly, a marine zoning and management plan was drawn up under the Blue Halo Barbuda partnership in conjunction with the Sustainable Fisheries Group and the Waitt Institute for Barbuda. The management

78 DOF. Responses to the applied questionnaire.

79 Ibid.

80 The DOE has indicated that it assists the DCA by providing technical oversight and guidance to the EIA process. It noted that there are some occasions where the DOE may conduct EIAs on behalf of the Government. However, in order to increase transparency and accountability the DOE indicated that it is generally preferred to have independent consultants execute EIAs. DOE. Response to Draft Report.

81 DOF and DOE. Responses to the applied questionnaire.

82 DOE. Responses to the applied questionnaire.

and zoning plan can be visualised and accessed on a geospatial MPAtlas database which denotes key habitats, the location of marine resources, their users and outlines priority areas for conservation (Waitt Institute, 2022).

Thus far, three marine management areas are in place. These include the Marine Reserves at Cades Reef and Diamond Reef, which prohibit fishing, and the Northeast Marine Management Area, which has fishing zones (Antigua and Barbuda, 2021c, p 34).

Coastal systems are complex natural systems that provide goods and services as well as economic opportunities for citizens of Antigua and Barbuda. However, growing populations and diversifying economic development, such as mariculture, add pressure on natural resources and can create conflict over space use. Therefore, a coordinated and integrated approach to coastal management is needed for effective and cooperative governance. If combined, the SIRMZP, the Blue Halo marine zoning plan and its marine management areas, in conjunction with the DOE's EIMAS system, the Physical Planning Act and the National Parks Act of 1984 could form the basis for integrated coastal zone management (ICZM) planning with marine spatial planning.

5.2 Sector II: Ocean Renewable Energy

Only 3.55 per cent of Antigua and Barbuda's energy comes from renewable energy sources (IRENA, 2021). As a result, fuel import costs are amongst the highest in the Caribbean and worldwide, accounting for nearly 13.7 per cent of Antigua and Barbuda's gross domestic product (GDP) (Antigua and Barbuda, 2020e). Moreover, with projections showing a 10 per cent load increase per year for the foreseeable future (Antigua and Barbuda, 2011c) the dependency on imported oil creates a major challenge for energy security (IRENA, 2021).

The Government operates three large photovoltaic systems producing a total of 10 MW of energy. However, other than photovoltaics, cooking oil is the only other source of renewable energy produced. A local company, Themba Biofuel, collects nearly 192 tons of cooking oil and produces approximately 218,208 litres of biodiesel annually (IRENA, 2016).

To advance the country's goals to reduce its dependency on fossil fuels and support its Nationally Determined Contributions under the Paris Agreement, the Government has set a target of achieving 100 per cent of its electricity generation from renewable sources by 2030 (IRENA, 2021). Thus, the country has been exploring alternative forms of energy such as hydrogen, wind and marine renewable energy and developing energy guidelines that favour renewable energy sources (IRENA, 2016; 2020).

The ocean can potentially be a significant renewable energy source for Antigua and Barbuda. Innovative marine renewable energy (MRE) technology can contribute to climate change mitigation, socioeconomic development and energy security which is ideal for countries with large EEZ such as Antigua and Barbuda. The United Nations' Second World Ocean Assessment (WOA II) looked at advances in the capacity of various MREs such as wind, tidal and ocean current energy, wave energy, ocean thermal energy, osmotic power as well as marine biomass energy (UN, 2021a)

The WOA II found the offshore wind sector to be expanding as the use of floating platforms enables the industry to expand into deeper waters. Tidal projects are still rare because energy storage remains an issue and capital costs are high. Tidal energy also requires flow speeds greater than 2.0 m/s to be exploitable. Water could be funnelled through bays, estuaries, and inlets. However, barrages can harm ecosystem and water quality. Wave and ocean current energy projects have not reached full commercialization, primarily because the energy is costly to extract. Thermal gradient harnesses energy from temperature differences in seawater at various depths. This type of MRE might be ideal for Antigua and Barbuda as it requires

a minimum temperature differential on the order of 20°, which occurs in areas between latitudes 30° North and 30° South. Furthermore, the nutrient-rich deep water could also be used to enhance mariculture operations (UN, 2021a, chap. 21).

The WOA II also found salinity gradients energy technology, such as pressure-retarded osmosis used in Norway and reverse electrodialysis used in Italy, to be the most promising technologies to date because the technology can be kept relatively close to land. Other emerging MRE sources include offshore solar energy on floating systems which have great potential as they can be designed to withstand harsh environments. However, they are still in their developmental stages. Marine biomass energy uses marine algae and other viable organic matter for biofuel. Lastly, ocean geothermal energy has been explored in Antigua and Barbuda on land; however, it is limited to areas with geothermal resources (UN, 2021a).

The Antigua and Barbuda government is expanding its research into the feasibility of using MRE.⁸³ The Department of Environment has been investigating the viability of implementing ocean thermal, tidal, wave, biomass (sargassum) and wind energy in the country's renewable energy mix.⁸⁴

Interest has been expressed in harvesting and bioprospecting the sargassum seaweed for export and using marine algae for biofuel.⁸⁵ Since the sargassum seaweed has been arriving in overwhelming proportions over the last four years, governments across the Caribbean have been looking for beneficial ways to cope with it. Left unharvested, the large volumes of the foul-smelling algae cause significant economic and social disruptions, spoiling beaches, turning away tourists, as well as affecting the fishing sector and damaging other sensitive marine ecosystems (Phillips, 2020).

A project involving the Analytical Department, the Sanitation Department, the Antigua and Barbuda Science Innovation Park and the United Nations Office for Project Services (UNOPS) with a Finnish company "Origin by Oceans", has already shipped over 20,000 kilograms of sargassum to Finland (Ocean, 2021). The project removes the sargassum seaweed from the nearshore and turns it into raw components that customers use for various products. Ultimately, the Antigua and Barbuda government would like to establish a local bio-refinery to process the seaweed.⁸⁶

In 2019 the Government signed a memorandum of understanding with Minesto, a marine energy resource company, to conduct a joint feasibility study. The Deep Green technology uses a small underwater kite turbine fixed to the seabed to generate energy using ocean currents. However, the ongoing study has yet to deploy the pioneering technology.

5.2.1 Applicable legislative provisions

5.2.1.1 International legal provisions

In terms of international legal rules governing the establishment of offshore wind energy, UNCLOS provides guidance based on maritime zones.

5.2.1.1.1 Exclusive Economic Zone

Under UNCLOS Article 56(1)(a) within the EEZ, the coastal State has "sovereign rights for the purpose of exploring and exploiting, conserving and managing the natural resources, whether living or non-living, of the waters superjacent to the seabed and of the seabed and its subsoil, and with regard to other activities for the economic exploitation and exploration of the zone, such as the production of energy from the water,

⁸³ DOBE, Personal Communication.

⁸⁴ DOE. Responses to the applied questionnaire.

⁸⁵ DOE, DOBE and DOF. Responses to the applied questionnaire.

⁸⁶ DOE. Responses to the applied questionnaire.

currents and winds". The coastal State also has jurisdiction regarding "the establishment and use of artificial islands, installations and structures" (Art 56(1)(b)(i)).

Article 60 outlines the provisions establishing installations and structures within the EEZ. Article 60(1)(b) states that within the EEZ, the coastal State has the exclusive right to construct, authorize and, regulate the construction, operation and use of installations and structures for the purposes outlined in article 56 and other economic purposes.

Within the EEZ, States have the right to regulate and administer their projects as they see fit under article 60(2) provided, they abide by the same pollution control stipulations as mentioned in the mariculture section of this report (sect. 5.1.1.1.1). States must give due notice of the construction or installation of structures and maintain permanent means for warning of their presence (art. 60(3)). Any installations or structures which are abandoned or disused must be removed to ensure the safety of navigation. It must be done according to international standards established by a competent international organization. Removal must also consider fishing, the protection of the marine environment and the rights and duties of other States. In addition, appropriate publicity shall be given to the depth, position and dimensions of any installations or structures not wholly removed.

States can establish a reasonable safety zone around installations and take measures to ensure the safety of the structures and navigation (art. 60(4)-(5)). All ships must respect the safety zones established and comply with international standards regarding navigation in the vicinity of the installations or structures (art. 60(6)). However, installations, structures and their safety zones should not be established where they can cause interference with recognised sea lanes essential to international navigation (art. 60(7)). According to article 60(8) installations and structures have no territorial sea of their own and their presence does not affect the delimitation of the territorial sea, the EEZ, or the continental shelf.

5.2.1.1.2 High seas

Under UNCLOS article 87(1)(d), a country may construct installations and run submarine cables in the high seas, as permitted under international law, paying due regard to the interests of other States in their exercise of the freedoms of the high seas (art. 87(2)). Thus, under article 87, erecting structures for marine renewable energy systems with submarine cables to transmit energy to land may be possible. However, article 89 states that "no State can purport to subject any part of the high seas to its sovereignty." Thus, a grey area arises under UNCLOS as renewable energy installations like wind farms cover large spatial areas and may require small permanent exclusionary zones around each turbine (Lund, 2010).

5.2.1.2 National legislative provisions

The Renewable Energy Act, 2015 (Antigua and Barbuda, 2015a) governs the implementation of renewable energy and introduces the legal concepts of feed-in-tariff and net billing for electricity produced from eligible renewable resources. These concepts allow electricity generated and delivered to the grid to be used to offset the cost of electricity supplied from the grid. CARICOM also endorses net billing as the preferred approach to boost the use of renewables in the Caribbean (IRENA, 2016). Under this Act, a renewable energy fund was created and is regulated by the provisions of section 43 of the Finance Administration Act, 2006 (Antigua and Barbuda, 2006e).

According to the Renewable Energy Act, the framework for the fund allows the Cabinet to approve funding for renewable energy projects through the Antigua and Barbuda Citizenship by Investment Programme. The projects can include anything from renewable energy development, research, installations, pilot projects, capacity-building and education.

The Renewable Energy Act, 2006 revokes the Public Utility's Act exclusivity and ability to issue sub-licences to independent power producers and amends utility licences accordingly. The Act ensures wind

and solar utility-scale photovoltaic and independent power producers can be obtained on a competitive, transparent basis at the least cost to the buyer. It develops a procurement framework and regulations to enable the distribution of generated renewable energy. Article 3 speaks to accelerating the development and advancement of renewable energy resources. It requires the Minister responsible for energy – the Minister of Public Utilities, Civil Aviation and Energy to set middle and long-term national targets for the use of renewable energy resources for electricity generation.

Other key actions described in the Act are the need to develop national technical capacities providing both fiscal and non-fiscal incentives, to encourage the use of renewable energy technologies to achieve energy independence, reduce the exposure to fluctuating fossil fuel prices, and reduce toxic emissions.

Section 6 of the Investment Authority (Amendment) (No. 2) Act, 2019 states that for a new or established approved renewable energy business that has an investment capital over \$150 million, the Cabinet will grant whatever incentives and concessions it deems fit to the level of the investment including incentives and concessions not granted under any previous category (Antigua and Barbuda, 2006d; 2019a). In addition, for a smaller ventures, section 7(d) of the Small Business Development Act, 2007 provides a reserve of 25 per cent of the procurement of goods and services for businesses that enhance the potential for foreign exchange savings, such as marine renewable energy businesses (Antigua and Barbuda, 2007b).

5.2.1.2.1 Cross-cutting legislation

Section 13 of the Marine Areas Act, 1982 outlines the jurisdiction within Antigua and Barbuda's EEZ to construct installations and structures.

The Physical Planning Act, 2003 which governs land areas, defines "land" to include land covered with water, the foreshore and the seabed (Antigua and Barbuda, 2003b). The designation of space to be used for a marine power plant is governed by section 6 which addresses the protection of the coastal zone and the designation of marine space for special use. During the construction of a marine plant, section 9 would regulate and control the disposal of waste material in territorial waters. Section 23 (2,8,9) requires an environmental impact assessment for the construction of a power plant, drilling, and dredging, respectively.

According to section 23(2) of the Physical Planning Act, 2003, if a new or an extension to an existing marine renewable energy project is planned in a national park or protected area, or if the proposed project may result in a negative impact on the environment, then, as per section 41(1) of the Environmental Protection and Management Act, 2019, the DOE will first conduct a screening exercise to determine if the development would require an EIA.

If an EIA is required, it will be conducted under the Environmental Protection and Management Act, 2019 (sect. 41(2)-(4)). Under this latter Act, the EIA must be made public, and a copy entered into the government registry (sects. 42 (1)-(2)). The environmental impact assessment will be reviewed by the Chief Town and Country Planner (sect. 43(1)) and other relevant authorities (sect. 43(3)) after which the Chief Town and Country Planner will decide on the EIA and the project (sect. 44 (1)).

The DOE is responsible for an environmental management plan for commercial or industrial facilities (part VII). The owner of a marine renewable energy plant must prepare a site management plan (sect. 48(3)) and an environmental management plan (sect. 48(4)). The latter is to include a detailed description of the activity at the facility, a description of all the environment and socioeconomic impacts, a monitoring programme, an environmental commitment and policy plan, a description of the administrative mechanism, the organizational structure, and a description of all the legislative and regulatory requirements, amongst others (sects. 48(4)(a)-(g)). According to part VII of the Environmental Protection and Management Act, 2019, the owner of the facility must implement an environmental monitoring system and programme at their expense and submit regular environmental audits to the DOE (sect. 49(a)-(b)). Once a project is



Photo: iStockPhoto

approved, the procurement process is addressed through the Investment Authority Act, 2006, the Small Business Development Act, 2007, the Tenders Board Act, 1991 (Antigua and Barbuda, 1991), and Tenders Board Amendment Act, 2002 (Antigua and Barbuda, 2002), which oversee national procurement.

5.2.2 Institutional roles and responsibilities

The operation and management of the renewable energy sector involve several government agencies and statutory and private sector organisations, which collectively provide policy guidance, governance, and operations. The Office of the Prime Minister has the overarching responsibility for national policy and planning matters. At the same time, the Ministry of Public Utilities, Civil Aviation and Energy is responsible for energy sector planning, policy matters and oversees the power sector (Antigua and Barbuda, 1973b). Finally, the Ministry of Finance is responsible for national economic planning which oversees the incentivizing of renewable energy projects and sets local duties and taxes on energy-related imports (Antigua and Barbuda, 2006e).

The Development Control Authority must approve the location for a marine renewable energy project. The DCA is a statutory corporation mandated to implement physical and land use planning for development and which follows the Physical Planning Act, 2003.

All renewable energy projects must satisfy the environmental requirements set forth by the Ministry of Health, Wellness and the Environment (Antigua and Barbuda, 2019d) which is also responsible for overseeing multilateral agreements aimed at reducing carbon emissions.

5.2.3 Overview of relevant policy frameworks

5.2.3.1 International

As a party to the Paris Agreement, Antigua and Barbuda is committed to limiting global warming to 2 degrees Celsius below pre-industrial levels and to making efforts to limit it to 1.5 degrees (AOSIS, 2021). As such, Antigua and Barbuda is legally bound to cut emissions and has been actively introducing renewable energy projects, as mentioned above.

Antigua and Barbuda adopted the 2030 Agenda for Sustainable Development, with its 17 Sustainable Development Goals. SDG 7 on Affordable and Clean Energy speaks to the need to advance the use of renewable energy. Target 7.2 requires States to substantially increase their share of renewable energy in the global energy mix. Target 7.a recommends enhancing international cooperation to facilitate access

to renewable energy research and technology and promote investment in energy infrastructure. Target 7.b urges States to expand and upgrade infrastructure technology to supply sustainable energy services in developing countries, in particular to SIDS.

Antigua and Barbuda has partnered with the International Renewable Energy Agency (IRENA) to help the country meet its carbon reduction targets and to be less dependent on fossil fuels. IRENA, an intergovernmental organization, helps countries by providing a range of renewable energy services such as annual reviews, capacity studies and cost studies. IRENA assisted Antigua and Barbuda by providing a renewable readiness assessment in 2016 and a renewable energy roadmap in 2021 (IRENA, 2016; 2021).

5.2.3.2 Regional

Antigua and Barbuda is a member of CARICOM. The CARICOM Secretariat established the Caribbean Energy Unit, with a mandate to support national energy policy reviews and develop a regional sustainable energy policy and regulatory framework. The CARICOM Energy Policy of 2007 aims to increase the use of renewable energy sources and accelerate the development and restructuring of energy supply sources. It outlines enhancing energy conservation and efficiency by implementing cleaner energy production. The Policy also recommends establishing and facilitating an institutional framework for financing to increase investments made in transforming and distributing renewable energy resources (Antigua and Barbuda BPM, 2021).

In 2015, CARICOM established the Caribbean Centre for Renewable Energy and Energy Efficiency (CCREEE). Its mandate is to promote renewable energy and energy-efficient investments and industries in the Caribbean (Antigua and Barbuda, 2020a). In 2021, CCREEE launched the first energy data repository and knowledge framework, which houses the CARICOM Energy Knowledge Hub. The purpose of the web portal is to facilitate access to data for energy planning, decision-making and building awareness (TAPSEC, 2021).

5.2.3.3 National

Antigua and Barbuda has approved its first National Energy Policy (NEP) in 2011. The Policy outlined the country's sustainable vision, objectives, policies and targets (Antigua and Barbuda, 2011c). One target included working towards increasing the national grid's capacity to be able to accommodate grid-connected renewable energy systems (IRENA, 2016). It set out to increase the grid's capacity to accept a minimum of 5 per cent renewable energy in the electricity mix by 2015, rising to 15 per cent by 2030 (IRENA, 2021). The 2015 target was exceeded on schedule when a 3 MW solar photovoltaics project was implemented at the airport. Then the 2030 target was exceeded in 2016 when another 6 MW of solar photovoltaics were installed on Antigua and a 1 MW on Barbuda (IRENA, 2020).

The Government approved a Sustainable Energy Action Plan (SEAP) in 2013 (Antigua and Barbuda, 2013a) which outlines goals for energy cost reduction, diversification of energy sources, strategies for energy conservation as well as institutional roles and responsibilities. It proposed an institutional framework with an independent regulatory agency to act as an independent arbiter in all matters relating to the sale of electricity, an energy advisory panel including members of the public and private sector and a sustainable energy unit to mandate and coordinate studies on energy resources.

In 2016, the Government of Antigua and Barbuda alongside IRENA conducted a renewable readiness assessment (IRENA, 2016). In 2019, they partnered again to evaluate pathways to transform the power and transport sectors to 100 per cent renewable energy by 2030 (IRENA, 2020). However, both studies focused only on land-based sources of renewable energy.

As political, economic and technological changes rendered the original NEP outdated, the government sought the assistance of the CARICOM Energy Policy and Regulations Help Desk, which is housed within the CARICOM Secretariat and supported through the Technical Assistance Programme for Sustainable Energy in the Caribbean (TAPSEC), in providing an updated NEP. The revised National Energy Policy is set to provide

a framework for greater integration of renewable energy sources in the national grid, streamline the process for renewable energy investment, encourage demonstration projects for wind and solar sources as well as increase the technical capacity of local energy institutions and actors to support clean energy development (TAPSEC, 2021). The revision, which began in February 2021, is set to reflect the current situation in Antigua and Barbuda and provides a living document that reflects the realities and challenges of Antigua and Barbuda's energy sector with a 20–30-year energy outlook that supports the energy market development.

5.3 Sector III: Seabed mining

The technology sector as well as rising demand for minerals has revived interest in exploring minerals located in the seabed. Resources found on the seabed, such as manganese polymetallic nodules on the abyssal plains, seafloor sulphides around hydrothermal vents, or cobalt-rich crusts cannot be considered in isolation of the biodiversity associated with those habitats (UN, 2016. Chap. 23). Many of those unique deep sea habitats have already been recognised as vulnerable ecosystems. Thus, developing environmentally sound guidelines is key prior beginning exploration. Many regions have initiated projects that collect data and share information to build capacity.

Mineral extraction from sediments and structures across the deep sea are being explored globally in three types of habitats: the abyssal plains, hydrothermal vents, and seamounts along the mid-ocean ridges. The seabed deposits, such as polymetallic nodules, seafloor massive sulphides (or polymetallic sulphides), and cobalt-rich ferromanganese crusts found in these habitats are receiving global economic interest.⁸⁷ These minerals are essential requirements in modern infrastructure development and green technologies such as wind turbines, electric vehicles, and solar cells. Thus, they are being hailed as the solution to achieving a low-carbon future and combating global climate change.⁸⁸ Uncertainty exists about the environmental impacts of deep-seabed mining as very little is known about these ecosystems.

Manganese nodules are formed on vast deep-water abyssal plains, comprised primarily of manganese iron (28 per cent), nickel (1.3 per cent), copper (1.1 per cent), cobalt (0.2 per cent), molybdenum (0.059 per cent) and other rare metals (Blöthe *et al.*, 2015). Nodules also contain traces of platinum and tellurium which are important constituents of photovoltaic cells and catalytic technology (Hein *et al.*, 2013). Nodules are formed when manganese in seawater reacts with bacteria, in a process that takes millions of years (Gollner *et al.*, 2017; Halbach *et al.*, 1980).

Once nodules are removed, it is unknown whether associated biota will recover. Few studies have investigated nodule fauna because of their inaccessibility. However, deep sea research shows that there is far greater biological diversity in the deep sea than previously thought. Nodules have been reported to provide some of the only hard substrates for marine species at those locations. Removing them could result in significant habitat loss (Glover and Smith, 2003; Veillette *et al.*, 2007). Some species of sponges and molluscs are endemic to the surface of nodules and some nematode worms and crustaceans' larvae were found living within their crevices (Thiel *et al.*, 1993). Furthermore, a study found that the densities of both sessile and mobile fauna in abyssal plains were higher near manganese nodules compared to areas without nodules (Vanreusel *et al.*, 2016).

Seabed massive sulphides are associated with active and inactive hydrothermal vents along ocean ridges. They have been shown to have high sulphide content and are also rich in copper, gold, zinc, barium, and silver (Hein *et al.*, 2013). Over 200 sites have shown sufficient deposit tonnage and grade to be considered for commercial mining. Deep sea vents are primarily concentrated along Earth's mid oceanic ridge system in the Pacific, Atlantic, Arctic and Indian Oceans (Van Dover *et al.*, 2002). Hydrothermal vents have been found to

⁸⁷ Note that in the UN's Second World Oceans Assessment, Vol II, p. 261, the map in Figure I - Global permissive areas for deep water seabed mineral deposits suggests that a potential sulphide generating system lies in the Eastern Caribbean area. The Second World Oceans Assessment, Vol II. UN, 2021a.

⁸⁸ UN, 2021a, p 260.

support vast communities of organisms. One study found that each vent had a different diversity of fauna thus seabed mining could destroy discreet communities at one vent which could then have implications for nearby communities (Goffredi *et al.*, 2017).

Remotely operated mining machines will cause a direct physical impact to the seabed. The topography will be permanently changed because of suction, drilling, substrate removal and machinery movements. Hydrothermal vent chimneys will be removed entirely, leaving a flatter, compressed uniform topography. As a result, habitats may become unsuitable for recolonization, at least for much of the previously established biota.

Cobalt-rich crusts or ferromanganese crusts form on the slopes and summits of seamounts. They contain manganese, iron, and trace metals such as cobalt, copper, nickel, and platinum. Cobalt is of economic interest because the metal has wide-ranging uses including superalloys, which are used in jet aircraft engines and in battery technology. The central equatorial Pacific has the best potential for crust mining based on tonnage, grade and oceanographic conditions (Hein *et al.*, 2013) Cobalt-rich crusts mining is more technologically complex than manganese nodules mining because the cobalt-rich crust is attached to rock substrates.

Mining cobalt-rich crusts from seamounts will kill all sessile organisms on impact and may cause death to mesopelagic (200-1,000 m) and bathypelagic (1,000-4,000 m) fish (Levin *et al.*, 2016). The level of mining on seamounts will be directly correlated to the level of impact. Intensive mining will also be disruptive to pelagic species as a result of the removal of benthic fauna, the presence of machinery, the noise, light and suspended sediments in the water column.

Many seamount species such as sessile corals are slow growing, long living and susceptible to physical disturbances. The impacts of mining may result in irreversible changes in the benthic community and structure (Clark *et al.*, 2015).

While deep-sea mining may be justified based on the need to shift energy systems away from fossil fuels, the potential damage to deep-sea ecosystems could prove detrimental to countless other ecosystem services including the ocean's ability to sequester carbon.

The Antigua and Barbuda government has expressed interest in exploring seabed mining as a means of diversifying its economic revenue. The potential for mining the seabed, both within and beyond national jurisdiction, is being actively assessed worldwide and test mining activities are taking place globally.⁸⁹

5.3.1 Applicable legislative provisions

The legal framework governing seabed exploration depends upon the distance of the activities from a State's baselines.

5.3.1.1 International legal provisions

The seabed, ocean floor and subsoil beyond the limits of national jurisdiction are called the Area (UNCLOS, art. 1(1)). The international legal framework for activities related to seabed mining in the Area is governed by part XI of UNCLOS, the 1994 Implementation Agreement (UN, 1994a) and the rules, regulations and procedures issued by the International Seabed Authority (ISA).

The ISA is an autonomous international organization through which States Parties to UNCLOS organize and control all activities related to mineral-resources in the Area. Under article 145, the ISA is tasked with putting forth rules and regulations for the protection of the marine environment from the harmful effects which may arise from activities in the Area. The ISA's Regulations on Prospecting and Exploration for Polymetallic

⁸⁹ UN 2021a, pp. 259-60.

Nodules in the Area govern the mining of polymetallic nodules, polymetallic sulphides, and cobalt-rich ferromanganese crusts (ISA2013; 2022).⁹⁰

Article 2 outlines the legal status of the territorial sea and its seabed and subsoil and defines a coastal State's sovereignty as extending beyond its land, territory, and internal waters and, in the case of an archipelagic State, its archipelagic waters to an adjacent belt of the sea.

Article 56(1)(a) outlines the sovereign rights accorded to States in the EEZ for the purpose of exploring and exploiting, conserving, and managing their natural resources, whether living or non-living, of the waters superjacent to the seabed and of the seabed and its subsoil, and regarding other activities for the economic exploitation and exploration of the zone.

Article 76 defines the continental shelf of a coastal State, comprising the seabed and subsoil of the submarine areas that extend beyond its territorial sea throughout the natural prolongation of its land territory to the outer edge of the continental margin, or to a distance of 200 nautical miles from the baselines from which the breadth of the territorial sea is measured where the outer edge of the continental margin does not extend up to that distance. Article 76(3) defines the continental margin to comprise the submerged prolongation of the land mass of the coastal State, which consists of the seabed and subsoil of the shelf, the slope, and the rise. It does not include the deep ocean floor with its oceanic ridges or the subsoil thereof.

Article 77 defines the rights of a coastal State over the continental shelf and article 77(4) describes the natural resources of the continental shelf to "consist of the mineral and other non-living resources of the seabed and subsoil together with living organisms belonging to sedentary species, that is to say,

90 The Mining Code Regulations on Prospecting and Exploration for Polymetallic Nodules in the Area is divided into 10 Parts, and includes the following 42 Regulations:

Part I, Introduction

Regulation 1, Use of terms and scope.

Part II, Prospecting

Regulation 2, Prospecting; Regulation 3, Notification of prospecting; Regulation 4, Consideration of notifications; Regulation 5, Protection and preservation of the marine environment during prospecting; Regulation 6, Annual report; Regulation 7, Confidentiality of data and information from prospecting contained in the annual report; Regulation 8, Objects of an archaeological or historical nature.

Part III, Applications for approval of work for exploration in the form of contracts

Regulation 9, General; Regulation 10, Form of applications; Regulation 11, Certificate of sponsorship; Regulation 12, Financial and technical capabilities; Regulation 13, Previous contracts with the Authority; Regulation 14, Undertakings; Regulation 15, Total area covered by the application; Regulation 16, Data and information to be submitted before the designation of a reserved areas; Regulation 17, Application for approval of plans of work with respect to a reserved area; Regulation 18, Data and information to be submitted for approval of the plan of work for exploration; Regulation 19, Fee for applications; Regulation 20, Receipt, acknowledgement and safe custody of applications; Regulation 21, Consideration by the Legal and Technical Commission; Regulation 22, Consideration and approval of plans of work for exploration by the Council.

Part IV, Contracts for exploration

Regulation 23, The contract; Regulation 24, Rights of the contractor; Regulation 25, Size of area and relinquishment; Regulation 26, Duration of contract; Regulation 27, Training; Regulation 28, Periodic review of the implementation of the plan of work for exploration; Regulation 29, Termination of sponsorship; Regulation 30, Responsibility and liability.

Part V, Protection and preservation of the marine environment

Regulation 31, Protection and preservation of the marine environment; Regulation 32, Environmental baselines and monitoring; Regulation 33, Emergency orders; Regulation 34, Rights of coastal States; Regulation 35, Human remains and objects and sites of an archaeological or historical nature.

Part VI, Confidentiality

Regulation 36, Confidentiality of data and information; Regulation, 37 Procedures to ensure confidentiality.

Part VII, General procedures

Regulation 38, Notice and general procedures; Regulation 39, Recommendations for the guidance of contractors.

Part VIII, Settlement of disputes

Regulation 40, Disputes.

Part IX, Resources other than polymetallic nodules

Regulation 41, Resources other than polymetallic nodules.

Part X, Review

Regulation 42, Review.

organisms which, at the harvestable stage, either are immobile on or under the seabed or are unable to move except in constant physical contact with the seabed or the subsoil.”

Part XI, article 133(a) defines resources in the Area as “all solid, liquid or gaseous mineral resources *in situ* in the Area at or beneath the seabed, including polymetallic nodules.” When resources are recovered from the Area they are referred to as minerals (art. 133(b)).

UNCLOS article 192 codifies the obligations of States Party to protect and preserve the marine environment. Article 193 sets forth that States have a sovereign right to exploit the natural resources according to their environmental policies and in accordance with their duty to protect the environment. Article 194 outlines measures to prevent and control pollution of the marine environment, including ensuring measures are consistent with the convention and are necessary to prevent, reduce and control pollution in the marine environment. States shall take all measures necessary to ensure activities in their jurisdiction or control are conducted to not cause damage by pollution to other States and their environment and to ensure that any pollution arising from incidents or activities under their jurisdiction or control do not spread beyond areas where they exercise sovereign rights (art. 194(2)). Article 194(3) outlines measures that States must take to fully deal with all sources of pollution of the marine environment possible, these include *inter alia*: the release of toxic, harmful or noxious substances, pollution from vessels, pollution from installations and devices used in exploration or exploitation of the natural resources of the seabed and subsoil, and pollution from other installations and devices operating in the marine environment. This includes measures for preventing accidents and dealing with emergencies, ensuring the safety of operations at sea, and regulating the design, construction, equipment, operation, and manning of vessels, installations, or devices.

Article 194(4) provides that in taking measures to prevent, reduce or control pollution of the marine environment, States shall refrain from unjustifiable interference with activities carried out by other States in the exercise of their rights and in pursuance of their duties in conformity with UNCLOS.

Article 208 refers to pollution from sea-bed activities subject to national jurisdiction. Under this article, a State should adopt laws and regulations to prevent and control pollution arising from seabed activities and take all measures necessary to prevent, reduce and control such pollution (art. 208(1)-(2)). Laws should be no less effective than international rules, standards and recommended practices and procedures, and States should try to harmonise their policies at the appropriate regional level (art. 208(3)-(4)). States must also strive to establish global and regional standards through international organisations and cooperation (art. 208(5)).

Article 209 addresses pollution from activities in the Area. Article 209(1) affirms that international rules, regulations, and procedures shall be established in accordance with part XI to prevent, reduce and control pollution of the marine environment from activities in the Area. Such rules and regulations shall be re-examined as necessary. Article 209(2) affirms that States shall adopt laws and regulations to prevent, reduce and control pollution of the marine environment from activities in the Area undertaken by vessels, installations, structures, and other devices flying their flag or of their registry or operating under their authority, as the case may be.

Article 214 requires enforcement with respect to pollution from seabed activities, requiring States to enforce their laws and regulations adopted in accordance with article 208 and to adopt laws and regulations and take other measures necessary to implement applicable international rules and standards established through competent international organizations or diplomatic conference to prevent reduce and control pollution of the marine environment arising from or in connection with seabed activities subject to their jurisdiction. Similarly, enforcement with respect to pollution from activities in the Area is governed by UNCLOS part XI.

In relation to seabed mining, in light of the above environmental concerns, the World Bank has recommended the precautionary approach and suggests a number of measures that States can use to reduce the possible

negative impacts of seabed mining.⁹¹ Whilst the United Nation's second World Ocean Assessment (chap. 18) mentions the role that seabed mining may have for global development, it too recommends the precautionary approach (UN 2021a).

5.3.1.2 National

National seabed mining does not currently take place in Antigua and Barbuda. The only ocean-related mining activities relate to sand mining primarily for the construction industry, or marine dredging, to increase depths for navigational purposes or for coastal development (Antigua and Barbuda PM, 2021).

Expressions of interest have been received for the mining of sand from offshore areas. These requests are typically received from private investors and development companies who wish to create, enhance, or rehabilitate eroding beaches.⁹² Seabed mining is of interest to the Ministry of Social Transformation, Human Resource Development and the Blue Economy, which is hoping to develop guiding legal instruments as there is no current national legislation relating specifically to seabed mining.⁹³

5.3.1.3 Cross-cutting legislation

The Environmental Protection and Management Act, 2019 addresses the protection and management of the marine environment. Part V governs pollution control. Section 24 establishes the Environment Registry, a register of sources of pollution, which shall contain data identifying the source, quantity, conditions, or concentrations relevant to the identification of a pollutant. Section 25 establishes the allowed time for compliance should pollution occur. According to section 25(1), persons engaged in an activity or process that on a continuous or intermittent basis causes or results in the deposit or release of any pollutant into the environment exceeding the prescribed standard shall be allowed a reasonable time to bring such activity or process into compliance with the standard.

Pollution permits can be allocated as per section 26. Procedures for the application, criteria, and timeframe of permits for pollution are outlined in sections 28 to 30. Prior to making an application for a pollution permit, persons must publish in a daily newspaper of general circulation in Antigua and Barbuda their intent to make an application to pollute (sect. 27).

An EIA, as well as monitoring of the environment, would be required prior to and during seabed mining activities. These requirements are outlined in parts VI and VII of the Act and are described in detail in the section 5.2.1.2.1 on ocean renewable energy of this report (Antigua and Barbuda, 2019d).

Seabed mining can have far reaching implications. Effects such as plumes and low frequency noise propagation resulting from exploration or exploitation of the seabed have been shown to extend more than 20 km away from the mining site (Nath *et al.*, 2012). National marine protected areas could be impacted from mining activities further offshore. Part VIII.A of the Act addresses management of protected areas. With regards to seabed mining section 54(1) outlines that where a protected area is a closed area it shall be managed in a manner that ensures the rehabilitating of any biosphere, flora and fauna or natural resource. Section 54(2) states that if the MPA is an ecotourism area, then it shall be managed to protect and conserve the natural resources that offer an attraction to tourists, as well as to regulate visitor activity to ensure that the carrying capacity of the natural resources is not exceeded. Where the protected area is a foreshore reserve it shall be managed in collaboration with the Fisheries Division to protect and conserve the marine resources within the reserve (sect. 54(3)).

⁹¹ World-Bank and UNDESA 2017, pp. 18-19. See also the report of the World Bank, *Pacific Possible: Precautionary Management of Deep Sea Mining Potential in Pacific Island Countries*. Washington, DC, 2016.

⁹² DOE. Responses to the applied questionnaire.

⁹³ DOBE. Responses to the applied questionnaire.

Section 86 of the Environmental Protection and Management Act, 2019 states that information regarding geographic and topographic features (such as seamounts and ocean ridges) and soil types and geological formations, including known mineral deposits, should be kept in the national Natural Resource Inventory created by the GIS Unit for the Environmental Information Management and Advisory System.

The National Solid Waste Management Authority Act, 2005 (Antigua and Barbuda, 2005a) deals with solid waste management, it classifies waste types including minerals, and outlines the need for the approval of waste management and dumping sites.

5.3.2 Institutional roles and responsibilities

The mining sector does not have a specific regulatory agency. Therefore, regulatory and monitoring responsibilities related to seabed mining are shared amongst many government agencies.

The Minerals Vesting Act, 1949 (Antigua and Barbuda, 1949) is overseen by the Ministry of Works, which issues mining permits. However, this Act does not address seabed mining nor list any of the minerals which would be extracted during seabed mining activities.

The Department of Fisheries and the Department of Environment jointly review marine development applications for environmental concerns, which include possible impacts to flora and fauna and ecosystem health and would require an environmental impact assessment to be performed prior to permission being granted to begin seabed mining. Once a resource is extracted, the Department of Environment has an Access and Benefits Sharing Policy so that any information gained can be compiled for future use (Antigua and Barbuda, 2006g; 2019d).

The Department of Marine Services and Merchant Shipping houses the National Hydrographic Office and the Antigua and Barbuda Port Authority (Antigua and Barbuda, 2022). These entities would be called on to review mining proposals, including the geographic location of proposed projects and vessel types.⁹⁴

The Development Control Authority processes development applications and plans and must grant mining projects approval (Antigua and Barbuda, 2003b). The Barbuda Council reviews mining developments and activities that occur under their area of direct jurisdiction.⁹⁵

5.3.3 Overview of relevant policy frameworks

At the time of the preparation of this report, Antigua and Barbuda has no seabed mining policy framework and no dedicated policies.

Livelihoods in Antigua and Barbuda are dependent on the resources and services provided from the coastal zone. The Sustainable Island Resource Management and Zoning Plan for Antigua and Barbuda (including Redonda), the Blue Halo zoning plan and the marine managed areas outline key areas for protection and management within territorial waters. Seabed mining within the EEZ would be governed in part by these policy documents (Antigua and Barbuda, 2021c. p.34).

⁹⁴ DOF. Responses to the applied questionnaire.

⁹⁵ Ibid.

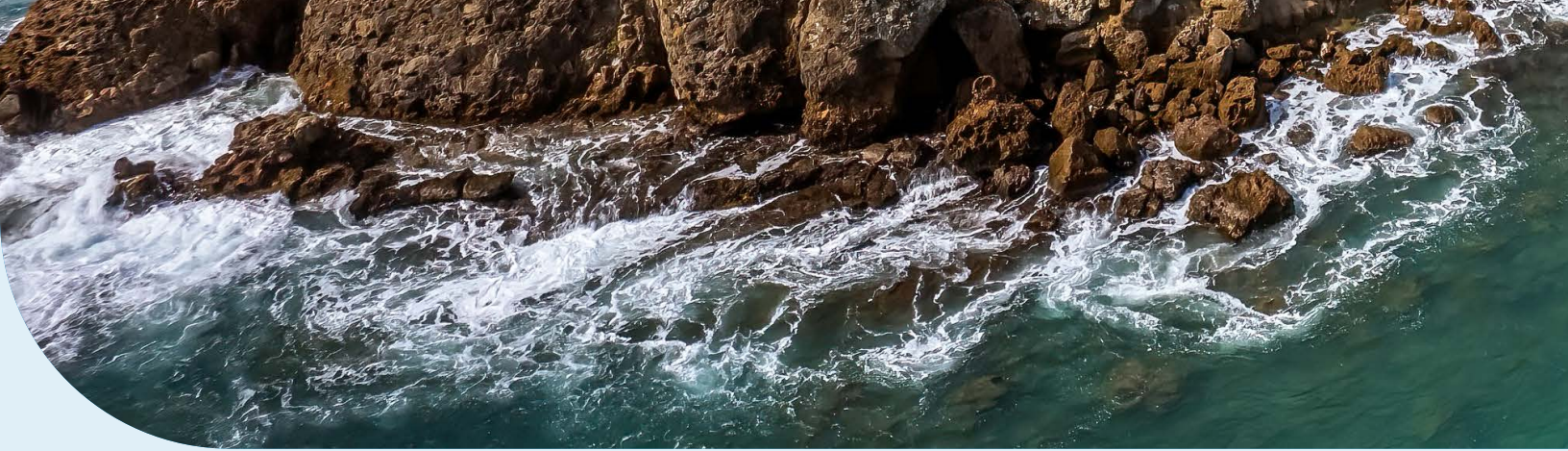


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VI. Cross-Cutting Issues of Ocean Governance in Antigua and Barbuda

6.1 Blue Economy

6.1.1 International framework

The blue economy concept first emerged at the 2012 Rio+20 United Nations Conference on Sustainable Development. It recognises the need to maximise the vast economic potential of the ocean while preserving and sustaining it for current and future generations. A blue economy promotes economic growth, social inclusion, preservation and improvement of livelihoods; while ensuring environmental sustainability (World-Bank and UNDESA, 2017). Progress toward a blue economy can help achieve a range of the SDG contained in the 2030 Agenda for Sustainable Development, including SDG 14 (Life Below Water), SDG 5 (Gender Equality), SDG 8 (Decent Work and Economic Growth), SDG 7 (Affordable and Clean Energy), SDG 11 (Sustainable Cities and Communities), among others (Antigua and Barbuda, 2021c. p. ix).

A blue economy requires understanding the interlinkages between human activities on both the land and marine ecosystems in the context of supporting environmental sustainability. These interlinkages are critical. As noted in a World Bank Report, focusing on a few, specified sectors without considering impacts on other areas, may not produce a sustainable blue economy suited to the needs of the country concerned. Instead, a blue economy must “balance growth and sustainability to enable optimal use of ocean resources with maximum benefit (or at least minimal harm) to the environment,” and must be anchored in the provisions of UNCLOS. A blue economy can include established ocean industries and new and emerging activities, such as “offshore renewable energy, aquaculture, seabed mining, and marine biotechnology” (World-Bank and UNDESA, 2017. p.5).

Several measures will be required to implement a blue economy in Antigua and Barbuda effectively. In particular, two necessary elements for a successful transition to a blue economy are the effective implementation of UNCLOS, its implementing agreements, and other oceans- and environment-related conventions and instruments; and the adoption of a framework for ecosystem-based management (World-Bank and UNDESA, 2017. pp. 7-8).⁹⁶ Such an ecosystem-based management system can include integrated coastal and marine area management, marine spatial planning, marine protected areas, and marine managed areas.⁹⁷

⁹⁶ World-Bank and UNDESA, 2017. pp. 7-8.

⁹⁷ Ibid. pp. 24-25. See also UN 2021, chapters 26 and 27, on marine spatial planning and marine management approaches, respectively: Un, The Second World Oceans Assessment, Vol II

6.1.2 National Maritime Economy Plan

In partnership with the United Kingdom’s Commonwealth Marine Economies Programme, Antigua and Barbuda recently engaged in a comprehensive review of its blue economy, resulting in a Maritime Economy Plan (Antigua and Barbuda, 2021c). Along with this Plan, the Government also published a Department of the Blue Economy Gap Analysis (Antigua and Barbuda and United Kingdom, 2021b).

Blue economy is defined as “economic activities that (i) take place in the marine environment or that (ii) use sea resources as an input, as well as economic activities that (iii) are involved in the production of goods or the provision of services that will directly contribute to activities that take place in the marine environment.”⁹⁸ The Plan identifies both traditional and emerging sectors for the blue economy, summarised in table 2.

Table 2. Traditional and emerging Blue Economy Sectors

BEDROCK/TRADITIONAL SECTORS	EMERGING SECTORS ⁹⁹
Energy – Oil and Gas, desalination	Energy – renewables, storage, hydrogen, Ocean Thermal Energy Conversion, Sea Water Air Conditioning
Shipping, ports	Biopharmaceuticals
Fisheries and aquaculture	New fisheries and aquaculture including macroalgae
Tourism – cruise, yachting, beach / all inclusive	Tourism and eco-tourism
Minerals/aggregates	Deep sea minerals/minerals

Source: Maritime Economy Plan. Antigua and Barbuda, 2021c

Except for tourism (the full coverage of which lies outside the scope of the present report), the above sectors are substantially covered in the above discussions of Antigua and Barbuda’s national legal framework, and the three priority sectors of mariculture, ocean renewable energy and seabed mining (sects. 7-8). Key findings of the Plan include:

- Coastal infrastructure (marinas, jetties), businesses (fishing, small shops), and communities are vulnerable to extreme weather events and there is a need to include ‘soft engineering’ and natural coastal protection approaches as part of a national capacity-building effort in coastal protection.
- The coastal and marine area is busy and has many different users and designated sites (e.g., mangroves, fishing areas), but there is no integrated approach. A comprehensive marine governance arrangement for the marine space could help the economy grow and marine activities develop sustainably.¹⁰⁰

⁹⁸ Maritime Economy Plan. p. 15.

⁹⁹ Other sectors have been identified in the World Bank Report on the Potential of the Blue Economy, including marine biotechnology and bioprospecting, desalination (freshwater generation), and waste disposal management: World-Bank and UNDESA. The Potential of the Blue Economy: Increasing Long-Term Benefits of the Sustainable Use of Marine Resources for Small Island Developing States and Coastal Least Developed Countries. World Bank, 2017.

¹⁰⁰ Antigua and Barbuda, 2021c, pp. ix-x.

The fisheries sector plays a role in the blue economy, through local employment and as a domestic source of food, even though its GDP contribution is small (approximately 2 per cent).¹⁰¹ As discussed above, Antigua and Barbuda is seeking to develop a marine zoning and management plan, and an important aspect of this Plan will be small-scale fisheries. Antigua and Barbuda also participates in the Climate Change Adaptation of the Eastern Caribbean Fisheries Sector Project, which seeks to increase resilience and reduce vulnerability to climate change impacts in the Eastern Caribbean Fisheries Sector, through introduction of adaptation measures in fisheries management and capacity building of fisherfolk and aquaculture farmer (FAO, 2021c).

In terms of ocean mining activities, as outlined above, Antigua and Barbuda will need to continue its infrastructure renewal and strengthening, including port and coastal facilities related to shipping and coastal protection, hotels and other tourism-related facilities. Such infrastructural work will require access to aggregates, such as sand, and this means the Government will need to ensure environmental sustainability as it promotes economic growth (Antigua and Barbuda, 2021c. p.20).

Tourism is critical to Antigua and Barbuda's blue economy, making up roughly half of the country's GDP. A healthy and resilient marine environment is important to tourism in a number of ways, from influencing hotel placement (near beaches), to specific activities which directly rely upon the oceans, including yachting, regattas, sportfishing, the cruise industry, reef fishing, kitesurfing, and wreck diving. As with other sectors, however, the need for sustainability in tourism is a critical feature of the blue economy; managing the environmental pressure that comes from tourism-related activities will become increasingly important.¹⁰²

Sustainable tourism requires waste reduction, including marine waste reduction. Antigua and Barbuda is partnering with the Organisation of Eastern Caribbean States, the Ocean Governance and Fisheries Programme and, the Government of Norway to undertake the 'Building Resilience in the Eastern Caribbean through Reduction in Marine Litter Project' (OECS 2020a, 2021). Climate change and its effects also need to be integrated into tourism sector planning. As highlighted in the Plan, "[n]o formal development guidelines exist for coastal resilient structures (or marine infrastructure), nor advice on how to mainstream Disaster Risk Management or Climate Change Adaptation into construction in the marine environment".¹⁰³

6.1.3 National institutional framework

Two substantial pillars support blue economy developments in Antigua and Barbuda. Firstly, the topic of the blue economy was recently added to a ministerial portfolio – the Ministry of Social Transformation and the Blue Economy. Secondly, a Centre of Excellence for Oceanography and the Blue Economy was established at the Five Islands Campus of the University of the West Indies.¹⁰⁴ These two entities will play a crucial role in developing the country's blue economy along the lines of the Maritime Economic Plan.

The challenge for the Department of the Blue Economy, however, will be the range of areas and activities it will need to coordinate and manage to ensure economic growth that is fully sustainable, in a sense envisaged in a blue economy. A wide range of ministries, departments and organisations are already involved in marine planning and management in areas covered by the blue economy, and their activities need to be coordinated.

101 Ibid, p. 10

102 Ibid. p. 12.

103 Ibid. p. 22

104 Maritime Economic Plan p.18.

As highlighted earlier concerning the three priority sectors of mariculture, ocean renewable energy and seabed mining, significant cooperation between different government entities will be required for Antigua and Barbuda to implement policies in each sector successfully. The complexity of effective governance is increased for a blue economy, since the concept is so wide-ranging that it includes all three priority sectors in addition to other ones, such as shipping, ports and tourism.

To successfully implement its blue economy, Antigua and Barbuda will need a strong coordinating body, that can keep the goal of sustainable development in constant focus and consider the interlinkages (and consequences for one another) of policies and plans relating to the blue economy. The closest existing entity, with an overall coordinating role, is the Department of Environment. As described in Section 4.1.4, the DOE has been provided with a statutory basis for coordination of governmental activities under the Environmental Protection and Management Act, 2019.¹⁰⁵ If the Department of the Blue Economy objective is to fulfil a similar role in the oversight of the blue economy, it will need a strong statutory basis, either under a new statute, or as a result of amendments to existing statutes. In addition, it may be necessary to provide the Department of the Blue Economy with access to the Sustainable Island Resources Framework Fund (established under part XII of the Environmental Protection and Management Act, 2019), or to create a similar fund to allow it to undertake its activities effectively.

6.1.4 Applicable legislative provisions

The Department of the Blue Economy has not yet been provided with a specific statutory basis. As a result, each sector of the blue economy will be governed by a statute or set of statutes and will be administered by statutorily assigned entities. The statutory framework therefore includes all the statutes mentioned in section 4.1 National legal framework and listed below in appendix A: Main Statutes of Antigua and Barbuda Related to Oceans Governance and the Blue Economy. These include laws falling under the areas of maritime zones, fisheries management, protection and preservation of the marine environment, and shipping and ports. In addition, the statutes related to mariculture, ocean renewable energy and seabed mining, as covered in sectors I-III of this report (sect. 5: Governance Frameworks Applicable to Selected Priority Sectors) as well as statutes related to tourism are also relevant (appendix A)

¹⁰⁵ See sections 3(3), 4(3)(d), 4(5), 10, 17(1), 17(3), and 18 of the Environmental Protection and Management Act, 2019.

Photo: iStockPhoto



6.2 Gender and the ocean

6.2.1 International framework

Gender equality was enshrined in international human rights law by the Universal Declaration of Human Rights, adopted by the United Nations General Assembly in 1948. The Convention on the Elimination of all Forms of Discrimination Against Women was subsequently adopted in 1979, calling on State Parties to pursue by all appropriate means and without delay a policy of eliminating discrimination against women (UN, 1979c). Ratified by Antigua and Barbuda in 1989, this Convention requires States Parties to take all appropriate measures to eliminate discrimination against women, *inter alia*, in the field of employment in order to ensure equal working conditions, remuneration, employment opportunities and the right to social security and health and safety protection.

The Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication recognize the vital role of women in small-scale fisheries and the need to promote equal rights and opportunities for women, incorporating gender equality as a guiding principle (FAO, 2015a). Using a human rights-based approach, the Guidelines aim to empower small-scale fishing communities, including women and vulnerable and marginalized groups, to participate in decision-making processes and assume responsibility for the sustainable use of fishery resources. Furthermore, States are encouraged to mainstream gender as part of all small-scale fisheries development strategies and to adopt specific measures to address discrimination against women fish workers.

In 2019, the International Maritime Organization adopted Resolution A.1147(31) on achieving a barrier-free working environment for women in the maritime sector, which urges governments, maritime administrations, and the maritime industry to work towards women's full and safe participation in the activities of the maritime community, including seafaring and shipbuilding activities, to effectively facilitate the achievement SDGs on gender equality.

SDG 5 is one of 17 SDGs and 169 targets in the 2030 Agenda for Sustainable Development. The Agenda is underpinned by several gender-related targets, recognising that advancing gender equality is essential to achieving each goal (UNDP, 2015). SDG 14 Life Below Water focuses on achieving the conservation and sustainable use of the oceans, seas, and marine resources for sustainable development. SDG 5 is aimed at the achievement of gender equality and empowering women and girls (UN, 2018a). However, all SDGs interact with one another; they are designed to integrate fundamentally interdependent global priorities and objectives (Le Blanc *et al.*, 2017; Nash *et al.*, 2020). Therefore, linking SDG 14 with SDG 5 provides a means to advance gender equality in ocean-related sectors in a holistically.

While SDG 14 does not specifically address gender inequality, several goals have linkages to target 5.5 on "ensuring women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic, and public life". For example, target 14.7 aims to "increase the economic benefits to SIDS and least developed countries from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism" by the year 2030, while target 14.b seeks to provide access for small-scale artisanal fishers to marine resources and markets. (UN, 2018a). Undertaking reforms to ensure women's full and effective participation in ocean-related decision-making, can increase women's access to marine resources and markets and increase economic benefits to SIDS from the sustainable use of marine resources.

6.2.1.1 Gender and the Blue Economy

Women play an important role in ocean governance and the blue economy, particularly in coastal and marine tourism, and fisheries. Yet women are commonly in the lowest-paid and least-protected jobs and their contributions, priorities, and interests are often overlooked. In SIDS, tourism accounts for 30 to 80 per cent of the economy. Of this, 54 per cent of jobs are occupied by women. However, the work is often temporary, low-skilled and lacks social protection (Bertarelli, 2021).

Women also play an extensive role in the fisheries sector, accounting for nearly half of the overall global workforce (World Bank, 2012). It is estimated that women make up 15 per cent of the harvest sector but fill 90 per cent of the jobs in the post-harvest sector. Women are represented throughout the value chain, in harvesting, processing, marketing, trading, and leadership roles, but rarely in fisheries management, as boat owners or ocean decision-making positions (FAO, 2016). Their contribution is often overlooked or undervalued, yet they play a key role in supplying food from the ocean. These gender inequalities prevent women from fully participating in economic opportunities and decision-making related to the ocean (FAO, 2014). Furthermore, a lack of recognition of their unique roles, needs and interest in policies and programmes continues to affect sustainable development outcomes (MFF, 2016).

Research on gender in the fisheries sector has revealed three key findings:

- Fisheries management is strengthened by addressing gender issues. Studies show that when women's roles and perspectives in the sector are better understood and gender issues are addressed, programmes are more effective, resource governance increases and a better ecological outcome is observed (Agarwal, 2009; Leisher *et al.*, 2016). For example, the enforcement of regulations of nearshore ecosystems is improved when women become involved as stewards (Clabots, 2013; MFF, 2016). In addition, increasing women's access to better processing technologies has been shown to reduce product loss, increase product value, and allow fishing families to obtain the same income while catching fewer fish ((FAO, 2016), WWF, 2012).
- Fisheries are an important entry point and opportunity for women's economic and social empowerment. Since many women are in the blue economy workforce, it is an ideal setting to promote women's social and economic empowerment. Studies have shown that programmes that improve women's entrepreneurial and negotiating skills lead to better livelihoods through increased income and better social and health conditions ((FAO, 2016); Matthews *et al.*, 2012).
- Gender-based violence (GBV) is a particular concern in the fisheries sector. Worldwide, one in three women has experienced GBV in their life (WHO, 2013). As noted by Siles *et al.*, "Though fisheries are an important entry point and opportunity towards advancing gender equality and increasing effective sustainable fisheries management, the sector is still challenged by pervasive inequalities, including GBV" (Siles *et al.* 2019). Structural inequalities, power relationships, and harmful social norms in the sector can put women and girls in vulnerable situations, where they can be affected or exposed to violence and abuse. The negative effects of GBV have been shown to impact the productive capacity of survivors and extend beyond the survivor to her family and community (FAO, 2018). Furthermore, fisheries programming rarely includes facets addressing the elimination and prevention of gender-based violence; such gaps can lead to a loss of opportunity for women but also unintentionally exacerbate vulnerabilities (2019).

Marine scientific research is another ocean-related sector in which women face barriers to equal participation and continue to be underrepresented, particularly in the highly technical and decision-making categories. According to UNESCO's Global Ocean Science Report, women represent only 38 per cent of all ocean scientists although more women study oceanography than men. Furthermore, women's educational attainments do not translate into management, governance, and decision-making in the same field (IOC-UNESCO, 2021).

6.2.1.2 Caribbean context

In the Caribbean, livelihoods from fisheries and other ocean-related sectors are crucial for both men and women. CARICOM countries' fisheries sectors employ nearly 200,000 people in harvesting and another 400,000 in the post-harvest processing and marketing value chain, who are mostly women (GIFT, 2018).

Regionally, Caribbean Regional Fisheries Mechanisms members are addressing human rights concerns and the need to advance gender equality in ocean-related sectors under the Caribbean Common Fisheries Policy. Articles 5(d), 9 and 10 of the Policy call for the equitable allocation of rights, equal participation and the protection of traditional, subsistence and small-scale fisheries (CRFM, 2020).

The CRFM Secretariat is also finalising a policy on gender equality and mainstreaming in the fisheries and aquaculture sectors. The Centre for Resource Management and Environmental Studies of the University of the West Indies has formed a Gender in Fisheries Team. It first undertook a gender in fisheries scoping exercise and is now preparing National SSF Gender Reports for various Caribbean countries.

The Caribbean tourism sector consists of 50 to 60 per cent female employment. However, within this labour-intensive sector, 40 per cent of total jobs consist of informal employment (Mohammed and Rei, 2020). Other tourism jobs are either lower-paying or lower-skilled jobs. These types of jobs make women and children who depend on women extremely vulnerable to external shocks such as the COVID-19 pandemic.

6.2.1.3 Gender in Antigua and Barbuda

In Antigua and Barbuda, women are overrepresented in precarious and lower-paying positions and are largely reinforced by stereotypical gender roles. These women continue to be adversely affected by systemic, institutional, socio-cultural, political, and economic inequalities. Men are more likely to be represented in the sectors that contribute the highest percentage to GDP which correspondingly are the sectors targeted by the Government for development. The under-representation of women in those sectors means that strategies to promote growth and development may not sufficiently consider women or address gender inequalities (CBD, 2014). Furthermore, 41 per cent of households in Antigua and Barbuda are headed by women as the sole providers (ILO, 2018).

According to the International Labour Organisation (ILO), 65 per cent of board-level and senior management workplaces in Antigua and Barbuda have policies surrounding equal opportunities or diversity and inclusion. However, there are still more men in higher levels of management, and at the governance level, than women. In addition, there is a downward trend in the number of women at senior levels and existing positions are primarily in the fields of corporate social responsibility and human resources, not in research or development (ILO, 2019).

Antigua and Barbuda is the third most tourism dependant country in the Caribbean (IDB, 2021). Women make up the majority of workers (60 per cent) in the industry (CBD, 2014) but they typically occupy the lowest paid jobs and lack social protection and other hallmarks of decent work. The tourism industry is highly vulnerable to the external fluctuations of the market, which was starkly demonstrated in the context of the COVID-19 pandemic. In 2020, Antigua and Barbuda's economy suffered a contraction of 20.2 per cent due to travel and other restrictions stemming from the pandemic (IMF, 2022). All of that, coupled with cyclical periods of unemployment between low and high seasons, these factors can leave women tourism workers in challenging economic situations vulnerable to exploitation. They are further affected by a lack of ability to transition to other types of work and are often impacted by gender-based vulnerabilities, such as sexual harassment, inflexible working hours, and unfair dismissal (CBD, 2014).

The Ministry of Agriculture, Fisheries and Barbuda Affairs does not collect gender-disaggregated data on agriculture or fisheries.¹⁰⁶ However, 2014 data collected in Antigua and Barbuda by a CBD Country Gender Assessment showed that 71.4 per cent of men and 28.6 per cent of women work in agriculture, hunting and forestry, and that 99.3 per cent of men and 0.7 per cent of women work in the fisheries sector. While it is generally accepted that women participate more extensively in both agriculture and fisheries, the lack of accurate, timely gender-disaggregated data obscures the contributions of women to productive work in these sectors (CBD, 2014).

6.2.2 National institutional framework

The Directorate of Gender Affairs (DOGA), a division of the Ministry of Social Transformation and the Blue Economy, is Antigua and Barbuda's national focal point for advancing gender equality. The Directorate seeks to integrate gender in all policies, plans, and programmes. Its portfolio includes climate change and the environment. However, DOGA currently does not have any active projects or plans in either of these ocean-related areas.¹⁰⁷

The Department of Environment has a formal Gender Policy that outlines the DOE's commitment to mainstreaming gender and achieving gender sensitivity primarily based on environmental concerns. It is supported by the DOE's Environmental and Social Safeguards Policy (ESS) which includes a set of guiding principles for mainstreaming gender within its projects (Antigua and Barbuda, 2018). ESS and gender considerations form part of any advice on the development of the blue economy. The DOE has ESS and Gender Officers responsible for the implementation of its gender-related policies; these officers collaborate as necessary with the DOGA.¹⁰⁸

The key objectives of these documents as they relate to the blue economy are to determine and assess the environmental, social and gender risks and impacts of coastal and ocean-related projects. This includes ensuring that vulnerable communities and groups, such as women, subsistence fishers and other resource users, are consulted on the potential impacts of projects. It means ensuring that these groups can access and understand the information being disseminated on projects so that they can fully participate in the decision-making process. The policies are meant to create safeguarding mechanisms and mitigate against possible risks, not only to the environment but to the people who depend on the environment for their livelihoods (Antigua and Barbuda, 2018).

The Sustainable Island Resources Framework Fund is an independent autonomous entity operated by a board of directors created to assist with funding and sustainable financing for projects related to environmental management. In addition, it supports the implementation of multilateral environmental agreements to which Antigua and Barbuda is a party (Antigua and Barbuda, 2021b; Markov, 2016). One criterion for eligible projects under the SIRF Fund is that they must include environmental and social safeguards which include support for vulnerable groups such as women, subsistence fishers and their communities (Antigua and Barbuda, 2019e).

- The Environmental Protection and Management Act, 2019 includes the following safeguard requirements for the SIRF Fund:
- Provide support to reduce the vulnerability of the most vulnerable groups during periods of disaster response, recovery and rehabilitation, and for disaster relief to vulnerable groups, communities and sectors when the Fund considers it appropriate to do so.

¹⁰⁶ DOF. Responses to the applied questionnaire.

¹⁰⁷ DOGA. Responses to the applied questionnaire

¹⁰⁸ Ibid.

- Requirement not to support activities that have a net general adverse social or economic effect on any community or groups of persons as well as non-discrimination when performing its activities or in the performance of its duties with respect to any group of people.
- Requirement to screen any proposed activity, project, or program, and assess and consider any impact of the proposed activity on marginalized and vulnerable groups.
- In determining supportable activities, seek to alleviate poverty and social inequality while reducing environmental problems.
- In supporting activities that affect the community, seek to avoid involuntary resettlement by exploring all other viable alternatives to resettlement whenever this is possible.

Currently the DOE is implementing a project to promote gender mainstreaming in addressing climate change impacts in the fisheries sector (Antigua and Barbuda, 2018). Thus far, a concept note has been prepared to be submitted to the Green Climate Fund, entitled Mainstreaming Financial Resilience to Climate Change in Antigua and Barbuda. The focus is on financial resilience in keeping with the established priorities of the Government of Antigua and Barbuda in the context of climate change (Antigua and Barbuda, 2021e). The proposed project will be designed to strengthen the physical resilience of Antigua and Barbuda's fisheries and agricultural sectors to mitigate the impacts of extreme weather events, including but not limited to the identification and implementation of priority adaptation interventions, which focus on ecosystem-based adaptation and management of extreme weather risk to climate-vulnerable livelihoods and food. The components of the work to be carried out include a Gender Baseline, a Gender Action Framework and a Limited Environmental and Social Impact Assessment to produce an Environmental and Social Management Framework (Antigua and Barbuda, 2021e).

6.2.3 National legal framework

Antigua and Barbuda's Constitution Order, 1981 prohibits gender discrimination (Antigua and Barbuda, 1981). The Antigua and Barbuda Labour Code, 1975 (Antigua and Barbuda, 1975c), amended most recently in 2019, includes provisions on equal pay for women, sick leave and maternity leave and stipulates that it is unlawful for an employer to discriminate against an individual regarding their hire, wages, tenure or any other working conditions because of his or her sex. However, this prohibition on workplace discrimination is subject to the proviso that it will not be "construed as forbidding the taking of personnel actions genuinely related to that person's ability to discharge the duties of the employment in question." This may provide a loophole for employers to discriminate against women on the assumption that they are not able to carry out a particular type of work, such as manual labour prevalent in the fishing sector.

While all employees are entitled to paid sick leave pursuant to the Labour Code, 1975, it does not require employers to provide leave to care for sick relatives, and there is no provision for childcare allowances for parents. The absence of these protections may present challenges for women's labour force participation (ILO, 2018). Furthermore, there is no legislation in place in Antigua and Barbuda concerning sexual harassment at work.

The Social Security Act, 1972 (Antigua and Barbuda, 1972b) provides for maternity and other social security benefits. However, it stipulates that persons within the "economically inactive population" cannot receive social security disbursements (CBD, 2014). Most women working in fisheries and tourism are employed in the informal sector, which falls into the category of "economically inactive" according to the legislation.

There are no legal restrictions on women becoming entrepreneurs and operating businesses in the same way as men in Antigua and Barbuda. Women make up the majority of micro-business owners, often in the informal tourism sector. It is nonetheless recognized that access to credit remains an issue for many women from lower socioeconomic backgrounds (ILO, 2018). Relatedly, there is no prohibition on discrimination in access to credit based on gender or marital status.



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VII. Conclusions, Observations and Capacity-Building Needs

7.1 Conclusions on the national legal and institutional framework for ocean governance

7.1.1 National Legal Framework for Ocean Governance

Antigua and Barbuda is party to UNCLOS and many other international instruments related to ocean governance. These include treaties establishing regimes for, *inter alia*, maritime delimitation and delineation, maritime security and criminal jurisdiction, fisheries management, protection and preservation of the marine environment, and shipping. However, it is not a party to some key international instruments, including the 1995 United Nations Fish Stocks Agreement, the 1997 Agreement on the Privileges and Immunities of the International Tribunal for the Law of the Sea, the 2009 Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing, and the 1993 Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas. Antigua and Barbuda has also not availed itself of the opportunity to make a written declaration under part XV of UNCLOS, through which it can select or exclude compulsory dispute settlement procedures.

The rights and obligations of Antigua and Barbuda under UNCLOS and related instruments are implemented through a wide range of statutes, regulations and statutory instruments. These laws, discussed throughout the report, have been grouped in appendix A under the areas of fisheries management and mariculture, gender and the ocean, maritime security, maritime zones, ocean mining, ocean renewable energy, protection and preservation of the marine environment, shipping and ports, and tourism. These laws are complemented by policies and action plans which together form the national legal and policy framework for ocean governance in Antigua and Barbuda.

Gaps exist, however, in its legal framework, notably in areas related to the blue economy. For example, at this time no overarching statutory basis exists for the Department of the Blue Economy that would help provide it with the competence and authority to encourage coordination between ministries, departments, and units. The Department of Environment, in contrast, has a robust legislative framework for these purposes.

In addition, it would be helpful to establish enabling legal frameworks for developing the three priority sectors of mariculture, ocean renewable energy and seabed mining. As seen in section 5, legislative gaps exist in these areas.

Furthermore, some legislation might not be sufficient in implementing relevant obligations under UNCLOS and related instruments due to, for example, limitations on scope of application. The Maritime Piracy Act, 2013, for example, restricts its enforcement scope to the territorial sea and high seas.¹⁰⁹ To provide another example, part VIII of the Environmental Protection and Management Act, 2019 allows for the establishment of protected areas and their management but limits those areas to the territorial sea. Such areas for the protection and preservation of the marine environment could be extended to other maritime zones within its national jurisdiction.

Observations are made below on the ratification of additional treaties and on the legislative structure of Antigua and Barbuda.

7.1.2 National institutional framework for ocean governance

7.1.2.1 General

Roles and responsibilities in ocean governance are allocated to different ministries, departments, units and other entities. Nevertheless, several observations can be drawn regarding Antigua and Barbuda's institutional framework.

First, in some areas, the allocation of responsibilities is lacking or unclear. For example, DOBE does not have a comprehensively defined mandate and is not linked to a statutory framework (in the same manner as other departments, such as the Department of Fisheries and the Department of Environment). In other cases, responsibilities may overlap in two or more Ministries. For example, the Ministry of Health, Wellness and the Environment, the Ministry of Agriculture, Lands, Fisheries and Barbuda Affairs, and the Ministry of Tourism¹¹⁰ can create protected areas or marine reserves. The three regimes of protection fulfil very similar functions and, as a result, there is a potential for competing authority between Ministries.

Secondly, some institutional frameworks are not fully implemented in practice due to a lack of technical capacity. As discussed above in section 4.2, the Department of Fisheries is sometimes required to make or implement environment-related decisions where it may have limited, or no, technical capacity; similarly, the Department of Environment may be charged to oversee large projects involving the marine environment, but require data collected by the Department of Fisheries. In addition, the Development Control Authority may be tasked with overseeing the development of projects involving the marine environment, without possessing the technical capacity to do so. The Barbuda Council and Antigua and Barbuda Defence Force also face challenges in providing surveillance over Antigua and Barbuda's EEZ to deter, *inter alia*, illegal, unreported, and unregulated fishing. The DOE has recommended real time remote sensing in addition to increases in the number of surveillance vessels to help overcome this challenge.¹¹¹

Thirdly, inter-institutional coordination and cooperation frameworks may be lacking or need reinforcing. For example, in blue economy area, which involves many actors and sectors, a mechanism is needed to enable coordination and cooperation, avoid duplication between the various ministries, departments and units and achieve integrated ocean governance.

¹⁰⁹ See further the discussion in section 4.1.5, Maritime Security.

¹¹⁰ The National Parks Authority is under the Ministry of Tourism. DOE Response to Draft Report.

¹¹¹ DOE. Responses to the applied questionnaire

7.1.2.2 Blue Economy

In this regard, Antigua and Barbuda would benefit from a strong coordinating body to manage the wide range of areas and activities falling within the blue economy. The Department of the Blue Economy has the potential to serve in this role. However, it does not have either a strong statutory basis or access to necessary funding at this time.

7.1.2.3 Mariculture

Mariculture operations fall under the responsibility of the Department of Fisheries of the Ministry of Agriculture, Fisheries and Barbuda Affairs. However, other Ministries also need to be involved in mariculture, including the Ministry of Health, Wellness and The Environment (which regulates the environment and relevant ecosystems), the Ministry of Legal Affairs, Public Safety and Labour, and the Ministry of Works (which collaborate in the leasing of maritime space). These three Ministries will need to collaborate effectively to ensure a successful mariculture regime for Antigua and Barbuda.

7.1.2.4 Marine renewable energy

A marine renewable energy programme will require several ministries, departments and units to work together effectively. The Office of the Prime Minister has the overarching responsibility for national policy and planning matters. The Ministry of Public Utilities, Civil Aviation and Energy oversees the power sector and is responsible for energy sector planning and policy matters. In addition, the Ministry of Finance incentivizes renewable energy projects, the Development Control Authority approves the location for such projects and the Ministry of Health, Wellness and the Environment ensures that they satisfy environmental requirements.

7.1.2.5 Seabed mining

The seabed mining sector does not have a specific regulatory agency. Therefore, several government agencies share regulatory and monitoring responsibilities related to seabed mining. The Ministry of Works is responsible for issuing mining permits. The Development Control Authority processes development applications and plans, including those related to mining projects. The Barbuda Council reviews mining developments and activities falling within its jurisdiction. The Department of Marine Services and Merchant Shipping houses the National Hydrographic Office and the Antigua and Barbuda Port Authority. The latter entities would be required to review mining proposals, including the geographic location of proposed projects and vessel types. The Department of Fisheries and the Department of Environment jointly review marine development applications for environmental concerns, which include possible impacts on flora, fauna and ecosystem health. These reviews would require an environmental impact assessment to be performed before permission is granted to begin seabed mining. All these entities would be required to cooperate and work together effectively on any seabed mining programme for Antigua and Barbuda.

7.1.2.6 Gender and the ocean

The Directorate of Gender Affairs, a division within the Ministry of Social Transformation and the Blue Economy, is Antigua and Barbuda's national focal point for advancing gender equality. The Directorate seeks to integrate gender into all policies, plans and programmes. The Department of Environment (DOE) has a formal Gender Policy that outlines the DOE's commitment to mainstreaming gender and achieving gender sensitivity primarily based on environmental concerns. It is supported by the DOE's Environmental and Social Safeguards Policy (ESS), which includes a set of guiding principles for mainstreaming gender within its projects. The DOE has ESS and Gender Officers responsible for the implementing its gender-related policies; these officers collaborate as necessary with the DOGA.

7.2 Observations

7.2.1 Short-Term observations

There could be benefits derived from a more integrated coastal zone management approach.¹¹² Currently, environmental legislation is sectoral and does not address management issues holistically. The policy and spatial planning documents should be combined into an Ecosystem Service Framework for Integrated coastal zone management. There also is a need for some form of legislative framework to enable the ICZM. With legislative reform, policies could be created that explicitly define the management roles and mandates of various organisations. The management roles could be embedded in well-developed programmes. Departments could be provided with clear mandates to promote their programming goals, prevent overlap of competences and functions, and ensure sufficient technical expertise.

Once an institutional framework is established, Antigua and Barbuda may choose to look for sustainable long-term financing to implement ICZM. Typically, the approach has been to rely on outside donors for large projects, but this dependency undermines the sustainability of the initiatives. Other mechanisms such as an environmental levy and charging tourists and resource users for access to protected areas have been used. Stakeholder consultations with resource managers and users would be needed to determine which type of sustainable finance mechanism is best.

As a cross-cutting issue, it could be useful for Antigua and Barbuda to map out the mandates and capacities for operational implementation within the government and multilaterally, particularly in considering the development of new maritime sectors.

7.2.1.1 Mariculture

Marine environmental baseline data should be collected, including data about water quality, habitat assessments, biodiversity, catch data, and invasive species. The DOF, in coordination with the DOE, could train scuba divers, local fishers, students, and civilian scientists to assist with this task. The use of marine drones for such purposes has been recommended.¹¹³ Pilot projects could be conducted, including an EIA, which could rely in part upon university students interested in mariculture.

7.2.1.2 Marine Renewable Energy

Impact assessments and monitoring reports of installed MRE projects could be reviewed. Baseline data could be collected on abiotic and biotic systems, as well as on wave energy converters and tidal and ocean current turbines.

7.2.1.3 Seabed Mining

The Minerals Vesting Act, 1949 could be amended to expressly cover seabed mining. In addition, governance measures used in other regions to inform legislative and regulatory frameworks could be researched and reviewed, for example, the EU Mineral Policy Guide (European-Commission, 2022); Deep Sea Mineral project (DSM, 2022); and PACIFIC-ACP States regional legislative and regulatory framework for deep sea minerals exploration and exploitation (DSM, 2012).

¹¹² For valuable guidance on how to establish an ICZM approach see: V. Ramsey, J. A. G. Cooper, and K. L. Yates. Integrated Coastal Zone Management and Its Potential Application to Antigua and Barbuda. *Ocean & Coastal Management*, 118 (2015), 259-74.

¹¹³ DOE. Responses to the applied questionnaire.

7.2.1.4 Gender

For inclusive and sustainable growth in the blue economy, and to foster women's economic empowerment in related sectors, emphasis should be placed on the development of gender-responsive labour and social protections, access to credit for female entrepreneurs in ocean-related sectors, capacity building initiatives for relevant government bodies in these areas, and entrepreneurship and leadership trainings for women. The Directorate of Gender Affairs, in conjunction with the DOE, may wish to consider providing support for gender mainstreaming in ocean-related sectors, including through workshops with key stakeholders. Furthermore, gender-disaggregated data on participation, precarity and social protection, is needed in blue economy sectors, including fisheries and tourism, to fill gaps and inform evidence-based policy-making and to determine strategies for advancing women's economic empowerment. Academic collaboration should be encouraged to facilitate research support for evidence-based policy-making, including funding incentives and the facilitation of working groups.

7.2.1.5 Existing legal instruments

Existing legal instruments and frameworks may also require re-examination. For the reasons discussed in sections 3.2 and 3.4 of this report, Antigua and Barbuda may wish to consider ratifying the following treaties:

- 1995 United Nations Fish Stocks Agreement
- 1997 Agreement on the Privileges and Immunities of the International Tribunal for the Law of the Sea
- 2009 Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing
- 1993 Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas
- Other international legal instruments to be concluded for the implementation and further development of the legal framework established by UNCLOS.

In terms of the national legislative framework, Antigua and Barbuda may wish to consider amending statutes to:

- Provide a clear governance framework for the establishment and management of marine reserves and protected areas, including through clarifying the relationship between relevant statutes and the role of relevant ministries, departments, units and other entities.
- Provide a clear governance framework for the establishment of marine protected areas, including in the EEZ.
- Provide a clear governance framework for marine genetic resources.

Statutory changes that may be considered include, but need not be limited to, amendments to the following laws:

- Fisheries Act, 2006 and the Environmental Protection and Management Act, 2019 – to ensure that marine reserves and (marine) protected areas are distinguished to avoid competing for authority between ministries. The DOE has advised that DOE, DOF, National Parks and other stakeholders are currently working on a national Protected Area Framework. This framework would encourage zoning of each protected area, regardless of title, based on conservation and usage guidelines. Such a framework should be encouraged and perhaps formalized by means of new legislation or through amendments to existing legislation (DOE Response to Draft Report).

- Fisheries Act, 2006 – to support both men and women equally, including to ensure that men and women have access to technology and services to carry out their work and to encourage increased participation of women in ocean science and conservation.
- Fisheries Act, 2006 – to mandate for the collection of gender-disaggregated data in the harvest and post-harvest sectors, and informal and formal sectors.
- Environmental Protection and Management Act, 2019 and/or Fisheries Act, 2006 – to allow for the creation of marine protected areas to areas beyond the territorial sea, such as in the EEZ.
- Environmental Protection and Management Act, 2019 – to expressly cover marine genetic resources.¹¹⁴
- Minerals Vesting Act, 1949 – to expressly cover seabed mining and to authorise the issuing of seabed mining permits.

Prioritized capacity-building needs

1. Legislative, institutional and human resources capacity to draft or revise the statutes that will be required to implement the additional treaties that Antigua and Barbuda may consider ratifying (identified above).
2. Legislative, institutional and human resources capacity to amend the Fisheries Act, 2006, the Environmental Protection and Management Act, 2019 and the Minerals Vesting Act, 1949.
3. Human resource capacity to fulfil the mandates of the DOF and DOE, including marine field and research scientists, oceanographers, water quality analysts specialising in marine systems, and trained marine data collectors and surveyors to collect *in situ* information on the biotic and abiotic marine systems, as well as to collect fisheries catch data.

7.2.1.6 New legal instruments

Legislative developments could be overseen by a cross-government task force or similar entity, including the Department of Fisheries, the Department of Environment and the Department of the Blue Economy, and other relevant government institutions as appropriate. In lieu of creating a new task force, which may entail additional administrative burdens, a more efficient alternative could be to use an existing committee or committee structure, such as the Ocean Governance Committee or a sub-committee of the Technical Advisory Committee.¹¹⁵ Under the oversight of this task force, a legislative drafting team may be engaged to draft new, or amend existing, statutes, regulations and statutory instruments for the mariculture, marine renewable energy, and seabed mining sectors through a multi-stakeholder process. It is important that such laws assign roles and responsibilities clearly among the relevant government institutions.

The drafting of a new statute to provide a formal statutory basis for the Department of the Blue Economy may also be considered, one which clearly delineates responsibilities and authority between the Department of the Blue Economy, the Department of Environment, the Department of Fisheries, and other relevant entities.

¹¹⁴ The DOE has indicated that it has been issuing collection permits (which are issued in tandem with a research permit from the Fisheries Division) and signing access and benefit sharing (ABS) agreements for marine genetic resources since 2015 (DOE Response to Draft Report).

¹¹⁵ DOE. Responses to the applied questionnaire

Prioritized capacity-building needs

1. To mobilize financing for legislative, institutional, and human resources development.
2. To draft statutes, regulations, statutory instruments, and policies:
 - a. To clearly delineate responsibilities and authority between the Department of the Blue Economy and other government departments.
 - b. For the mariculture sector, through a multi-stakeholder process under strengthened cross-government coordination.
 - c. Human resource capacity to fulfil the mandates of the DOF and DOE, including marine field and For the ocean renewable energy sector, through a multi-stakeholder process under strengthened cross-government coordination.
 - d. For the seabed mining sector, through a multi-stakeholder process under strengthened cross-government coordination.

7.2.1.7 Stakeholder engagement

Stakeholders generally include non-State entities with a direct interest in the implementation of the legal and institutional frameworks, and without which such implementation would not be effective. Legal and institutional frameworks must clearly identify relevant stakeholders and prescribe engagement modalities and responsibilities for them. Stakeholders must also be well informed on their roles and responsibilities, provide with clear and timely information, and competently engage with legal and institutional frameworks. The NOGC may provide for an opportunity to reinforce effective stakeholder participation. However, survey responses cited challenges with technical capacity and overstretched resources due to, *inter alia*, a lack of funding, which will need to be addressed.

Prioritized capacity-building needs

1. To effectively identify and engage stakeholders.
2. To ensure the inclusion of stakeholder roles and responsibilities in legal and institutional frameworks.
3. To strengthen the participatory and organizational capacity of stakeholders at various levels.
4. To mobilize financing for stakeholder participation.

7.2.2 Mid-Term observations

7.2.1.6 Integrated Coastal Zone Planning

The Department of Environment, the Department of Fisheries, the National Parks Authority and other stakeholders are currently working on a national Protected Area Framework, which is based on conservation and usage guidelines and encourages zoning of each area. It is recommended that stakeholder consultation be conducted to ensure that an iterative process has occurred and to avoid conflicts arising from overlapping space usage by resource users. A pilot project in one specific coastal area could be conducted and a public awareness campaign could be used to enhance participation and buy-in. This experimental project would also outline the best practice methods for management and stakeholder engagement. The results could be outlined in a document and presented to the stakeholders which would help reach a wider public and enhance transparency.

A draft maritime policy statement has been created and is being used as a foundation for a National Ocean Policy. The latter may require new legislation, or amendments to existing legislation, to ensure that public authorities taking decisions that affect or might affect the Antigua and Barbuda maritime space are mandated to do so in accordance with the maritime policy statement. The Antigua and Barbuda National Ocean Policy will also need to be articulated with the OECS Eastern Caribbean Regional Ocean Policy.

7.2.1.7 Gender

Legislation could be amended to enhance workplace and social protection for women in the areas of marine tourism and fisheries, especially those engaging in the informal sector. Women could also benefit from increased access to equipment, credit and support services, as well as entrepreneurship and leadership trainings. Sustained, timely collection and analysis of gender-disaggregated data in the blue economy is needed to fill data gaps and to advance effective, evidence-based policymaking. Such data can provide both qualitative and quantitative evidence regarding income, participation, precarity, social protection, COVID-19 impacts, discrimination and other barriers related to women. This is an essential input for determining strategies to advance women's economic empowerment in the blue economy.

Prioritized capacity-building needs

1. Legislative and human resources capacity to draft statutes, regulations, statutory instruments and policies in relation to marine spatial planning, including allocation of authority to a single institution.
2. Institutional and human resources, as well as the development of monitoring and reporting capacity by relevant institutions, to conduct marine spatial planning.
3. Training on the collection and analysis of gender-disaggregated data for government officials and other public and private stakeholders in blue economy sectors, and creation of an electronic database management system which can provide cross sectoral analysis of gender-related data.

7.3 Prioritized inventory of identified capacity-building needs

The prioritized capacity-building needs of Antigua and Barbuda are summarized in table 3.

Table 3. Capacity-building needs of Antigua and Barbuda

1.	Institutional, human resources and funding capacity for the effective implementation of existing legal and institutional frameworks, and the capacity to effectively engage stakeholders and partners
2.	Mobilize financing for legislative, institutional and human resources development.
3.	Legislative, institutional and human resources capacity to draft or revise the statutes that will be required to implement the additional treaties that Antigua and Barbuda may consider ratifying (identified above).
4.	Legislative, institutional and human resources capacity to amend the Fisheries Act, 2006, the Environmental Protection and Management Act, 2019, and the Minerals Vesting Act, 1949.
5.	Human resource capacity to fulfil the mandates of the DOF and DOE, including marine field and research scientists, oceanographers, water quality analysts specialising in marine systems, and trained marine data collectors and surveyors to collect in situ information on the biotic and abiotic marine systems, as well as to collect fisheries catch data.
6.	Legislative, institutional and human resources capacity to draft statutes, regulations, statutory instruments and policies to clearly delineate responsibilities and authority between the Department of the Blue Economy and other government departments.
7.	Legislative, institutional and human resources capacity to draft statutes, regulations, statutory instruments and policies for the mariculture sector through a multi-stakeholder process under strengthened cross-government coordination.
8.	Legislative, institutional and human resources capacity to draft statutes, regulations, statutory instruments and policies for the ocean renewable energy sector through a multi-stakeholder process under strengthened cross-government coordination.
9.	Legislative, institutional and human resources capacity to draft statutes, regulations, statutory instruments and policies for the seabed mining sector through a multi-stakeholder process under strengthened cross-government coordination.
10.	Strengthen the participatory and organizational capacity of stakeholders at various levels.
11.	Legislative and human resources capacity to draft statutes, regulations, statutory instruments and policies in relation to marine spatial planning, including allocation of authority to a single institution.
12.	Institutional and human resources, as well as development of monitoring and reporting capacity by relevant institutions, to conduct marine spatial planning.
13.	Training on the collection and analysis of gender-disaggregated data for government officials and other public and private stakeholders in the blue economy sectors, and creation of an electronic database management system which can provide cross-sectoral analysis of gender-related data.

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(1963). *Treaty banning nuclear weapon tests in the atmosphere, in outer space and under water* (adopted 5 August 1963, in force 10 October 1963) 480 UNTS 43.

(1971). *Treaty on the prohibition of the emplacement of nuclear weapons and other weapons of mass destruction on the sea-bed and the ocean floor and in the subsoil thereof* (adopted 11 February 1971, in force 18 May 1972) 955 UNTS 115.

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- (1998b). *Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade* (adopted 10 September 1998; in force 24 February 2004) 2244 UNTS 337.
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- (2001a). *Convention on the protection of the underwater cultural heritage* (adopted 2 November 2001, in force 2 January 2009) 2562 UNTS 3.
- (2001b). *Stockholm Convention on Persistent Organic Pollutants* (adopted 22 May 2001; in force 17 May 2004) 2256 UNTS 119.
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IX. Appendix: Main Statutes of Antigua and Barbuda Related to Oceans Governance and the Blue Economy

(Listed by sector, in alphabetical order)

9.1 Fisheries Management and Mariculture

Animal Health Act, 2017 (Antigua and Barbuda, 2017c)

Barbuda (Fisheries) Regulations, 2014 (Antigua and Barbuda, 2014d)

Barbuda Local Government Act, 1976 (Antigua and Barbuda, 1976)

Fisheries Act, 2006 (Antigua and Barbuda, 2006g)

Fisheries (Protection of Lobster) Regulations, 1978 (Antigua and Barbuda, 1978)

Fisheries Regulations, 2013 (Antigua and Barbuda, 2013d)

National Parks Act, 1984 (Antigua and Barbuda, 1984)

Physical Planning Act, 2003 (Antigua and Barbuda, 2003b)

Registered Land Act, 1975 (Antigua and Barbuda, 1975a)

9.2 Gender and the Ocean

Constitution Order, 1981

Antigua and Barbuda Labour Code, 1975 (Antigua and Barbuda, 1975c)

Social Security Act, 1972

9.3 Maritime Security

Defence Act, 2006 (Antigua and Barbuda, 2006b)

Defence (Amendment) Act, 2020 (Antigua and Barbuda, 2020b)

Maritime Piracy (Amendment) Act, 2014 (Antigua and Barbuda, 2020a)

Maritime Piracy Act, 2013 (Antigua and Barbuda, 2013b)

Misuse of Drugs Act, 1974 (Antigua and Barbuda, 1974)

Money Laundering (Prevention) Act, 1996 (Antigua and Barbuda, 1996)

National Drug and Money Laundering Control Policy Act, 2003 (Antigua and Barbuda, 2003c)

Prevention of Terrorism Act, 2005 (Antigua and Barbuda, 2005b)

Proceeds of Crime Act, 1993 (Antigua and Barbuda, 1993a)

9.4 Maritime Zones

Delimitation of Maritime Space (Antigua and Barbuda and the Republic of France in the Caribbean Region) (Ratification of Agreement), 2017 (Antigua and Barbuda, 2017a)

Law Revision (Miscellaneous Amendments) (No. 2) Act, 1995 (Antigua and Barbuda, 1995a)

Maritime Areas Act, 1982 (Antigua and Barbuda, 1982b)

Territorial Waters Act, 1982 (Antigua and Barbuda, 1982a)

9.5 Ocean Mining

Minerals (Vesting) Act, 1949 (Antigua and Barbuda, 1949)

9.6 Ocean Renewable Energy

Barbuda Local Government Act, 1976 (Antigua and Barbuda, 1976)

Environmental Protection and Management Act, 2019 (Antigua and Barbuda, 2019d)

Public Utilities (Amendment) Act, 1993 (Antigua and Barbuda, 1993c)

Public Utilities (Amendment) Act, 2004 (Antigua and Barbuda, 2004)

Public Utilities Act, 1973 (Antigua and Barbuda, 1973b)

Renewable Energy Act, 2015 (Antigua and Barbuda, 2015a)

Resolution of the House of Representatives Ratifying the Agreement to Establish the Caribbean Centre for Renewable Energy and Energy Efficiency (CCREEE), 2020 (Antigua and Barbuda, 2020a)

Transport Board Act, 1995 (Antigua and Barbuda, 1995d)

Vehicle and the Road Traffic Act, 1947 (Antigua and Barbuda, 1947)

9.7 Protection and Preservation of the Marine Environment

Barbuda (Coastal Zoning and Management) Regulations, 2014 (Antigua and Barbuda, 2014c)

Barbuda Local Government Act, 1976 (Antigua and Barbuda, 1976)

Beach Control Act, 1959 (Antigua and Barbuda, 1959)

Beach Protection (Amendment) Act, 1993 (Antigua and Barbuda, 1993b)

Beach Protection Act, 1957 (Antigua and Barbuda, 1957)

Dumping at Sea Act, 1975 (Antigua and Barbuda, 1975b)

Environmental Protection and Management Act, 2019 (Antigua and Barbuda, 2019d)

Fisheries (Protection of Lobster) Regulations, 1978 (Antigua and Barbuda, 1978)

Litter Control and Prevention Act, 2019 (Antigua and Barbuda, 2019f)

Marine Areas (Preservation and Enhancement) Act, 1972 (Antigua and Barbuda, 1972a)

Marine Areas (Preservation and Enhancement) Regulations, 1973 (Antigua and Barbuda, 1973d)

National Solid Waste Management Authority Act, 1995 (Antigua and Barbuda, 1995b)

National Solid Waste Management Authority Act, 2005 (Antigua and Barbuda, 2005a)

Oil Pollution of Maritime Areas Act, 1995 (Antigua and Barbuda, 1995c)

Pesticides and Toxic Chemicals Act, 2008 (Antigua and Barbuda, 2008c)

9.8 Shipping and Ports

Antigua and Barbuda Labour Code (Amendment) (No. 2) Act, 2019 (Antigua and Barbuda, 2019b)

Antigua and Barbuda Labour Code (Amendment) Act, 1998 (Antigua and Barbuda, 1998b)

Antigua and Barbuda Labour Code (Amendment) Act, 2017 (Antigua and Barbuda, 2017b)

Antigua and Barbuda Labour Code (Amendment) Act, 2020 (Antigua and Barbuda, 2020f)

Antigua and Barbuda Labour Code, 1975 (Antigua and Barbuda, 1975c)

Boats Regulation Act, 1933 (Antigua and Barbuda, 1933)

Merchant Shipping (Amendment) Act, 2006 (Antigua and Barbuda, 2006c)

Merchant Shipping (Amendment) Act, 2007 (Antigua and Barbuda, 2007a)

Merchant Shipping (Amendment) Act, 2014 (Antigua and Barbuda, 2014a)

Merchant Shipping (Amendment) Act, 2017 (Antigua and Barbuda, 2017d)

Merchant Shipping (Registration of Ships) Regulations, 2011 (Antigua and Barbuda, 2011a)

Merchant Shipping (Vessels in Commercial Use for Sport or Pleasure) Regulations, 2011 (Antigua and Barbuda, 2011b)

Merchant Shipping Act, 2006 (Antigua and Barbuda, 2006f)

Oil Pollution of Maritime Areas Act, 1995 (Antigua and Barbuda, 1995c)

Port Authority Act, 1973 (Antigua and Barbuda, 1973a)

Shipping (Port State Control) Regulations, 2008 (Antigua and Barbuda, 2008d)

Shipping (Small Commercial Vessels) Regulations, 2008 (Antigua and Barbuda, 2008e)

Shipping (Survey) Regulations, 2008 (Antigua and Barbuda, 2008a)

Small Craft Control Act, 2015 (Antigua and Barbuda, 2015c)

9.9 Tourism

Antigua and Barbuda Labour Code (Amendment) (No. 2) Act, 2019 (Antigua and Barbuda, 2019b)

Antigua and Barbuda Labour Code (Amendment) Act, 1998 (Antigua and Barbuda, 1998b)

Antigua and Barbuda Labour Code (Amendment) Act, 2017 (Antigua and Barbuda, 2017b)

Antigua and Barbuda Labour Code (Amendment) Act, 2020 (Antigua and Barbuda, 2020f)

Antigua and Barbuda Labour Code, 1975 (Antigua and Barbuda, 1975c)

Barbuda Local Government Act, 1976 (Antigua and Barbuda, 1976)

Tourism and Business (Special Incentives) Act, 2013 (Antigua and Barbuda, 2013c)

Tourism Authority (Amendment) Act, 2015 (Antigua and Barbuda, 2015b)

Tourism Authority Act, 2008 (Antigua and Barbuda, 2008b)

Tourism Development Corporation (Amendment) Act, 2003 (Antigua and Barbuda, 2003a)

Tourism Licensing and Classification Act, 2019 (Antigua and Barbuda, 2019c)