# Marine Resources Enforcement Strategy

2025



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# **TESTIMONIALS**

"The Marine Resources Board (MRB) recognises the urgent need for a comprehensive enforcement strategy to support the sustainable management of Bermuda's marine environment.

As the advisory body to the Minister under the Fisheries Act 1972, the Board has long identified enforcement gaps and legislative limitations that hinder effective marine resource protection. A strategic framework is essential to modernise enforcement practices, align with international standards, and ensure Bermuda's marine resources are safeguarded for future generations.

The MRB looks forward to providing input throughout the process in addition to when the detail of how the various tactics to improve enforcement are considered for implementation in the future."

— Marine Resources Board

"As the body responsible for issuing commercial fishing licences, the Commercial Fisheries Council knows firsthand the pressures facing Bermuda's fishing industry.

Illegal and unregulated fishing not only threatens the livelihoods of fishermen but also undermines the hard work of those who follow the rules and fish responsibly. We need a clear and consistent enforcement strategy that protects our fish stocks, supports fair access, and ensures that everyone, including both commercial and recreational fishermen alike, plays by the rules.

Effective enforcement would help us keep our industry strong, our waters healthy, and our future secure."

— Commercial Fisheries Council

## **FOREWORD**

The Government of Bermuda, through the Department of Environment and Natural Resources (DENR) and the Royal Bermuda Regiment Coast Guard, is proud to present the Bermuda Marine Resources Enforcement Strategy (MRES).

Throughout Bermuda's history, our maritime space has been central to the lives and livelihoods of Bermudians, and is the very basis of our global reputation. We are one of few places on Earth that has no land or maritime boundaries with any other country. Our waters, therefore, connect us to the rest of the world. For centuries, travellers, traders and fishers have availed themselves of our extensive maritime domain and traversed Bermuda as they moved between continents. However, if we are not proactive in responsibly managing our waters, the ocean's health will suffer, and we will leave less and less of our national bounty for future generations to inherit. It is for that reason that we now adopt this MRES.

To fully realise the potential of Bermuda's Blue Economy, we must maintain a well-regulated, safe, and secure maritime domain. Adequate enforcement and compliance are required for a healthy ocean, which is necessary for a healthy Blue Economy. **This Strategy lays the foundation for strengthening enforcement capabilities**, building partnerships with regional and international stakeholders, leveraging cutting-edge technologies, and enhancing public awareness to promote voluntary compliance.

The MRES represents an inclusive effort, informed by extensive consultations with stakeholders, enforcement agencies, and regional partners. It establishes Bermuda's vision to protect and sustainably manage its marine resources while fostering regional cooperation to address shared maritime challenges. The Strategy aligns with the Caribbean Maritime Security Strategy (CMSS) in strengthening governance frameworks, reinforcing the rule of law, and ensuring coordinated efforts to enhance maritime security.

This Strategy builds upon Bermuda's longstanding commitment to safeguarding its marine environment, while at the same time, both aligning with and advancing regional and international frameworks including the CMSS and the United Nations Sustainable Development Goals (SDGs).









Photo Credit: Admiration (left), Bermuda Department of Environment & Natural Resources (center & right)

The CMSS is expressly "a call to action" and this MRES is both a response to that call and a call of its own. This document is meant to provide the active blueprints for enhancing our work to sustainably govern, secure, and develop our maritime domain.

This Strategy is a **forward-thinking** and **adaptive approach** that recognises **Bermuda's marine environment as a cornerstone for economic prosperity**, **ecological health, and cultural heritage**. It acknowledges that sustainable management of marine resources and the Blue Economy presents unparalleled opportunities for enhancing livelihoods, generating long-term employment, ensuring food security, and supporting climate resilience.

The MRES provides a comprehensive framework to protect Bermuda's marine assets, promote compliance with marine regulations, and support the implementation of Bermuda's Blue Prosperity Plan, which includes the Marine Spatial Plan and Blue Economy Strategy. It is built on principles of good governance, collaboration, and an adaptive process, ensuring that enforcement and compliance measures are flexible, data-driven, and responsive to emerging challenges.

As Bermuda embarks on the implementation of this Strategy, we emphasise the importance of ongoing collaboration with regional partners, including The Caribbean Community (CARICOM) and other regional development organisations. Together, we can safeguard our marine resources to create a resilient and thriving Blue Economy for future generations

We invite all stakeholders, partners, and the public to engage with this Strategy and join us in preserving Bermuda's maritime heritage, protecting its ecosystems, and unlocking the full potential of its Blue Economy.

Jaché Adams

7-II

**Minister of Public Works & Environment** 



# **EXECUTIVE SUMMARY**

The Marine Resources Enforcement Strategy (MRES) is a foundational document designed to strengthen Bermuda's ability to implement its Marine Spatial Plan (MSP) and advance national and regional marine conservation objectives. It provides a structured, forward-looking framework to improve enforcement, foster public compliance, and protect Bermuda's vast and ecologically significant maritime domain. Developed through an inclusive, multi-year process with input from government agencies, community members, and international partners, the MRES reflects shared priorities and a commitment to sustainable ocean governance.

Bermuda's marine environment faces legacy and emerging threats, including illegal fishing, habitat degradation, unlicensed fish sales, climate-driven ecological shifts, and increased development pressure. Despite the commitment of resource managers and policymakers, enforcement has been hindered by limited resources, fragmented responsibilities, and under-enforced violations that have weakened deterrence. The MRES addresses these challenges by setting five strategic goals: modernising marine laws and policies, building a capable enforcement workforce, improving surveillance and monitoring tools, strengthening partnerships, and promoting voluntary compliance through education and outreach.

The Strategy's implementation is guided by a practical framework aligned with regional efforts, including the Caribbean Maritime Security Strategy (CMSS) and international agreements. This document outlines a phased, adaptive approach that connects high-level policy objectives with actionable, measurable steps. It integrates Monitoring, Control, and Surveillance (MCS) as the core methodology, emphasising transparency, collaboration, and institutional learning. This framework ensures that enforcement efforts remain agile, responsive to evolving threats, and grounded in real-time data and community feedback.

For policymakers, the MRES represents more than a technical strategy; it is a durable platform for coordinated action and long-term impact. It enables the alignment of policy decisions, legislative reform, and budget planning around a common vision for sustainable marine resource use. Most importantly, it supports the development of a culture of compliance rooted in public understanding, shared responsibility, and trust in the rule of law—essential ingredients for achieving durable ocean protection and securing Bermuda's Blue Economy for future generations.

# **GLOSSARY OF TERMS**

TERM	DEFINITION
Baseline	The legal point where the maritime domain begins, even if it is above or below the water at different times due to tides.
Bermuda Ocean Prosperity Programme (BOPP)	A community-driven programme to foster the sustainable, profitable, and enjoyable use of ocean resources.
Blue Prosperity Coalition (BPC)	A global network of organisations that support the creation and implementation of marine protected areas and sustainable ocean policies.
CARICOM	Caribbean Community.
CARICOM IMPACS	Caribbean Community Implementation Agency for Crime and Security.
Compliance	Adherence to laws, regulations, and policies set forth by governing bodies.
Contiguous Zone	An area of limited law enforcement jurisdiction from 12–24 nautical miles where the coastal state can enforce its fiscal, immigration, sanitation, and customs laws.
Control	The regulatory conditions, including enforcement, under which activities within an EEZ may be conducted.
Enforcement	The act of compelling observance of or compliance with laws, regulations, or policies.
Exclusive Economic Zone (EEZ)	An area from 12 to 200 nautical miles where coastal states can exercise sovereign rights over the living and non-living marine resources.
Interdiction	the lawful act by a competent maritime authority to stop, board, and inspect a vessel, and, if necessary, detain or seize it to prevent or address violations of applicable laws or international agreements within authorised maritime areas.
International Maritime Organization (IMO)	A UN agency responsible for the safety and security of international shipping and the prevention of pollution from ships.
Maritime Domain Awareness (MDA)	The effective understanding of anything associated with the maritime domain that could impact security, safety, economy, or the environment.

A designated ocean area managed for the conservation and sustainable use of natural and cultural marine resources.
A planning process that guides when and where human activities occur in the ocean to reduce conflicts, protect ecosystems, and support sustainable use.
The continuous requirement for measuring activities occurring within an EEZ.
Activities undertaken to monitor, control, and ensure compliance with marine and fisheries management policies and regulations.
The first binding international agreement to specifically target IUU fishing by preventing such vessels from using ports and landing their catches.
An international treaty requiring vessels and individuals to assist persons in distress at sea and promoting maritime safety.
The act of locating and assisting people in distress at sea, governed by international conventions.
The degree and type of observation needed to maintain compliance with regulatory controls, including coordination of enforcement activities.
An area of full sovereign jurisdiction from the baseline out to 12 nautical miles, except for innocent passage by foreign vessels.
The main international treaty that covers
pollution prevention of the marine environment by ships, from both operational and accidental
causes.
An international treaty establishing the legal
framework for all marine and maritime activities.

 Table 1: Terms and Acronyms Found in the Marine Resources Enforcement Strategy



Photo Credit: Admiration

# **OVERVIEW**

#### Introduction

An effective enforcement and compliance system should dissuade potential lawbreakers from committing illegal activities as the consequences (punitive or societal pressure) associated with apprehension outweigh the economic gain. The Marine Resources Enforcement Strategy (MRES) provides a comprehensive, adaptive framework to strengthen the enforcement and compliance of Bermuda's marine regulations in support of the Blue Prosperity Plan. Developed through extensive stakeholder consultation, it aligns with regional and international standards, emphasising improved interagency coordination, updated legislation, technological innovation, and public engagement.

The Strategy covers Bermuda's full marine jurisdiction and incorporates monitoring, control, and surveillance (MCS) as a core methodology, supported by a phased implementation roadmap and action plan. It prioritises voluntary compliance, regional partnerships, and data-driven enforcement to ensure Bermuda's marine resources are protected, sustainably managed, and resilient in the face of emerging threats and future challenges.

#### **Purpose and Scope**

The MRES aims to address ongoing, evolving, and emerging challenges within Bermuda's marine environment. It evaluates existing conditions and outlines measures to strengthen enforcement, compliance, and governance through an integrated approach. This Strategy focuses on sustainable management to protect Bermuda's marine resources effectively. Key areas of focus include protecting fisheries resources, safeguarding biodiversity and endangered species, safeguarding protected dive sites and marine heritage, and enforcing regulations on development below the high-water mark. It also addresses issues related to illegal dumping, dredging, and harvesting, and the illegal export and import of protected marine life and heritage.

While the Strategy primarily targets protection of natural resources, it acknowledges the interconnected nature of Bermuda's maritime challenges. Issues such as drug interdiction, illegal migration, piracy, and maritime safety fall outside its direct scope but may be indirectly influenced by its recommendations. By emphasising resource protection and compliance, the Strategy supports broader maritime security efforts and complements parallel enforcement frameworks.

<sup>&</sup>lt;sup>1</sup> Enforcement Guide: Near Shore Artisanal Fisheries, Nature Conservancy, 2015

Geographically, the Strategy encompasses Bermuda's entire marine jurisdiction, extending from shore-based activities out to the full 200-nautical-mile limit of its Exclusive Economic Zone (EEZ). This comprehensive scope ensures a unified approach to monitoring, enforcement, and compliance safeguarding Bermuda's marine resources across its territorial waters and offshore areas.

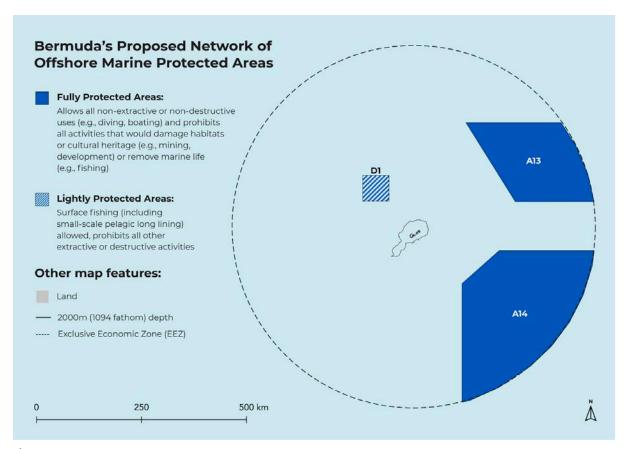


Figure 1: Map of Bermuda's proposed network of offshore Marine Protected Areas



















 $\underline{https://www.unodc.org/ropan/uploads/documents/2024/Caribbean\_Maritime\_Security\_Strategy-V03.pdf}$ 

<sup>&</sup>lt;sup>2</sup> CARICOM IMPACS & UNODC, Caribbean Maritime Security Strategy & Implementation Plan: Securing the Blue Economy for Present & Future Prosperity, July 2024.

Moody's Analytics, "Bermuda - Economic Indicators," accessed May 15, 2025, <a href="https://www.economy.com/bermuda/indicators#:~:text=Tourism%20continues%20to%20be%20important,highly%20successful%20offshore%20financial%20center">https://www.economy.com/bermuda/indicators#:~:text=Tourism%20continues%20to%20be%20important,highly%20successful%20offshore%20financial%20center</a>

<sup>&</sup>lt;sup>4</sup> Government of Bermuda, *Tourism Satellite Account Report 2023*, December 2024. https://www.gov.bm/sites/default/files/2025-03/Tourism%20Satellite%20Account%202023.pdf

<sup>&</sup>lt;sup>5</sup> Pieter van Beukering, Samia Sarkis, Loes van der Putten, Elissaios Papyrakis, *Bermuda's balancing act: The economic dependence of cruise and air tourism on healthy coral reefs.* Ecosystem Services, Volume 11, 2015, Pages 76-86, ISSN 2212-0416, <a href="https://doi.org/10.1016/j.ecoser.2014.06.009">https://doi.org/10.1016/j.ecoser.2014.06.009</a>

<sup>&</sup>lt;sup>6</sup> Sarkis, S. et al. *Total Economic Value of Bermuda's Coral Reefs: A Summary*. In: Sheppard, C. (eds) Coral Reefs of the United Kingdom Overseas Territories. Coral Reefs of the World, vol 4. Springer, Dordrecht. 2023, Pages 201-211, https://doi.org/10.1007/978-94-007-5965-7\_15

<sup>&</sup>lt;sup>7</sup> Government of Bermuda & Bermuda Ocean Prosperity Programme, *THE STATE OF BERMUDA'S WATERS: A Snapshot of Bermuda's Exclusive Economic Zone (EEZ) From the Coastline to 200 Nautical Miles (nm),* February 2022, <a href="https://www.bermudaoceanprosperity.org/files/ugd/47d1fd\_b472e14339544e5d8942ea83e477925c.pdf">https://www.bermudaoceanprosperity.org/files/ugd/47d1fd\_b472e14339544e5d8942ea83e477925c.pdf</a>

# VISION, GUIDING PRINCIPLES, & STRATEGIC GOALS

#### Vision

Protect Bermuda's marine environment by employing the right tools, in the right place, at the right time.8

#### **Guiding Principles**

- 1. **Sustainability**: Promote long-term ecological viability, economic prosperity, and social inclusion by safeguarding marine resources and supporting the Blue Economy.
- 2. **Collaboration, Cooperation and Coordination**: Strengthen partnerships with local, regional, and international stakeholders to enhance management, governance and enforcement capacity and share both good and best practices.
- 3. **Transparency and Accountability**: Ensure clear governance structures and processes, provide the rationale for decisions including science and data where applicable, and engage in regular, easily available reporting and communication to build public trust and encourage compliance.
- 4. **Agility**: Foster continuous learning and improvement by using monitoring, evaluation, and learning (MEL) with stakeholder input to refine approaches and both identify and respond to existing, emerging and evolving challenges.
- 5. **Resilience and Preparedness**: Develop enforcement approaches that address both current and future threats, enhancing Bermuda's ability to respond to illicit activities, unsustainable practices, climate change, infrastructure disruption and maritime emergencies.

#### **Strategic Goals**

- 1. **Facilitate effective protection** of Bermuda's marine resources through adoption and implementation of strong legislation, regulation, policy, guidance, planning, monitoring and enforcement.
- 2. **Prepare and maintain a competent workforce** capable of completing all tasks necessary to protect Bermuda's marine environment at the tactical, operational and strategic levels.
- 3. **Provide the right tools** to undertake efficient monitoring, control, surveillance, deterrence and enforcement activities for marine resource and environmental protection in Bermuda, including skilful analysis, interdiction and legal finish<sup>9</sup>.

<sup>&</sup>lt;sup>8</sup> US Coast Guard Living Marine Resource Ocean Guardian program

<sup>&</sup>lt;sup>9</sup> **Legal finish** refers to the formal conclusion of an enforcement process through legal proceedings, resulting in prosecution, conviction, or administrative sanctions against a violator. It is the final stage in the Monitoring, Control, and Surveillance (MCS) chain where documented infractions are resolved through the judicial or regulatory system. (FAO)

- 4. **Enhance productive partnerships** to protect Bermuda's marine environment through identifying common goals, sharing insights and good practices, martialling adequate and appropriate resources and collaborating, cooperating or coordinating wherever possible.
- 5. **Encourage compliance** through engagement, education and training to ensure that all stakeholders both understand the marine resources laws, regulations, and policy and feel a sense of commitment to adhering to them for the betterment of Bermuda.

Strategic goals serve as the foundation for defining clear objectives and achievable steps that drive the success of the enforcement and compliance strategy. They provide a structured framework to align activities with overarching priorities, ensuring efforts are focused, measurable, and results oriented. By establishing a shared vision, these goals enable stakeholders to work collaboratively toward common outcomes, promoting synergy across agencies, organisations, and partners. Strategic goals also help identify key areas of focus, such as workforce development, partnerships, surveillance capabilities, and public education, ensuring that resources are allocated effectively to address challenges and capitalise on opportunities.

The strategic goals outlined in the MRES directly inform the development of objectives and activities that will be operationalised through the action plan. They act as a roadmap, translating broad aspirations into targeted actions designed to deliver meaningful progress toward compliance and enforcement outcomes.

These goals also feed into the Implementation Roadmap, ensuring alignment with the government's phased approach. Prioritisation exercises will guide the annual development of work plans and budgets, supporting each goal with adequate resources and timelines. This process will remain grounded in the guiding principles laid out earlier in the strategy, ensuring accountability, adaptability, and resilience as Bermuda advances its marine resource management and enforcement efforts.



#### **STRATEGIC GOAL 1**

Facilitate effective protection of Bermuda's marine resources through adoption and implementation of strong legislation, regulation, policy, guidance, planning, monitoring and enforcement.

Strategic Goal I focuses on establishing a strong foundation for effective marine resource protection and compliance by ensuring that the legislative, regulatory, and policy frameworks governing Bermuda's maritime domain are comprehensive, up-to-date, and aligned with international standards.

Clear policies and robust regulations provide the structure needed to guide enforcement actions, support compliance efforts, and promote sustainable marine resource management. Accurate data and evidence-based planning are essential to ensure decision-making is informed, adaptive, and capable of addressing evolving challenges and opportunities. This goal is critical for institutionalising MRES and ensuring its long-term effectiveness in protecting Bermuda's marine resources and advancing the Blue Economy.

Strategic Goal 1 will be achieved through targeted activities outlined in the action plan. These include conducting a comprehensive review of existing legislation, regulations, and policies to identify gaps and areas for improvement, as well as drafting and implementing necessary updates to ensure alignment with national priorities and international obligations. The development of guidance documents and standard operating procedures (SOPs) will further support compliance and enforcement efforts by clarifying roles, responsibilities, and protocols. Additionally, investments will be made to improve data collection, storage, and analysis capabilities to enhance decision-making and performance monitoring. Establishing partnerships with regional and international organisations will facilitate the adoption of best practices and ensure Bermuda has access to cutting-edge tools and expertise. Together, these actions will create a resilient enforcement network and support the management of Bermuda's marine resources.

#### **STRATEGIC GOAL 2**

Prepare and maintain a competent workforce capable of completing all tasks necessary to protect Bermuda's marine environment at the tactical, operational and strategic levels.

Strategic Goal 2 focuses on **building and retaining a skilled, knowledgeable, and adaptable workforce** to support the effective implementation of enforcement and compliance strategies. A well-trained team is essential to ensure seamless execution of operations, informed decision-making, and effective

responses to emerging challenges. This goal recognises that personnel must be prepared to operate at all levels—strategic, tactical, and operational—to enforce regulations, monitor compliance, and support the sustainable management of Bermuda's marine resources. Investing in workforce development also promotes professionalism, fosters accountability, and strengthens the enforcement network's overall resilience.

This goal will be achieved through a series of capacity-building activities outlined in the action plan. Training programs will be developed and delivered to ensure personnel are proficient in modern enforcement techniques, data analysis, and the use of surveillance technologies. Specialised training modules will address legal frameworks, investigative methods, and conflict resolution to prepare staff for real-world enforcement scenarios. Partnerships with regional and international organisations will provide access to technical expertise and mentorship opportunities, enhancing knowledge transfer and skill development. Additionally, workforce performance evaluations and feedback systems will be implemented to identify areas for improvement and support continuous learning. These efforts will create a dynamic workforce that can adapt to evolving threats and contribute effectively to achieving the mission's strategic goals.

#### STRATEGIC GOAL 3

Provide the right tools to undertake efficient monitoring, control, surveillance, deterrence and enforcement activities for marine resource and environmental protection in Bermuda, including skillful analysis, interdiction and legal finish.

Strategic Goal 3 emphasises the importance of **equipping enforcement agencies with modern tools and technologies** to effectively safeguard Bermuda's marine resources. Efficient surveillance, monitoring, and enforcement operations require access to advanced systems, such as remote sensing technologies, data analytics platforms, and communication networks. These tools are vital for maintaining situational awareness, conducting timely interdictions, and responding swiftly to violations. **By investing in the right resources, enforcement agencies can strengthen deterrence efforts, improve operational efficiency, and ensure compliance** with laws and regulations supporting the Marine Spatial Plan.

This goal will be achieved through targeted activities outlined in the action plan. Key initiatives include procuring and deploying advanced surveillance technologies such as drones, satellite imagery systems, and automatic identification systems (AIS) for vessel tracking. Investments in data management platforms will enable seamless collection, analysis, and sharing of intelligence to support decision-making and enforcement actions. Additionally, maintenance programs will ensure tools remain functional, while partnerships

with regional and international organisations will provide access to cutting-edge technologies and methodologies. Training programs will be implemented to build technical expertise, enabling personnel to operate and analyse surveillance systems effectively. Collectively, these efforts will enhance Bermuda's capacity to monitor its marine domain and deter illegal activities.

#### STRATEGIC GOAL 4

Enhance productive partnerships to protect Bermuda's marine environment through identifying common goals, sharing insights and good practices, martialing adequate and appropriate resources and collaborating, cooperating or coordinating wherever possible.

Strategic Goal 4 highlights the critical need for fostering collaboration among stakeholders to ensure effective enforcement and compliance in Bermuda's maritime domain. Given the complexity of marine protection, no single entity can address all challenges independently. Productive partnerships bring together diverse expertise, resources, and perspectives, strengthening enforcement networks and improving operational outcomes. By aligning goals, sharing insights, and adopting proven practices, partnerships can amplify collective impact, streamline efforts, and enhance resilience against threats to Bermuda's marine environment.

This goal will be achieved through deliberate engagement with national agencies, regional organisations, and international partners. Activities will focus on establishing joint task forces, formalising Memoranda of Understanding (MOUs), and creating shared platforms for data exchange and strategic planning. Regular stakeholder meetings, training workshops, and joint exercises will facilitate communication and knowledge transfer. Resources will be pooled to address gaps in capacity and deploy complementary tools and technologies to optimise enforcement and surveillance efforts. By leveraging collaborative networks, Bermuda can build a unified approach to marine resource protection, reinforcing compliance with laws and the Marine Spatial Plan while advancing shared conservation goals.

#### **STRATEGIC GOAL 5**

Encourage compliance through engagement, education and training to ensure that all stakeholders both understand the marine resources laws, regulation, and policy and feel a sense of commitment to adhering to them for the betterment of Bermuda.

Strategic Goal 5 focuses on promoting voluntary compliance with marine management rules and regulations by fostering awareness, understanding, and stewardship among stakeholders. This includes public awareness of the Blue Prosperity Plan. **Effective enforcement alone cannot ensure long-term** 

# compliance; education and outreach are essential to building a culture of compliance rooted in shared responsibility for Bermuda's marine resources.

By informing the public, stakeholders, and resource users about the importance of marine conservation and the consequences of non-compliance, this goal supports proactive behaviour and reduces the need for punitive enforcement measures.

This goal will be achieved through targeted **educational campaigns**, **community outreach programs**, and **training workshops** for stakeholders, including fishers, recreational users, and the public. Efforts will include the development of user-friendly materials such as brochures, signage, and digital resources that clearly explain regulations and their purposes. School-based programs and partnerships with community groups will help instill marine stewardship values at an early age. Additionally, enforcement officers will engage directly with stakeholders to provide guidance and clarify compliance requirements. Collaborative efforts with NGOs and advocacy groups will further amplify outreach and promote shared ownership of marine resource protection goals. By prioritising education and fostering positive relationships, Bermuda can create a supportive environment that encourages compliance and enhances long-term conservation success.



Photo Credit: Shayna Brody

#### **Regional Alignment**

Aligned with the Caribbean Maritime Security Strategy (CMSS), the MRES emphasises the need for integrated governance, enhanced enforcement capacity, and regional cooperation. It highlights key priorities, including:

- **Strengthening enforcement operations** through capacity building, technological advancements, and data-driven approaches.
- **Promoting voluntary compliance** by fostering public awareness, community engagement, and education programs.
- **Developing adaptive practices** to support the implementation of the Blue Prosperity Plan (Marine Spatial Plan & Blue Economy Strategy).

- **Building strategic partnerships** with regional and international organisations to share resources, expertise, insights, information and intelligence.
- Addressing emerging threats such as illegal fishing, maritime pollution, and climate change impacts through proactive enforcement and management measures.

By aligning with regional frameworks like the CMSS and international best practices, the MRES reinforces Bermuda's role as a leader in the region's (or the Atlantic's) marine resource protection and maritime security. It offers a blueprint for balancing economic growth with environmental protection, safeguarding Bermuda's marine heritage, and contributing to the broader goals of the region.

#### **Developing Partnerships**

Bermuda has actively pursued partnerships to bolster enforcement capacity and knowledge-sharing. These partnerships include:

- U.K. Blue Belt Ocean Shield Program Supporting enforcement efforts through intelligence-sharing, procurement of enforcement resources, and operational collaboration.
- U.S. Coast Guard Providing technical assistance, training, and resources to enhance maritime security through a shiprider agreement.
- CARICOM Engaging with Caribbean partners to develop coordinated enforcement strategies and regional best practices.
- International Commission for the Conservation of Atlantic Tunas (ICATT) Responsible for the management and conservation of tuna and tuna-like species in the Atlantic Ocean and adjacent seas.

These collaborations strengthen Bermuda's enforcement framework and reinforce its role as a leader in regional marine resource management.

#### **Adaptive Approach**

The MRES adopts a flexible and adaptive approach to enforcement that emphasises transparency, accountability, and collaboration, while enabling continuous improvement through data-driven decision-making. Aligned with Bermuda's proposed Marine Spatial Plan (MSP), this approach supports the tailoring of enforcement strategies to specific geographic areas and evolving threats, from artisanal and recreational fisheries to offshore commercial activities. This ensures that strategies remain relevant, responsive, and resilient. The participatory model engages government agencies, enforcement entities, and the community in joint planning, implementation, and evaluation, while leveraging regular performance reviews, technological innovation, and capacity-building to strengthen compliance and protect Bermuda's marine resources.

Adaptivity is not merely a technical strategy; it is foundational to the long-term success of the Bermuda Prosperity Plan. The ability to revise and refine enforcement approaches based on monitoring results (see MEL plan), stakeholder feedback, and changing environmental or socioeconomic conditions is critical to ensuring that the plan remains durable and effective over time. Embedding adaptivity into the MRES safeguards the significant investments of time, resources, and political will that have supported the development of Bermuda's ocean governance framework. It ensures that enforcement remains robust and fit for purpose in the face of uncertainty, thereby supporting implementation resilience and upholding the vision of sustainable, inclusive ocean prosperity for generations to come.



Figure 2: Summary of Process

#### **Background**

The MRES is designed to strengthen the governance, security, and protection of Bermuda's vast marine domain, which is vital to the island's economy, culture, and environment. It builds on previous marine conservation efforts and incorporates stakeholder input, addressing challenges such as outdated legislation, limited enforcement capacity, interagency coordination gaps, and climate change impacts. Developed by the Department of Environment and Natural Resources (DENR), the Strategy establishes a fair and effective enforcement framework to ensure sustainable use of Bermuda's marine resources, while adapting to current and emerging threats to safeguard the long-term prosperity of the island's maritime environment.

To overcome these challenges and harness the full potential of the Blue Economy, the MRES sets out a comprehensive approach to strengthening enforcement mechanisms. This approach includes:

- Advocating for legislative, regulatory and policy updates;
- Enhancing interagency collaboration and communication;
- Facilitating engagement between enforcement agencies and the judiciary to deepen understanding of environmental laws and the value of Bermuda's shared marine resources;
- Integrating new technologies for monitoring and enforcement;
- Improving analytical skills to identify evolving and emerging concerns;
- Engaging the community in the enforcement process; and
- Addressing the concerns raised by the Blue Prosperity Plan Independent Review Panel and stakeholders.

The MRES is closely aligned with Bermuda's broader environmental and economic goals, ensuring that marine resource enforcement is a key pillar in the sustainable use of ocean resources and the development of the island's Blue Economy. The MRES also considers international best practices and the need for collaboration with neighbouring jurisdictions and international partners to address cross-border marine security issues.

#### **Independent Review Feedback**

The Blue Prosperity Plan Independent Review Panel report<sup>10</sup> provided critical feedback, underscoring the necessity for robust enforcement measures to support the successful implementation of Bermuda's Blue Prosperity Plan. Key recommendations included:

- Establishing clear enforcement roles and responsibilities among agencies,
- Strengthening training programs and capacity-building efforts, and
- Incorporating regional and international collaboration to enhance enforcement capabilities.

The MRES directly addresses these recommendations, and the recommendation to develop a Bermuda enforcement strategy by integrating monitoring, control, and surveillance (MCS) frameworks and aligning strategies with international compliance standards.

<sup>&</sup>lt;sup>10</sup> Marine Spatial Plan (Bermuda Ocean Prosperity Plan) Panel Review of Submissions.

<sup>&</sup>quot;Independent Review Panel Report". 2024.

https://www.gov.bm/sites/default/files/2024-11/Independent%20Review%20Panel%20Report.pdf



#### **Development of the MRES**

The MRES was developed through a consultative process involving government agencies, local communities, environmental groups, and international partners to align with the broader goals of the Blue Prosperity Plan and strengthen Bermuda's marine enforcement framework. Informed by a thorough assessment of current enforcement capacity, identified gaps, and recommendations from the MSP Independent Review Panel, the Strategy provides a clear path forward. Set for finalisation in 2025 alongside the Marine Spatial Plan, the MRES will continue to incorporate stakeholder input to ensure it reflects community needs while supporting the long-term sustainable management of Bermuda's marine resources.

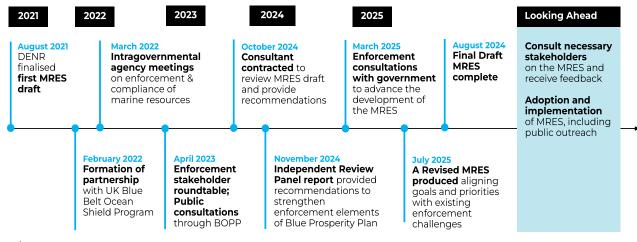


Figure 3: Timeline of MRES Development and Process

# STRATEGIC CONTEXT

Comprising 181 islands, Bermuda's landmass is roughly 21 square miles (54 square kilometres), giving it a ranking of 224th out of 233 recognised territorial entities by physical size of land. By contrast, however, its circular maritime domain – which notably has no sovereign neighbours – is 173,890 square miles (450,370 square kilometres), ranking roughly 57th in the world, between Venezuela and Vietnam for physical size of maritime space (EEZ), and larger than major island states including Ireland, Cuba, Jamaica and Dominican Republic. Monitoring, controlling and surveilling the maritime domain of Bermuda is a challenge, given the disproportionate amount of ocean space Bermuda occupies per capita. That said, its maritime agencies are committed to enforcement and compliance and include remarkably dedicated individuals who work to overcome some of the inherent constraints which limit Bermuda's MCS. By all accounts, there is opportunity for improvement, even within the existing system, as well as reform needed to improve its functionality.

"Monitoring, Control, and Surveillance" (MCS) is globally recognised as the gold standard for maritime enforcement, providing an effective framework for managing ocean fisheries and marine resources. The Food and Agriculture Organization (FAO) of the United Nations defines MCS<sup>11</sup> as a comprehensive system to support fisheries management through data collection, regulatory controls, and compliance oversight. Monitoring involves gathering and analysing data related to catch, fishing efforts, by-catch, and operational areas to inform decision-making. Control establishes the terms and conditions under which resources can be accessed or harvested, ensuring that legislative frameworks clearly define requirements and prohibitions. Surveillance ensures compliance through both collaborative systems, such as Vessel Monitoring Systems (VMS) and Automatic Identification Systems (AIS), and non-collaborative systems, including radar, optical, and unmanned aerial technologies. Deterrence complements enforcement by fostering voluntary compliance through education, outreach, and incentive-driven management practices.

<sup>&</sup>quot;An introduction to monitoring, control and surveillance for capture fisheries. <u>FAO</u> <u>Fisheries Technical Paper</u> No. 338. Rome, FAO. 1995. 217 p. <a href="http://www.fao.org/3/V4250E/V4250E01.htm">http://www.fao.org/3/V4250E/V4250E01.htm</a>



Figure 4: MCS Structure and Elements

In addition to enforcement technologies and regulatory controls, Codes of Conduct play an important role in advancing Monitoring, Control, and Surveillance (MCS) objectives by promoting responsible behavior among resource users. These voluntary or semi-formal frameworks are particularly valuable in contexts where data is limited or enforcement capacity is constrained. Several Caribbean nations, including those participating in the Caribbean Regional Fisheries Mechanism (CRFM), have adopted Codes of Conduct for Responsible Fisheries, modeled on the FAO's international guidelines. These frameworks emphasise precautionary management, ecosystem-based approaches, and community engagement to foster compliance even in data-sparse environments. Similarly, the United Kingdom, through its alignment with the FAO Code of Conduct for Responsible Fisheries and commitments under the Sustainable Development Goals, emphasises ethical harvest, traceability, and stewardship. For Bermuda, adopting or referencing such a Code of Conduct could reinforce national values around ocean responsibility and support greater alignment with global best practices in marine resource governance.

In Bermuda, an effective enforcement strategy necessitates a holistic approach, building on existing fisheries protection frameworks while incorporating broader concerns such as marine pollution, habitat protection, and marine heritage preservation. The integration of MCS principles ensures enforcement activities address complex challenges, including illegal harvesting, resource exploitation, and marine development. Collaborative surveillance technologies like VMS and AIS allow for real-time tracking, while non-collaborative systems such as radar and UAVs provide enhanced situational awareness. These enforcement tools are reinforced through educational initiatives and community outreach programs that promote voluntary compliance, making enforcement both proactive and responsive.



#### **Risks And Threats**

Bermuda's maritime domain is exposed to a wide range of risks and threats, both internal and external, current and emerging, that could compromise effective enforcement of marine resource management and undermine compliance with the Marine Resources Enforcement Strategy (MRES).

**Risks** refer to potential events or conditions that may negatively impact enforcement outcomes due to uncertainty or internal vulnerabilities, such as limited capacity, inadequate funding, or information gaps.

**Threats** are specific sources of harm or disruption, often tied to identifiable actors or activities, such as illegal fishing, habitat destruction, transboundary pollution, or maritime crime.

Together, these risks and threats present multifaceted challenges to the sustainability of Bermuda's marine ecosystems, the prosperity of its Blue Economy, and the security of its maritime domain. Effectively managing them will require coordinated action across all levels of government, with strong collaboration from local communities, regional partners, and international stakeholders.

#### **Legacy Risks and Threats**

Bermuda's marine environment has long faced a range of pressures, including illegal, unreported, and unregulated (IUU) fishing, overharvesting of key species like groupers, parrotfish, and spiny lobster, and damage from unlicensed recreational fishers selling their catch, a persistent and unaddressed issue. Anchoring and illegal coastal development have caused cumulative and well-documented damage to vulnerable ecosystems, particularly seagrass beds and mangroves, which are now in a more degraded and fragile state than even Bermuda's coral reefs. Recreational and tourism-related activities, such as spearfishing and careless anchoring, have further intensified these impacts.

Despite a robust legal framework, enforcement has been hindered by fragmented responsibilities, limited offshore capacity, and a legacy of leniency in prosecuting marine violations. Too often, violations resulted in minimal penalties or were not pursued, undermining deterrence. This has been compounded by the absence of a strong legal finish, where apprehension is not followed by thorough case building, prosecution, and sentencing, enabling repeat offenses with few consequences and weakening public compliance.

#### **Present and Future Risks and Threats**

The implementation of Bermuda's proposed Marine Spatial Plan (MSP) introduces a new era of structured ocean management, including the designation of legislated Marine Protected Areas (MPAs) and non-legislated Potential Use Areas. While this offers a strong framework for conservation and sustainable development, it also adds additional consideration to the enforcement landscape. New regulations will require significant expansion of surveillance capacity, better public outreach to prevent unintentional non-compliance, and improved interagency coordination. Without a well-resourced and adaptive enforcement system, these MPAs risk becoming "paper parks<sup>12</sup>," vulnerable to encroachment by both local and foreign actors. The establishment of new protected areas offers an important opportunity to address long-standing fisheries management challenges through habitat protection; however, future climate-driven shifts in species distribution may compel fishers to target areas now designated for protection, increasing the burden on enforcement and the risk of non-compliance.

Looking ahead, Bermuda must also prepare for more sophisticated maritime threats. These include the convergence of IUU fishing with transnational crimes like drug smuggling, increased use of technology to evade detection, and growing activity from emerging Blue Economy sectors. As enforcement agencies take on broader mandates under the MSP, investment in prosecution readiness, evidence collection protocols, and legal capacity is essential to ensure that violations are not only detected but successfully prosecuted. Overcoming the legacy of leniency will require a cultural shift toward consistent and credible consequences for marine resource crimes. The MRES must play a central role in facilitating this transformation by strengthening deterrence, building public confidence, and securing long-term compliance with Bermuda's marine protection goals.

The section below provides additional context and clarity on the key risks and threats affecting Bermuda's maritime domain, helping to illustrate the unique enforcement challenges Bermuda faces:

#### Illegal, Unreported, and Unregulated (IUU) Fishing

IUU fishing poses a significant threat to Bermuda's marine resources. As a small island with limited capacity for surveillance, monitoring, and enforcement, Bermuda is vulnerable to illegal fishing activities, including overfishing and the exploitation of fish stocks beyond sustainable levels. IUU fishing undermines the health of marine ecosystems, depletes fish stocks, and threatens the livelihoods of local communities that depend on marine resources for food security and income.

<sup>&</sup>lt;sup>12</sup> Edgar, G. J., et al. (2014). *Global conservation outcomes depend on marine protected areas with five key features.* **Nature**, 506, 216–220. <a href="https://doi.org/10.1038/nature13022">https://doi.org/10.1038/nature13022</a>

Additionally, IUU fishing can erode public confidence in the effectiveness of marine resource management and enforcement measures. See Annex A.

#### **Fisheries Crime**

Unlike IUU fishing where the focus is on fish, fisheries crime is where the fishing sector is used to perpetrate non-fishing related crimes. The trafficking of drugs, arms, humans or other contraband – including fuel, wildlife and resources – that use fishing boats or the infrastructure of the fishing industry would be considered fisheries crime. Additionally, the use of the fishing sector to launder money, smuggle migrants, or perpetrate other offenses falls into this category. While such exploitation of fishers and the fishing sector is not a prevalent problem in Bermuda, it is a growing issue in the wider Atlantic, and Bermuda should seek to prevent it becoming an issue.

#### **Exploitation of Bermuda's Flag**

One area of fisheries crime that deserves wider attention is the use of Bermuda's flag by high-risk fishing operators or other criminal actors. The last few years have seen a major scramble with sanctioned actors constantly looking for flag states they can manipulate, and Bermuda must be vigilant in administering its registry to avoid being used in this manner. Some states, like Guyana, are encountering reputational harm because sanctioned actors are illegally purporting that they are Guyanese vessels, including fishing vessels, when they are not. As of early 2025, an exploratory analysis using open sources MDA platforms discovered there are at least eight (8) fishing vessels in other parts of the world using the Bermuda flag and identification numbers illegally. Bermuda must be prepared to address such matters.

#### **Marine Pollution**

Marine pollution, including oil spills, plastic waste, e-waste, chemical discharges, untreated sewage, and illegal sewage discharge from vessels, poses a persistent threat to Bermuda's marine environment and Blue Economy. As an island nation, Bermuda is vulnerable to both local pollution and contaminants carried by Atlantic currents from distant regions. Maritime traffic, coastal development, land-based runoff, and derelict vessels or abandoned moorings further degrade water quality and damage critical habitats such as coral reefs, seagrass beds, and mangroves. These impacts threaten marine biodiversity, tourism, fisheries, and coastal resilience. Addressing this challenge requires a comprehensive approach that combines strong legal and policy frameworks, upgraded sewage infrastructure, and the tools, equipment, and capacity needed for monitoring, enforcement, and response, several of which are prioritised in Bermuda's Marine Spatial Plan.

#### **Climate Change and Ocean Acidification**

Bermuda's marine environment is highly vulnerable to the impacts of climate change, including rising sea levels, increased ocean temperatures, ocean acidification, and the increasing frequency and intensity of storms. These environmental changes contribute to the degradation of coral reefs, which are vital to Bermuda's biodiversity, coastal protection, and marine-based tourism. Ocean acidification poses a growing threat by affecting marine organisms that build calcium carbonate structures, such as shellfish and plankton, which form the foundation of the marine food web. Together, these climate-related threats endanger the environment and have significant economic and social consequences for Bermuda's Blue Economy, as they worsen existing vulnerabilities in the island's natural resources. Notably, recent reports from BIOS<sup>13</sup> and Smith Warner<sup>14</sup> highlight storm activity as a major emerging risk demanding urgent attention.

#### **Transnational Maritime Crimes**

Bermuda's location within a major maritime trade route makes it vulnerable to transnational maritime crimes, including human trafficking, drug smuggling, and weapons trafficking, as well as the money laundering that often accompanies such activities. These criminal activities often involve sophisticated networks operating across national borders, making enforcement and prosecution challenging. The presence of illicit activities in Bermuda's waters undermines the safety and security of the maritime domain, creates potential risks to public health and safety, and strains law enforcement resources. The success of Bermuda's efforts to address maritime crime will depend on strengthening coordination with international partners and ensuring that national security agencies have the capacity to respond effectively.

#### Cybersecurity

As Bermuda increases its reliance on digital systems for marine surveillance, data sharing, and enforcement operations, cybersecurity has become a critical concern. Cyber threats pose serious risks to the integrity and reliability of monitoring and control systems that underpin marine resource management. Malicious actors, including hackers or foreign entities, may attempt to disrupt or manipulate surveillance networks, compromise enforcement data, or interfere with vessel tracking technologies.

These risks are not theoretical. In September 2023, Bermuda experienced a major cyberattack on its government systems, resulting in widespread disruptions that are still being felt across public services. The incident underscored the

<sup>&</sup>lt;sup>13</sup> Climate Change and Bermuda, Part II: Impacts and Societal Risk <a href="https://bios.asu.edu/sites/g/files/litvpz726/files/imported-bios/Climate\_Change\_and\_Bermuda\_PARTII">https://bios.asu.edu/sites/g/files/litvpz726/files/imported-bios/Climate\_Change\_and\_Bermuda\_PARTII</a>.<a href="https://bios.asu.edu/sites/g/files/litvpz726/files/imported-bios/Climate\_Change\_and\_Bermuda\_PARTII\_pdf">https://bios.asu.edu/sites/g/files/litvpz726/files/imported-bios/Climate\_Change\_and\_Bermuda\_PARTII\_pdf</a>

<sup>&</sup>lt;sup>14</sup> Bermuda and Climate Change: Impacts from Sea Level Rise and Changing Storm Activity <a href="https://www.gov.bm/sites/default/files/2024-11/Final%20Report%20-%2025%20March%202024\_0.pdf">https://www.gov.bm/sites/default/files/2024-11/Final%20Report%20-%2025%20March%202024\_0.pdf</a>

far-reaching consequences of cyber vulnerabilities, from basic administrative functions to national security. Similar attacks on key sectors—such as maritime infrastructure, ports, or the financial system—could paralyse enforcement operations and threaten the stability of Bermuda's Blue Economy.

The challenge is further amplified by Bermuda's dependence on international partners for technological support and data exchange, which introduces additional exposure to global cyber risks. As digital connectivity expands, ensuring that enforcement-related technologies are protected from unauthorised access is essential.

To safeguard its marine enforcement and compliance systems, Bermuda must prioritise investment in robust cybersecurity protocols, staff training, and secure communication channels. Protecting against cyber threats is no longer optional, it is a foundational element of modern maritime governance and critical to the long-term success of the MRES.

#### **Maritime Infrastructure**

Bermuda's maritime infrastructure, including ports, piers, slips, docks, moorings, and marinas, underpins the protection of marine resources and supports vital economic sectors such as fisheries, tourism, recreation, shipping, and utilities. Disruptions to these systems, whether from structural failure, pollution, or deliberate harm, can have cascading effects on the environment and national economy. For example, a spill from shoreside infrastructure could damage sensitive marine ecosystems, while port disruptions could delay critical imports such as food, medicine, or fuel, which Bermuda's energy and transport sectors rely on.

Equally important, though less visible, are the undersea telecommunications cables that connect Bermuda to the global internet and phone networks. These systems are essential for effective marine governance, enabling real time surveillance, enforcement coordination, and communication with international partners. A fault or attack on this infrastructure would severely limit Bermuda's capacity to manage its maritime domain. Protecting these diverse infrastructure assets is not only an environmental or economic priority, it is a matter of national security requiring proactive investment in resilience and response planning.

#### **Overdevelopment of Coastal Areas**

Unregulated or poorly planned coastal development poses a significant threat to Bermuda's marine environment. Unsustainable coastal development can result in habitat destruction, increased sedimentation, and the introduction of pollutants into the marine environment. The loss of critical coastal and marine habitats, such as mangroves, seagrass and coral reefs, reduces the resilience of Bermuda's ecosystems to natural disasters and climate change impacts and puts vulnerable shoreline infrastructure at greater risk. Furthermore, overdevelopment can create social and economic pressures, increasing competition for marine resources and

complicating enforcement efforts related to marine zoning and sustainable resource management.

#### **Legislative Gaps**

At present, the 1972 Fisheries Act requires that fishers be caught in the act of fishing illegally in order to be prosecuted under the Act. That high burden for enforcement as well as other provisions of the Act are inconsistent with both the 1982 United Nations Convention on the Law of the Sea and the 2009 Port State Measures Agreement. More directly, the legislation in Bermuda makes MCS extremely difficult and is inconsistent with current international norms. It needs an update to ensure that Bermuda agencies – including the MOC, DENR, and Coast Guard – have the ability to identify matters which undermine the sustainability of Bermuda's waters and take meaningful legal action against them. To get to that end state, an update of the legislation is required.



#### **Limited Enforcement Capacity**

Bermuda's enforcement capacity, while competent, faces challenges related to limited resources, personnel, and technological capabilities. This limitation can hinder the effectiveness of marine resource monitoring, surveillance, and enforcement, making it more difficult to detect and respond to violations of marine laws and regulations. Additionally, Bermuda's geographical isolation and relatively small size can make it difficult to monitor and patrol its vast maritime territory, particularly in remote or hard-to-reach areas. Strengthening Bermuda's enforcement network and enhancing coordination with regional and international partners will be key to mitigating this risk. Additionally, more effective, efficient interagency cooperation can help muster resources that would otherwise be overlooked.

# MRES IMPLEMENTATION ROADMAP & ACTION PLAN

An effective Implementation Roadmap and Action Plan are critical components to the successful execution of the MRES. Both pieces serve as complementary elements in translating strategic goals into concrete, achievable, and operational next steps, ensuring that implementation efforts are organised, coordinated, and measurable. While they share similarities, they differ in their scope and level of detail, and each plays an essential role in ensuring that implementation of the Blue Prosperity Plan is successful and adapted over time.

#### **Implementation Roadmap**

Activating the MRES requires an Enforcement and Compliance Implementation Roadmap which complements the Blue Prosperity Plan and acts as a high-level roadmap that outlines high-level direction and is built on the strategic goals of the MRES. The Implementation Roadmap provides a clear framework for how implementing elements of the Blue Prosperity Plan, including the MRES, will be rolled out and sequenced over time, ensuring alignment with broader policy goals, such as the proposed Marine Spatial Plan (MSP) and sustainable marine resource management. The Implementation Roadmap outlines the key phases of the Strategy, identifies priority areas for action, and specifies timelines and milestones for achieving these goals. It serves as the overarching guide for all subsequent actions, helping to ensure that resources are allocated efficiently, stakeholders remain aligned, and objectives are consistently pursued.

#### **Action Plan**

The Action Plan is more detailed and operational in nature, breaking down the strategic goals into specific, concrete tasks and activities. It focuses on the practical steps that need to be taken to implement the activities outlined in the Implementation Roadmap. The Action Plan provides a clear, time-bound list of tasks, assigned responsibilities, necessary resources, and detailed performance indicators, helping to track progress on a day-to-day or short-term basis. While the Implementation Roadmap offers the broader vision, the Action Plan is the tactical-level operational tool that ensures the MRES is executed effectively.

	IMPLEMENTATION ROADMAP	ACTION PLAN
Scope	Broader in focus, outlining the long-term strategic vision and direction of the MRES.	More specific and operational, detailing tasks and how they contribute to achieving strategic goals.
Timeframe	Covers a longer-term period (e.g., several years).	Focuses on shorter-term intervals (e.g., quarterly or yearly) to track progress and adjust as needed.
Level of Detail	Provides a broad framework with high-level goals and priorities.	Breaks down the framework into specific tasks with timelines, assigned roles, and required resources.

**Table 2:** Supporting MRES components

The implementation roadmap outlines the strategic vision and long-term direction for achieving a set of goals — in this case, the effective protection of Bermuda's marine resources. It defines overarching objectives, approaches, and performance indicators across a multi-year timeline, providing a high-level framework to guide coordination, prioritise actions, and align stakeholders.

In contrast, an operational action plan breaks this strategy into detailed, task-specific activities, identifying who will do what, when, and how. It includes concrete steps, short-term milestones, resource allocations, and implementation logistics necessary to execute the roadmap's priorities on the ground. The roadmap sets the "what" and "why," while the action plan defines the "how" and "when."

#### **Development of Both Components**

The development of both the Implementation Roadmap and the Action Plan for the Marine Resources Enforcement Strategy (MRES is an iterative process designed to integrate not only the strategic goals of the MRES but also future and evolving resource management frameworks, such as the Bermuda Prosperity Plan, which has its own implementation and action plans. This interconnected approach ensures that enforcement strategies remain adaptable and aligned with broader marine governance initiatives, creating synergy across multiple frameworks and enhancing long-term resource management.

As part of this iterative process, emerging partnerships will continue to shape the structure and execution of the plans, influencing the delineation of roles and responsibilities among collaborators. These partnerships — encompassing government agencies, local communities, international allies, and stakeholders — will strengthen the enforcement network's resiliency by contributing expertise, resources, and complementary capabilities. By fostering collaboration, the MRES

can support marine resource protection and compliance while adapting to evolving challenges such as climate change, regulatory shifts, and emerging threats.

The phased approach endorsed by the Government of Bermuda guides the development of these plans, ensuring that implementation aligns with national priorities. This structured rollout allows for incremental progress, focusing on specific goals and deliverables in each phase, and guarantees that resources, capacities, and partnerships are in place before advancing. Timelines and activity details will reflect this phased approach, enabling adjustments based on urgency, feasibility, and importance.

By embedding periodic assessments through the use of a monitoring, evaluation, and learning (MEL) framework, the iterative nature of the process ensures flexibility to address new challenges and opportunities. This adaptability not only reinforces the sustainability and effectiveness of the MRES but also facilitates integration with other governance frameworks. As the plans evolve, they will maintain alignment with Bermuda's long-term vision for marine conservation, compliance, and enforcement, ensuring robust protection and management of marine resources well into the future.



## **LOOKING AHEAD**

The MRES lays the foundation for stronger marine resource protection by identifying clear priorities for enforcement, governance, and compliance. Its implementation requires moving from a strategic framework to actionable steps through a phased, government-led approach. This transition will align with Bermuda's policy priorities and remain responsive to changing needs.

Partnerships are central to success. Continued collaboration with international and regional stakeholders will synchronise resources, build capacity through training and technology, and support joint enforcement efforts. These partnerships will strengthen Bermuda's enforcement network and reinforce its leadership in regional ocean governance.

The MRES also provides a roadmap to guide annual work plans and budget allocations, grounded in strategic goals and adaptable to evolving conditions. This phased implementation allows for incremental progress, ongoing evaluation, and integration of lessons learned.

Recognising that foundational assumptions may shift over time, the MRES is designed to be adaptive. It serves as a consistent reference point — even when operational approaches must change — to ensure Bermuda remains agile and able to pursue its Strategic Vision despite future uncertainties. It clarifies not just what will be done, but why: each action supports a specific Strategic Goal in service of long-term ocean sustainability.

Ultimately, the MRES is more than a framework — it is a call to action. By combining enforcement and education, and through a sustained commitment to learning and adaptation, Bermuda can ensure durable implementation of the Bermuda Ocean Prosperity Programme and lasting protection of its marine environment.

The MRES applies a two-pronged compliance strategy. The "hard" approach uses MCS tools and legal enforcement to detect and address violations. The "soft" approach emphasises public education, stakeholder engagement, and outreach to promote voluntary compliance. Together, these approaches enhance institutional coordination, legal robustness, and community participation. Progress will be measured through improved compliance rates, fewer violations, and stronger stakeholder support — ensuring Bermuda's marine resources are safeguarded for future generations.

#### Recommendations for Strengthening Enforcement

To inform the implementation of the proposed Marine Spatial Plan (MSP) and strengthen Bermuda's Marine Resources Enforcement Strategy (MRES), a professional assessment was commissioned in 2025. The assessment was

conducted by an external consultant tasked with reviewing the draft MRES and Action Plan, documenting existing enforcement and compliance efforts, and identifying priority areas for improvement. The consultant also considered feedback from the Independent Review Panel and provided expert analysis to enhance Bermuda's capacity for effective and sustainable maritime enforcement. Based on this assessment, ten key recommendations were put forward to support successful implementation of the MRES and align enforcement efforts with the broader objectives of the MSP.

RECOMMENDATION	DESCRIPTION
1. Update fisheries	Align with international norms, UNCLOS, PSMA, and
legislation	Bermuda-specific legal context
2. Extend ticketing	Expand and apply ticketing powers to fisheries to
authority	streamline enforcement, reduce impunity, and
	enhance deterrence through more frequent penalties
3. Leverage regional	Utilise support from CARICOM IMPACS and other
partners	willing partners
4. Build compliance	Develop institutional capacity for fisheries compliance
analytics	analysis
5. Promote interagency	Enhance understanding of sustainable fisheries
sensitisation	across agencies
6. Train on maritime law	Provide legal training for MOC, DENR, Coast Guard,
	DPP, and judiciary
7. Educate the justice	Sensitise watch standers, operators, lawyers, and
sector	judges on fisheries sustainability
8. Explore innovative	Consider partnerships with organisations like Sea
capacity-building	Shepherd, WILDAID, and international NGOs to
	support enforcement and compliance burden
9. Encourage coastal	Engage lawful operators in identifying illegal activities
watch programs	
10. Launch public	Promote awareness across all sectors of Bermudian
education campaigns	society on the value of the maritime domain and
	support for the MSP

Table 3: Recommendation to Strengthen Enforcement in Support of Blue Prosperity Plan Implementation

#### **Role of Implementing Agencies**

Implementing agencies are central to the execution of the Marine Resources Enforcement Strategy (MRES). They are responsible for leading enforcement operations, overseeing compliance measures, and integrating monitoring, control, surveillance, and deterrence systems. Through their coordination, expertise, and operational capacity, these agencies form the foundation of Bermuda's marine enforcement framework, ensuring the effective protection and management of marine resources.

<b>AGENCY</b>	DESCRIPTION
Bermuda Police	Supports enforcement through training, intelligence
	sharing, and investigations. Plays a key role in building
	cases for prosecution, including those related to fisheries
	violations.
	Oversees the Bermuda Shipping Registry (separate from
and Maritime	the fishing vessel registry) and manages key maritime
Authority (BSMA)	administrative functions, including representation at the
	International Maritime Organization (IMO).
<b>Court Liaison Unit</b>	Provides coordination between enforcement agencies and
(CLU)	the judicial system. Supports the prosecution process for
	marine-related offenses and is also responsible for
	regulations under the Protected Species Act, which
	addresses broader threats to species — including
	development, extractive research, and pollution.
Department of	The lead government agency for marine resources
<b>Environment and</b>	management. Formerly under the Ministry of Home Affairs,
	it now falls under the Ministry of Public Works and
(DENR)	Environment (as of Feb 2025). DENR oversees the Fisheries
	Wardens and is responsible for implementing fisheries
	regulations under the 1972 Fisheries Act.
Department of	Operates the Maritime Operations Centre (MOC),
Marine and Ports	Bermuda's primary maritime domain awareness hub. The
Services	MOC also serves as the Rescue Coordination Centre (RCC),
	manages vessel traffic through VTS and AIS tracking, and
	operates Bermuda Radio for maritime communication.
Department of	Handles prosecution of all legal cases, including those
Public	involving fisheries and marine violations.
Prosecutions	
(DPP)	
Royal Bermuda	Established in 2020, the Coast Guard is the newest
Regiment Coast	maritime law enforcement agency, responsible for
Guard	enforcing laws related to territorial waters, quarantine,
	immigration, fisheries, and safety at sea. The Police no
	longer carry out these roles but maintain a liaison with the
	Coast Guard.

**Table 4:** Implementing Agencies Roles and Responsibilities

### **Monitoring, Evaluation, & Learning**

A Monitoring, Evaluation, and Learning (MEL) plan is an essential component of the broader Marine Spatial Plan (MSP) Monitoring and Evaluation Plan, with enforcement-specific monitoring integrated as a key part of this overall system. Given the dynamic nature of marine ecosystems and the evolving challenges of enforcing marine management laws, the MEL plan is designed to be flexible and encourage an adaptive process. This approach enables continuous monitoring of enforcement activities, evaluation of their effectiveness, and timely adjustments to strategies based on real-time data, stakeholder feedback, and the identification of compliance challenges. By embedding enforcement-specific monitoring within the wider Monitoring and Evaluation framework, we ensure alignment of enforcement efforts with broader marine management objectives and facilitate learning across sectors, strengthening the overall effectiveness and resilience of marine spatial governance. The following are attributes of the MEL plan:

PURPOSE	DESCRIPTION
Tracking Progress	Establishes clear indicators and benchmarks to assess
and Effectiveness	whether enforcement is achieving goals such as improved
	compliance, increased community engagement, and
	reductions in illegal activity. Enables timely identification
	of gaps to support adaptive management.
Supporting	Promotes stakeholder learning by sharing data and
<b>Collaboration and</b>	findings regularly, encouraging transparency and
Learning	dialogue. Evaluates practices to identify and disseminate
	best practices across agencies, communities, and
	partners.
Enhancing	Provides accountability by making progress and outcomes
Accountability and	accessible to all stakeholders — government,
Transparency	communities, and international partners — thereby
	building trust and strengthening collaboration.
<b>Ensuring Alignment</b>	Tracks how enforcement efforts align with Bermuda's
with Broader Goals	wider environmental, economic, and social goals,
	including Marine Spatial Planning (MSP), Blue Economy
	growth, biodiversity protection, and coastal community
	well-being.

Table 5: MEL Elements to Support Adaptive Approach

To strengthen the MRES and support its long-term effectiveness, plans are underway to develop a dedicated MEL Plan in 2025. This effort will be undertaken in collaboration with key stakeholders, including government agencies, local communities, and new partners. By leveraging these partnerships and incorporating new data and best practices, the MEL Plan will provide a foundation for continuous improvement and adaptation management of Bermuda's marine resource enforcement strategy.

#### **Resource Mobilisation**

Resource mobilisation is essential to the effective implementation and long-term sustainability of the Marine Resources Enforcement Strategy (MRES). Securing

adequate financial, human, and technical resources will enable enforcement operations, strengthen compliance efforts, and support ongoing capacity building.

To achieve this, the MRES prioritises building strong partnerships with international organisations, donor agencies, and the private sector. These partnerships can provide access to funding, technical expertise, and in-kind support, while also facilitating the sharing of equipment, data, and infrastructure. Exploring public-private partnerships, grant opportunities, and collaborative agreements will help diversify funding sources and enhance program resilience.

Investing in people and tools is central to enforcement success. Targeted training programs will build the skills of local enforcement personnel, while the adoption of modern technologies — such as surveillance systems, data platforms, and real-time monitoring tools — will increase operational efficiency and reduce long-term costs.

As enforcement needs evolve, resource mobilisation will remain an ongoing and adaptive process. Regular assessments will help identify resource gaps and opportunities, ensuring that support is aligned with shifting priorities and emerging challenges. Through this strategic and collaborative approach, Bermuda will be better positioned to protect its marine resources and sustain enforcement capacity over the long term.



#### **Fostering Voluntary Compliance And Stewardship**

Public communication is fundamental to building ocean stewardship and fostering long-term public compliance with marine protection measures. The development and establishment of protected areas represent a social contract between the government and the people, one that is strengthened through awareness, mutual understanding, and shared responsibility. When communities understand the purpose and benefits of marine regulations, they are more likely to support and comply with them voluntarily, reducing the need for direct enforcement action.

GOAL	DESCRIPTION	KEY OUTCOME
Raise Awareness	Increase public understanding of marine protection, MPAs, and the role of enforcement.	Greater awareness of regulations, conservation benefits, and enforcement roles, reducing confusion.
Promote Voluntary Compliance	Build trust by ensuring rules are clear, accessible, and perceived as fair.	Higher levels of voluntary compliance and fewer unintentional violations.
Support Enforcement Capacity	Equip officers and partners with consistent communication tools and training.	Unified messaging across teams and improved public interactions that reinforce compliance.
Foster Stewardship	Inspire long-term community care for the marine environment through collaboration and shared values.	Stronger relationships, community buy-in, and a culture of compliance rooted in ocean stewardship.

**Table 6:** Public Communication Goals and Outcomes to Enhance Compliance

The MRES prioritises effective communication as a strategic tool to connect stakeholders to the goals of marine conservation and the role of enforcement. Outreach efforts, aligned with recommendations from the MSP Independent Review Panel and public consultation, will raise awareness about the ecological and cultural value of Bermuda's marine resources, the function of MPAs, and how regulations help secure long-term ocean health and economic resilience. These campaigns will engage diverse audiences, including fishers, coastal communities, policymakers, and the public—through workshops, community events, educational programming, and digital platforms.

By promoting clear, accessible, and consistent messaging, the MRES aims to build trust, correct misconceptions, and encourage voluntary compliance. These efforts will also enhance the capacity of enforcement officers and outreach partners by equipping them with shared communication tools and talking points. Through continued engagement and collaboration — such as through the BOPP Ocean Village — public communication will help embed a culture of stewardship across

Bermuda, reinforcing the social foundations on which effective marine enforcement depends.

COMMUNICATION TOOL	DESCRIPTION
Marine Enforcement Communications Toolkit	Standardised FAQs, key messages, templates, visuals, and guidance to ensure consistent and respectful messaging by enforcement officers and outreach partners.
Interpretive Signage	Clear, visual signs at key locations (fishing docks, beaches, airports, ferry terminals) explaining marine rules, MPA boundaries, prohibited activities, and ocean protection importance.
Radio Segments and PSAs	Short audio messages featuring community voices to promote understanding of marine regulations and encourage rule-following and reporting of illegal activities.
Educational Videos	Brief videos for social media, events, and schools that explain MPA rules, share positive community stories, and highlight enforcement's role in ocean health.
Educational Posters and Flyers	Targeted printed materials distributed at schools, marinas, shops, and community centers with clear, audience-specific messaging on regulations, MPA values, and how to report concerns.
Media Engagement Tools	Ready-to-use press releases, talking points, speaker bios, and backgrounders to assist government and partners in sharing accurate, engaging stories about marine protection and compliance efforts.

**Table 7:** Communication tools to enhance public compliance



#### **Target Audiences**

#### **Primary Audiences**

The primary target audiences include individuals and institutions with the greatest influence on, or responsibility for, marine resource use and enforcement. These include commercial and recreational fishers, who are directly affected by marine regulations and play a critical role in ocean stewardship. Boat owners and operators are also a key group, particularly those navigating near MPAs or engaging in water-based tourism or recreation.

Enforcement agencies and personnel are core implementers of the strategy and require tailored communications resources to ensure consistent, respectful, and community-informed engagement. Government leaders and relevant ministries will be engaged to ensure alignment with policy goals and support for broader implementation. The media is another vital audience, serving as a conduit for amplifying key messages and reaching the general public. Tour operators, who act as informal educators and guides for both locals and visitors, are essential partners in reinforcing marine protection messages.

Finally, the general public forms the broadest segment of the primary audience. Outreach to this group will focus on raising awareness of the MSP, building pride in Bermuda's marine heritage, and encouraging compliance as a shared responsibility.

#### **Secondary Audiences**

While not the primary focus of compliance communications, secondary audiences play a key role in shaping long-term cultural and behavioral change. Educators and youth are essential to fostering a conservation ethic and building future generations of ocean stewards. Communication tools tailored for schools and youth programming will help embed marine protection values early on.

Tourists, although transient, can significantly impact marine environments and often interact with sensitive areas. Providing clear, accessible information through signage, tour briefings, and travel materials can help minimise negative impacts. Civic organisations, including local nonprofits, faith-based groups, and community associations, are valuable multipliers of messages and can support outreach, education, and reporting efforts within their networks.

Together, these audiences form a comprehensive ecosystem of influence, requiring targeted and layered communications approaches to support Bermuda's marine conservation and enforcement objectives.

#### **Core Messages**

#### **Everyone Has a Role**

At the heart of the strategy is the principle that marine conservation is not just the responsibility of government or enforcement officers — it is a collective effort.

Every person who interacts with the ocean has a role to play in protecting Bermuda's marine resources. From fishers and tour operators to students and community leaders, everyone's actions matter. This inclusive framing helps build ownership, reduce blame, and empower individuals to become part of the solution.

#### The Ocean is a Shared Responsibility

The ocean connects all of Bermuda's communities, livelihoods, and traditions. It is a shared space, and its protection requires shared responsibility. Messaging that reinforces the idea of collective stewardship — "Let's protect it together" — builds a sense of unity and common purpose. This is especially important in encouraging voluntary compliance and promoting community-based approaches to conservation.

#### **Protecting Today, Sustaining Tomorrow**

One of the most compelling messages for both current and future generations is that protecting parts of the ocean today helps ensure fish and other marine resources remain available for Bermudians in the future. This forward-looking perspective reinforces the long-term benefits of MPAs, regulations, and enforcement — not just for ecological health, but for food security, culture, tourism, and economic sustainability.

#### Respect for the Ocean Means Respect for Our Future

Respecting protected areas and marine rules is framed as an act of respect — not only for the ocean itself, but for Bermuda's future. By making the connection between compliance and the protection of marine livelihoods, this message appeals to people's sense of duty, fairness, and responsibility. It emphasises that rules are not arbitrary — they are in place to protect what matters most.

#### Illegal Take is Public Theft

It is well-established and globally recognised that the illegal take of marine resources and the destruction of marine habitats constitute theft of publicly shared resources. Fish stocks, coral reefs, seagrass beds, cultural assets, historical relics, and other natural treasures are national resources held in trust for the benefit of all citizens, now and for future generations. When individuals harvest without authorisation, damage habitats, or pollute the marine environment, they are not only violating laws but also depriving the community of resources that belong to everyone.



This principle goes beyond environmental concerns; it is grounded in fairness, equity, and public stewardship. Non-compliance harms livelihoods, threatens food security, disrupts cultural traditions, and weakens the resilience of ecosystems vital to Bermuda's economy, identity, and heritage.

By defining illegal extraction and habitat damage as theft of publicly shared resources, this message underscores the necessity of strong enforcement and shared responsibility. Protecting marine environments is not merely a legal requirement; it is a collective civic duty to ensure all Bermudians can continue to benefit from a healthy and sustainable ocean.

# **ANNEX A: FAO Definition of IUU**

According to the Food and Agriculture Organization of the United Nations (FAO), Illegal, Unreported, and Unregulated (IUU) fishing is understood as a comprehensive term encompassing a wide range of fishing activities that undermine sustainable fisheries management. The International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (IPOA-IUU)<sup>15</sup> defines IUU activities as those that are:

ILLEGAL	<ul> <li>Conducted by national or foreign vessels in waters under the jurisdiction of a State, without the permission of that State, or in contravention of its laws and regulations;</li> <li>Conducted by vessels flying the flag of States that are parties to a relevant regional fisheries management organisation but operate in contravention of the conservation and management measures adopted by that organisation and by which the States are bound, or relevant provisions of the applicable international law; or</li> <li>In violation of national laws or international obligations, including those undertaken by cooperating States to a relevant regional fisheries management organisation.</li> </ul>
UNREPORTED	<ul> <li>Which have not been reported, or have been misreported, to the relevant national authority, in contravention of national laws and regulations; or</li> <li>Are undertaken in the area of competence of a relevant regional fisheries management organisation which have not been reported or have been misreported, in contravention of the reporting procedures of that organisation.</li> </ul>
UNREGULATED	<ul> <li>In the area of application of a relevant regional fisheries management organisation that are conducted by vessels without nationality, or by those flying the flag of a State not party to that organisation, or by a fishing entity, in a manner that is not consistent with or contravenes the conservation and management measures of that organisation; or</li> <li>In areas or for fish stocks in relation to which there are no applicable conservation or management measures and where such fishing activities are conducted in a manner inconsistent with State responsibilities for the conservation of living marine resources under international law.</li> </ul>

<sup>&</sup>lt;sup>15</sup> FAO. International Plan of Action to prevent, deter and eliminate illegal, unreported and unregulated fishing. Rome, FAO. 2001. 24p.

