

# N°10 POLICY NOTES

## BLUE ECONOMY SCOPING STUDY FOR DOMINICA

UNDP Dominica<sup>1</sup>

**Author of the original document:** Julian Roberts<sup>2</sup>

**Author of the Note:** Juliana Helo Sarmiento<sup>3</sup> and the Multi-Country Office Barbados and the Eastern Caribbean

### KEY MESSAGES

- Marine uses and ocean-related activities already contribute significantly to the economic and social well-being of Dominica and its people, through tourism, fisheries and ports and shipping.
- This document identifies possible opportunities and recommendations that could promote future growth and build resilience to future economic, environmental and physical shocks by integrating the blue economy into Dominica's national socio-economic development framework.
- The greatest growth opportunities lie in the tourism and fisheries sectors, with further limited opportunities in the ports and shipping sector; however, Dominica's marine resource base requires further study to better understand its potential and the measures required to protect and sustain it for future generations.



### POLICY RECOMMENDATIONS

- Strengthen the existing management frameworks for marine resources to promote opportunities for growth in the tourism and fisheries sectors, beginning with an effort to quantify resources and understand their current status. Improving the knowledge base will result in informed and effective decision-making in the use of marine resources.
- Adapt the co-management model for fisheries under the existing cooperative model and design additional Marine Protected Areas (MPAs). Such solutions could serve as mechanisms to empower communities in decision-making and sustainable resource management, as well as provide economic opportunities in ocean-related tourism, thereby supporting jobs and livelihoods.
- Adapt and improve accommodation infrastructure and port facilities to attract high-spending tourism. Demand for high-quality fish and marine products is likely to increase as accommodations improve. It also important to improve storage and processing facilities to develop the fish market in Dominica, reduce wastage, increase revenues and protect fishers and capital from threats related to the increasing number of extreme weather events.
- Explore emerging opportunities in aquaculture, ocean-related tourism and leisure activities, marine biotechnology and digital technology/information and communications technology that could be compatible with Dominica's environmental, economic and sociodemographic conditions.
- Fully explore the range of financial mechanisms available to support the growth of the blue economy and design and implement a robust sustainable finance framework.

<sup>1</sup> Based on the document 'Blue Economy Scoping Study for Dominica', prepared by Dr. Julian Roberts.

<sup>2</sup> Director and Senior Consultant at Blue Resources Ltd and Consultant for the United Nations Development Programme (UNDP), United Kingdom.

<sup>3</sup> Post-doctoral Researcher, Universidad de los Andes, Colombia. j.helo@uniandes.edu.co.

# 1. Introduction

Following the devastation of Hurricane Maria, which struck the island of Dominica in 2017, the Government adopted a bold vision to become the world's first climate resilient state. For Dominica, the concept of resilience cuts across multiple development objectives that, together, will strengthen and diversify the economy to support improved livelihoods and create physical resilience to natural hazards and the impacts of climate change.

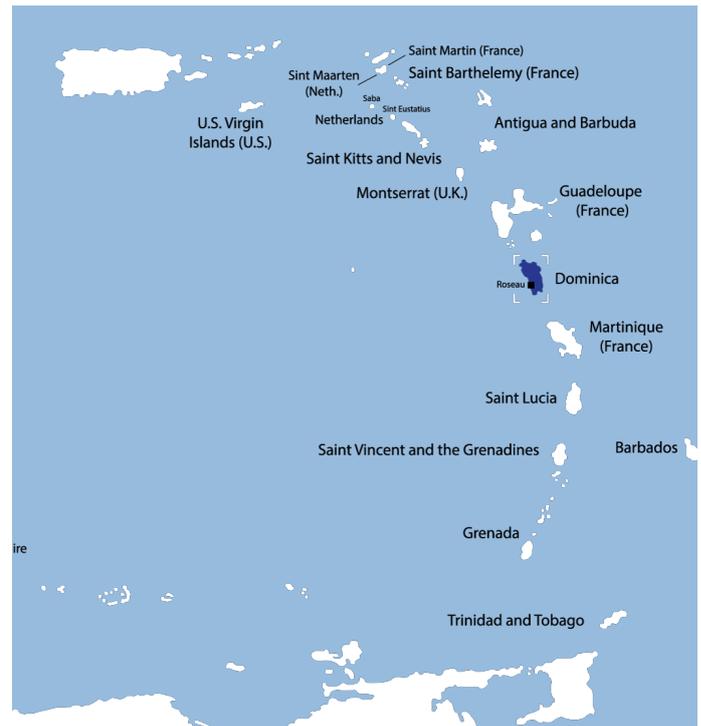
To support its resilience vision, the Government has moved quickly to establish a world-leading policy and legal framework and to strengthen public service institutions, through the creation of the Climate Resilience Executing Agency of Dominica (CREAD). Among other objectives, this progressive development framework will integrate Dominica's resilience agenda into sector-specific strategic plans and align capital development projects to the resilience vision.

The Government of Dominica has explicitly recognized the emerging concept of the 'blue economy',<sup>4</sup> particularly the fisheries sector, as a core component of the state's future growth strategy. In this regard, this brief policy note identifies a number of possible opportunities and recommendations that could integrate the blue economy into Dominica's broader resilience vision, while at the same time ensuring the environmental sustainability of the oceans and coastal areas.

This policy note proceeds as follows. Current economic conditions are described in section 2, and potential opportunities to foster the blue economy are identified in section 3. Section 4 describes challenges and governance arrangements that could hinder development opportunities. Section 5 reflects on enablers and outlines an action plan to develop the blue economy in Dominica, and section 6 concludes.

## 2. Context and economy in Dominica

Dominica is the largest and most northerly of the Windward Islands in the Lesser Antilles chain (map 1). The island has jurisdiction and rights over a maritime area of approximately 28,500 km<sup>2</sup>, approximately 38 times its land area, which is partially located in the Caribbean Sea (west coast) and partially in the Atlantic Ocean (east coast). Dominica's maritime waters support a broad and diverse range of marine habitats and resources, including coral reefs, extensive seagrass beds, mangroves, wetlands and a variety of rocky and sandy habitats. Marine mammals and sea turtles are also found in Dominica's waters. A recent study undertaken by the World Bank concluded that



coastal and marine ecosystems contributed 25.4 percent of Dominica's gross domestic product (GDP) in 2019.<sup>5</sup>

Despite economic contractions caused by the financial crisis in 2008 and Hurricane Maria in 2017, Dominica's economy had generally maintained positive growth rates prior to the coronavirus disease (COVID-19) pandemic, achieving GDP growth of 4.9 percent in 2019. The overall growth outlook for the Eastern Caribbean had been positive for 2020. According to a World Bank blue economy assessment from 2021,<sup>6</sup> however, in 2020 Dominica instead experienced a revenue shortfall of approximately 33 percent and a sharp increase in unplanned expenditures related to COVID-19 containment, resulting in an overall contraction of 10.2 percent of real GDP. Public sector investment was only US\$58 million, down from \$143 million the previous year.

Economic diversification remains very limited in Dominica, and existing trade relies on a narrow range of products. In this regard, marine uses and ocean-related activities contribute significantly to the overall economy through direct economic activities, indirect support to service industries and the provision of environmental services. Tourism, the fishing sector and ports and shipping were identified as relevant activities that already contribute to the blue economy. Although projections are scarce, indications prior to the COVID-19 pandemic had suggested that blue economies would continue to grow faster than overall rates of economic growth in the coming decades.

4 Defined by UNDP as: "The sustainable use of ocean resources for economic growth, jobs and social and financial inclusion, with a focus on preservation and restoration of the health of ocean ecosystems and the services they provide."

5 World Bank (2021). Report on Blue Economy Rapid Diagnosis: Dominica. (World Bank: June 2021). Unpublished report prepared for the Government of Dominica.

6 World Bank (2021).



## Tourism

Overall, tourism is one of the most important non-government sectors in Dominica's economy, with tourism-related activities producing 37 percent of total GDP, 56.4 percent of total foreign exchange earnings and 34.4 percent of total employment in 2019.<sup>7</sup> Historically, cruise tourism has been the largest contributor, accounting for approximately 70 percent of the people who visited the island in 2017. Nevertheless, data on expenditures suggest that cruise ship tourists spend considerably less than stay-over tourists. The recent development of a number of high-end hotels and resorts in Dominica will therefore not only increase the number of bed spaces available on the island but will also considerably increase the economic contribution made by stay-over guests.

Notwithstanding these recent developments, the closure of ports to passenger traffic as a result of the COVID-19 pandemic brought the tourism sector to a halt. Growth during 2021 has remained limited, and the 2021–2022 tourism season will be depressed owing to ongoing travel restrictions. Tourism activity will likely remain subdued until the pandemic is brought firmly under control. Once the pandemic is over, it could take until 2024 for tourist arrivals in the Caribbean to return to pre-pandemic levels. Nonetheless, the Government has taken a number of measures to ensure tourists and locals alike enjoy a safe travel experience. These include the 'Safe in Nature' initiative, which sets out travel protocols for vaccinated and unvaccinated visitors from both high-risk and low-risk countries.

Despite the current importance of the tourism sector, the marine environment offers Dominica significant opportunities to develop and diversify this sector further. Such opportunities include further developing marine-based ecotourism operations such as whale watching; developing greater synergies between different blue sectors, such as tourism and fishing; providing additional services to grow the recreational yachting sector; and expanding existing MPAs to both fishing and tourism activities.



## Fishing sector

The fishing sector in Dominica is mainly small scale and artisanal, comprising of individual fishers or fisher cooperatives that use small fishing vessels and make short trips lasting only a few hours each day. Estimates suggest that the direct impact on GDP is less than 1 percent, but the sector is fundamental for the food security of the island's population and supports almost 3,700 jobs, both directly and indirectly. Limited facilities exist for processing and

storage, resulting in wastage when supply exceeds local demand. Landing information indicates that actual fishing activity is considerably higher than official records suggest. This may mean that the pressure on fisheries resources is underestimated, and nearshore resources may be under greater pressure than currently known. At present, knowledge of stocks is limited, and there is a lack of comprehensive fisheries management and conservation plans, as well as limited enforcement of existing domestic regulation. This results in management dictated by an open access policy that encourages overexploitation.

The sustainability of fisheries could, therefore, be significantly improved by increasing the focus on and investment in fisheries management practices, addressing land-based pollution and strengthening the current system of fisheries monitoring control and surveillance at both the national and regional levels. The sector is characterized by a lack of institutional and human capacity in both public and private sectors, complexities of inshore fisheries management, post-harvest losses and poorly developed safety regulations for fishing vessels and processing facilities. The fishing sector is particularly vulnerable to the impacts of climate change, as the stock and coastal marine ecosystems on which they depend are likely to suffer from increasing temperatures and frequency of hurricane and storm events.

The Government of Dominica is set to launch a new agriculture policy, which also includes fisheries, and is significantly increasing resources to support and transform the agricultural sector, amounting to \$33.8 million. This includes \$27 million under the Dominica Emergency Agricultural Livelihoods and Climate Resilience Project (DEALCRP) to support the restoration of the agriculture sector.



## Ports and shipping

Like most island nations, Dominica is dependent on shipping for imports and exports. According to Dominica's Air and Sea Ports Authority (DASPA), over 95 percent of imports by weight arrived by sea in 2018.<sup>8</sup> Exports include pumiceous materials, packing materials, alcoholic beverages and agricultural products, including bananas, coconuts, dasheen and fruits. Dominica has two main port facilities, Roseau and Portsmouth, but only the former handles international shipping. The facility in Roseau was constructed in 1976. While some improvements have been made since then, the port is limited in the number of vessels it can handle, and its ability to increase capacity is severely constrained. In addition, infrastructure was impacted by Hurricane Maria in 2017, which also resulted in a loss of traffic and revenue of approximately 75 percent.

<sup>7</sup> World Travel and Tourism Council (2020). Travel & Tourism Economic Impact 2019: Dominica.

<sup>8</sup> Data provided to UNDP by DASPA during preparation of the Blue Economy Scoping Study.

The diagnosis and current economic conditions suggest that Dominica has the potential not only to develop a sustainable blue economy that meets a variety of economic, food security and trade objectives, but also to contribute to the overall goal of building climate and economic resilience. To achieve this potential, however, a number of challenges must be overcome, including: (i) unsustainable exploitation of fish and other living resources, (ii) habitat degradation and community modification from coastal development and the destruction of marine ecosystems such as coral reefs and mangroves, and (iii) land-based and ship-source pollution. These challenges are further exacerbated by Dominica's vulnerability to natural hazards, the introduction of marine invasive species, rising ocean temperatures and the increasing frequency and intensity of severe storm events.

### 3. Existing and new opportunities

The blue economy can contribute to sustainable economic growth, ensure the protection and efficient use of the ocean and its resources, and contribute to the Government's objectives for climate resilience. Analysis of the current economic context suggests that the greatest opportunities reside in the tourism and fisheries sectors, with further limited opportunities to develop port infrastructure and shipping activities. This section describes opportunities for each sector; some are sector specific and others create synergies and linkages between them. Though not an exhaustive list, they capture key issues in Dominica. This study begins by enumerating actions to support and develop existing sectors, followed by strategies to strengthen the management and protection of Dominica's maritime waters. Lastly, it identifies opportunities to develop new sectors.

#### Opportunities to support and develop existing sectors



##### Tourism

**1. Create linkages between tourism and marine conservation.** With the development of new resort-style hotels targeting higher-spending tourists, which will add approximately 500 high-end rooms, there is an opportunity to establish conservation partnerships to protect marine ecosystems adjacent to these facilities. Hotel operators themselves can lead initiatives, and projects can be packaged as corporate sustainability providing a vehicle for tourism education and awareness campaigns. In addition, improved environmental amenities could benefit other tourist-related activities, such as scuba diving, while building the resilience of natural marine systems.

**2. Expand the existing scuba and whale-watching subsectors.** Undertake a study to explore the opportunities and constraints to expanding the scuba and whale-watching subsectors. Designing a long-term strategy for sustainable growth in these sectors must begin by understanding the current state and stock of marine resources.

**3. Create strong trade linkages between the fishery and tourism sectors.** Develop a strong internal market for fresh fish and fish products that benefits local fishers and hotel operators. Demand for high-quality fish and marine products is likely to increase as the quality of accommodations improves. In this regard, there is a need to improve the quality of fish and sanitary standards.

**4. Develop infrastructure to support the growing yachting community, including marine and shore-based facilities.** Dominica is a popular stopover for cruising yachts; however, a key constraint to growth is the lack of marina and boat repair facilities. Development of shore-based facilities should focus initially on provisions and chandlery, with the potential to develop shore- and marine-based facilities in the future.

**5. Expand the existing visitor fee payment system.** Under the Fisheries Regulations of 2001, the Government established the schedule of fees for users of the Soufriere-Scott's Head Marine Reserve; however, fees have not been revised since 2001, and no similar fees exist for other marine areas. This could be an opportunity to broaden a sustainable finance framework to fund blue economy projects.



##### Fishing sector

**1. Improve the health of the nearshore demersal and reef fisheries.** Research indicates that well-managed fisheries can make a long-term contribution to the blue economy. Fishery management measures could therefore be promoted to improve the health of these stocks. Developing and implementing a demersal and reef fishery management plan could serve as a key mechanism to facilitate better management.

**2. Build resilience in the fishing fleet through better shore-based storage facilities.** Hurricane Maria damaged a significant number of boats and engines, impacting fishers' livelihoods. Any comprehensive development plan for the fisheries sector must take into account the speed with which the sector can recover from future hurricane and storm events and the measures required to mitigate damage. To this end, there is an opportunity to upgrade facilities that help protect fishers, capital and recovery speed.

### 3. Reduce post-harvest losses in the fishery sector and improve sanitary standards.

Fish is a highly perishable commodity and susceptible to high post-harvest losses. In Dominica, losses occur at all stages of the food and value chain, including transport, storage, marketing and sales. Improving sanitary standards and storage facilities is likely to strengthen the domestic market, minimize losses and increase revenue over time. While many fishers do utilize ice for storage, many do not; and ice storage on boats is still rudimentary. Any long-term strategy to address this issue should consider providing new equipment, training, capacity-building and financial support to improve vessel-based facilities.

### 4. Develop and strengthen the model of fishery co-management using existing cooperatives as a model.

Empowering communities to make decisions locally and take action through co-management arrangements appears to be a vital step for sustainable management. In this model, which already exists in Dominica, local communities share authority and responsibility for making and enforcing marine management decisions. Nevertheless, there exists an opportunity for further expansion.

### 5. Develop new fishery-based products to diversify fish trade.

Currently, the fish market is limited to the fresh and frozen fish trade. There does not appear to be a culture of processing fish into more value-added products with processes such as smoking, drying or creating other fish-based products. Developing and identifying actions aimed at adding value to fresh and frozen fish could support the sector in addressing current and future economic challenges.



## Ports and shipping sector

Dominica's ports are critical to complementing and making full use of all economic opportunities arising from the oceans, including trade, tourism and fisheries. As a result, investment in transport infrastructure, services and transport policy measures to support shipping are not only important for providing the basis for growth opportunities, but also contribute to building resilience to the threats of climate change. The sector also requires efforts to address inter-island, domestic and international shipping connectivity.

### 1. Develop the existing inter-island ferry service to include domestic coastal ferry service between key locations.

Public transportation is limited in Dominica, with limited connectivity between key locations. According to the Caribbean Development Bank, ferry transport could reduce passenger costs by over 30 percent.<sup>9</sup> As part

of future planning and to integrate other locations into the tourism experience, consideration should be given to developing a coastal ferry service that could provide regular service between key locations.

### 2. Invest in renewable energy sources to provide low-carbon, shore-based power for visiting ships.

When in port, ships must continue to run onboard machinery to generate power. In modern ports, they can connect to a shore-based power supply. This has the dual benefit of reducing both emissions from ships in the vicinity of the port and fuel consumption on board. With the need to upgrade existing port facilities, DASPA could explore the option of integrating renewable energy sources, such as wind and solar, with its facilities to generate power for port consumption.

## Opportunities to strengthen management and protection of habitats, marine ecosystems and coastal areas

### 1. Improve marine protection by expanding existing MPAs.

Healthy marine ecosystems tend to be more resilient to external shocks, including the impacts of climate change. Expanding existing marine reserves and protected areas to include a wider diversity of habitat types would improve fish stocks and create additional attractions for eco-tourism and water sport activities. Aside from those sites that are already protected, several coastal areas merit further exploration for protection, particularly those with seagrass beds, mangroves and healthy stands of coral.

### 2. Explore opportunities to implement the Caribbean Challenge Initiative (CCI), including the development of conservation trust funds for marine conservation.

CCI committed to conserving at least 20 percent of near-shore marine and coastal environments of participating countries by 2020. Since those countries have benefited from technical and financial support, joining CCI could provide an opportunity to implement additional MPAs and assist the Government in achieving its biodiversity targets.

### 3. Develop a sustainable finance framework.

Given the level of investment needed to finance the blue economy, it is important to explore fully the range of financial mechanisms available and develop a robust sustainable finance framework that leverages resources. Despite the absence of dedicated funds explicitly designed to support blue economy investments, there is scope to leverage existing climate change funds to support mitigation and adaptation activities. Moreover, there are opportunities to charge a small amount for access to high-value marine biodiversity sites to contribute to continued management, surveillance and monitoring.

<sup>9</sup> Caribbean Development Bank (CDB) (2018). Financing the Blue Economy: A Caribbean Development Opportunity. (Caribbean Development Bank: Bridgetown, 2018).

**4. Habitat mapping and marine research.** As mentioned before, knowledge of the marine environment is limited but critical for effective decision-making. Development of the fisheries sector requires investment in data collection, research, knowledge, risk assessment and instruments that assist with planning. Some initiatives exist, such as the Commonwealth Marine Economies Programme of the Government of the United Kingdom, but a more comprehensive mapping and data collection programme is required to better understand the scale of resources.

#### **Opportunities to support the development of new sectors**

Opportunities arise through supporting and furthering investment in existing activities and initiatives, as well as identifying and mapping value chains that will eventually translate into growth opportunities for the blue economy. The core activities that already exist are typically surrounded by upstream and downstream activities that could provide additional business opportunities, if appropriately developed. For example, while the fishing sector itself may be regarded as a mature activity that is important for the national economy, opportunities may exist to extend the value further through fish processing and to diversify the sector further through the development of aquaculture.

In terms of future uses of the marine environment and its contribution to an emerging blue economy, some of the activities identified as having greater potential include aquaculture, ocean-related tourism, leisure activities and marine biotechnology. Renewable energy is also worth discussing; however, given the land-based renewable energy resources available in Dominica (i.e. geothermal and hydro), offshore renewable energy sources may not make economic sense in this specific case, at least in the short term.

**1. Aquaculture:** Demand for fish and fish products is expected to increase worldwide in the coming years, whereas capture fisheries production is set to remain static. This opens an opportunity for aquaculture production, which will likely occur in the ocean, with some of it moving increasingly offshore to escape the constraints of coastal waters. Globally, aquaculture is already a multibillion-dollar industry, but the Caribbean has yet to realize its true potential to expand marine and freshwater aquaculture. A study undertaken by the Food and Agriculture Organization in 2014<sup>10</sup> suggests that aquaculture development could increase total fish production in the Caribbean states by 30 percent within ten years with essential investments in applied research, capacity-building, information and legal frameworks. Development of such a sector could

increase food production and security, improve income and employment, diversify farm production and increase foreign exchange earnings.

The development of an aquaculture sector in Dominica will be challenging, but previous experiences have demonstrated that it is possible. Strong support is needed to succeed, given that previous attempts have failed to reach the commercialization stage. It would be convenient to start at the low-complexity end, with species such as seaweeds, sponges, sea cucumbers, live rock, mud/mangrove crabs or corals. The culture of live corals, for example, could provide an additional benefit by assisting with the recovery of coral ecosystems. Coral aquaculture and transplantation can improve the coral cover, biodiversity and structural heterogeneity of a degraded reef while providing an interesting tourism experience. Similar initiatives in Australia, Belize, Fiji and Seychelles could provide comprehensive lessons.

The Government has already taken some initial steps to re-establishing an aquaculture sector in Dominica and has recently re-established the prawn hatchery. This has allowed farmers to source the larvae to grow full-sized prawns locally, some of which are being supplied to local hotels and restaurants.

**2. Biotechnology:** The Organisation for Economic Co-operation and Development defines biotechnology as the application of science and technology to living organisms, as well as parts, products and models thereof, to alter living or non-living materials to produce knowledge, goods and services. In blue biotechnology, the biological materials originate from the aquatic environment, freshwater or marine. There is potential for individual Small Island Developing States (SIDS), or SIDS collaborating closely, to produce compounds and products; however, given the costs involved, collaboration at an international level is likely required.

Developing the marine biotechnology sector in Dominica could begin by identifying niche products, such as cosmeceuticals and nutraceuticals, as they provide a more realistic opportunity to generate high-value jobs and diversify the state's economy. In the case of Dominica, there could be benefits in making use of the Nature Island brand to connect to international markets. One specific case that might be worth exploring, given Dominica's surrounding topography, is the extraction of 'deep seawater'. Deep-sea water is mineral rich and of high purity. Related products such as desalination bottled water, sea salt, nigari, food and beverages, cosmetics and pharmaceuticals have experienced phenomenal success in Japan and the United States of America.

---

10 FAO (2014). The Sustainable Intensification of Caribbean Fisheries and Aquaculture. Food and Agriculture Organization of the United Nations.

**3. Marine renewable energy (MRE):** Sustainable energy is fundamental to a transition towards a low-carbon economy and the basis for sustainable development globally. The ocean is a rich source of potential energy resources. With growing concern over climate change, investment in cleaner ocean-based energy is poised to grow over the next decades. Wave, tidal, ocean currents, ocean thermal energy conversion, salinity gradients (osmosis), marine-based biomass, algae and other MREs could provide energy security, environmental protection and socio-economic benefits, which could constitute a win-win solution in terms of sustainable development and the blue economy. Given the rapid progress in the sector globally, MRE is a realistic medium- to long-term option for many SIDS that would enable them to achieve renewable energy objectives and provide greater independence from imported hydrocarbons.

To realize the full potential of MRE, significant challenges need to be addressed; these include access to financial capital, institutional capacity for planning and developing renewable energy projects, local infrastructure and human capacity for engineering works. Given the current energy costs in SIDS, cost-competitiveness is more easily achieved through coordinated and collaborative action. In Dominica, this might not be the case, and cost-effectiveness can be achieved because the island currently produces energy via geothermal, hydro and solar sources. Nevertheless, there could be an argument for small-scale, scalable MRE options for off-grid areas to meet energy requirements for remote communities.

**4. Digital transformation:** As one of its core development priorities, the Government recognizes that innovation and the use of information and communications technology is now pivotal to Dominica's sustainable development and has secured resources through the World Bank to fund the state's digital transformation. In the context of the blue economy, considerable potential exists to support 'blue innovation' through science and technology.

Emerging technologies are increasingly accessible as they advance to commercialization. Recent developments, such as mobile technologies, smart networks, drones, remote sensing, distributed computing, as well as disruptive technologies such as blockchain and artificial intelligence, are serving as the premise for a 'digital revolution' whereby management of resources can potentially be highly optimized, intelligent and anticipatory.

In the context of Dominica's main blue economy sectors of capture fisheries, tourism and shipping, technologies aimed at improving the traceability of seafood and the tradability of fish products are likely to be the most promising areas for further investigation, since they can create new incentives for more sustainable practices.

## 4. Governance arrangements

Despite the number of identified opportunities and the myriad possibilities that arise for Dominica, there are some common limitations across the initiatives that must be overcome to realize the full potential of the blue economy. These include a lack of political will, funding and human capacity to undertake the actions required to establish each strategy; the need for greater engagement and participation of relevant stakeholders; opposition from and potential conflicts with other sectors; and a lack of national coordination.

In the context of the contribution a blue economy can make to Dominica's overall development, the following broad policy objectives are highly relevant:

1. Increase economic activity and diversify the current economy.
2. Create a climate-resilient economy that provides a secure future for all residents of Dominica.
3. Achieve these objectives in a manner that does not jeopardize the natural capital upon which much of Dominica's economy (especially tourism) is based.

The Government understands that one of the key resource bases for Dominica's economy and future development is the quality and diversity of its terrestrial and marine environments. These also offer considerable potential for future economic development opportunities if managed wisely; however, additional efforts need to be undertaken to guarantee the successful implementation and development of the blue economy.

To this end, during the past two to three years and with the support of the Organization of Eastern Caribbean States and the World Bank, the Government of Dominica has engaged in a number of important initiatives aimed at strengthening the existing governance framework for ocean management and the development of the blue economy. Notably, these include: (i) a draft National Ocean Policy and associated Strategic Action Plan to give effect domestically to the revised Eastern Caribbean Regional Ocean Policy, (ii) a forthcoming Coastal Master and Marine Spatial Plan, (iii) the approval by the cabinet of a National Ocean Governance Committee and (iv) a draft National Blue Economy Road Map. Once adopted and implemented, these various initiatives will create a strong foundation upon which to develop Dominica's blue economy in a sustainable and efficient manner.

## 5. Implementing the blue economy in Dominica

The opportunities identified in the tourism, fishing and transportation sectors cannot be viewed in isolation, since each is inextricably linked to other maritime economic activities. Integrating the blue economy in Dominica therefore requires a comprehensive approach to marine planning and decision-making, which recognizes interactions between users and values. It starts with a healthy, resilient and productive marine environment, which, in turn, ensures the economic livelihoods of coastal communities.

Preserving and properly managing ocean resources begins with a proper assessment of the ocean economy and ecosystems, which is currently unavailable. Reliable information on location, counts, species, watershed, shipping routes, areas with coastal erosion and resources in offshore waters, among other aspects, is essential for effective governance of the marine space. This knowledge and information system allows for the identification of threats in a timely manner by sharing and integrating intelligence, surveillance and navigation systems into a common operating picture. Moreover, it helps decision makers understand the value of the blue economy and how changes in the current and future performance of natural capital assets will impact human well-being and the economy. Considering the level of investment needed, it is important to fully explore the range of financing mechanisms that provide long-term, reliable funding to support blue economy activities, including conservation and management initiatives.

This report concludes by suggesting a four-step integrated approach to help build the systems required to apply and support the concept of the blue economy:

**Step 1:** Measure the status of the ocean economy and ecosystems at the national level and conduct risk assessments, focusing on data collection.

**Step 2:** Manage the interactions between the ocean economy and ecosystems and between sectors to limit resource extraction and pollution levels. Strengthen the institutional framework and the coordination of public and private agencies to enforce rules and best practices.

**Step 3:** Invest in the transition to the blue economy through clear principles and processes that encourage sustainable growth in private investment. Completing steps 1 and 2 can help to attract foreign investment to guarantee additional funding sources.

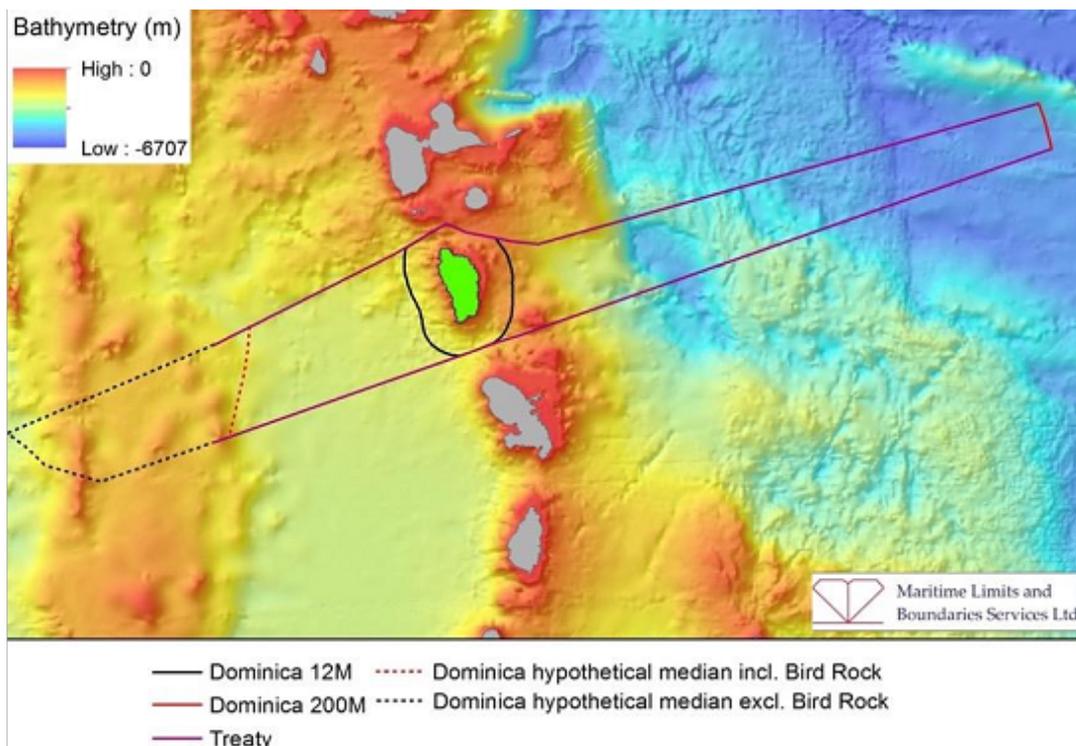
**Step 4:** Monitor progress towards agreed targets for the state's blue economy policy objective.

## 6. Conclusion

This policy note identifies possible opportunities, challenges and recommendations to foster growth within the blue economy in Dominica. Ocean-related activities already contribute to the overall economy, but further growth opportunities reside in the tourism and fisheries sectors, with some possibilities in the ports and shipping sector. Developing the blue economy within the tourism and fisheries sectors requires more sustainable management of marine resources and a greater focus on monitoring and surveillance to ensure the future security of resources. Improving the health of marine ecosystems and sustainability in management should begin with efforts to quantify resources and understand the current state of stocks. Knowledge provides the basis for informed and effective decision-making in the use of marine resources. Conservation efforts and the designation of additional MPAs could foster new business opportunities in ocean-related tourism and leisure (e.g. scuba diving, whale watching), as well as aquaculture or marine biotechnology-related activities.

The tourism policy could target high-spending individuals by adapting infrastructure for better accommodations and port facilities. The development of marina and boat repair services is essential to attracting the growing yachting community. Demand for high-quality fish and marine products is likely to increase as the quality of accommodations improves. It is therefore important to improve storage and processing facilities to develop the fish market in Dominica, reduce wastage and increase revenues. Development of the fish market could benefit from adapting the co-management model for fisheries under the existing cooperative model, which typically empowers communities in decision-making and sustainable resource management. Thought should be given to upgrading facilities, because they also serve as a mechanism to protect fishers, capital and speed of recovery from the threats related to the increasing frequency of storm and hurricane events.

Growth opportunities within the blue economy cannot be viewed in isolation since each is inextricably linked to other maritime economic activities. Integrating the blue economy in Dominica requires a comprehensive approach to marine planning and decision-making, recognizing interactions among uses, users and values. Developing the blue economy to its full potential requires a significant level of investment; therefore, it is important to fully explore the range of financial mechanisms available and develop a robust sustainable finance framework.



Map 1: Dominica's Maritime Space



[www.latinamerica.undp.org](http://www.latinamerica.undp.org)



[twitter.com/PNUDLAC](https://twitter.com/PNUDLAC)



[www.facebook.com/pnudlac](https://www.facebook.com/pnudlac)



[www.instagram.com/pnudlac](https://www.instagram.com/pnudlac)



[www.linkedin.com/company/pnudlac](https://www.linkedin.com/company/pnudlac)



[www.youtube.com/PNUDLAC](https://www.youtube.com/PNUDLAC)