CONTRIBUTION 8.5

Transforming Our Seas and Oceans Resources Collaboratively with Accredited Development Partners for the Benefit of all

13 years of progress: 2010 – 2023

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Abstract

The United Kingdom Overseas Territory (UKOT) Montserrat, a Small Island Development State (SIDS) within the global ocean space, recognises the significant role that the natural capital of the fisheries and ocean sector plays in its socio-economic growth and achievement of long-term sustainable development and well-being. Through extension from His Majesty's Government (HMG) UK, the Government of Montserrat (GOM) is committed to its International Binding and Non-Binding Agreements.

For decades, the complexities of ineffective legal instruments, inadequate human capital, natural occurrences, human induced circumstances, coupled with climate change, alien invasive species and pollution continue to create adverse social and environmental issues. It was therefore critical to empower policy and decision makers to develop and implement an adaptive, holistic and harmonized natural capital framework for making effective use of the resources in a way that embeds sustainability and facilitates decision-making processes.

In 2010, the GOM took the bold step of embarking on an ambitious but realistic and adaptive programme aimed at transforming our seas and ocean resources collaboratively with accredited development partners with a shared vision. This was achieved by applying nature-based solutions, good governance, adaptive management, technological innovation, sound science and evidence-based information to strengthen the global effort in advancing environmental protection and sustainability for the nation's socio-economic growth and well-being.

To achieve the United Nations' 2030 Agenda, the GOM has imbedded SDG 17, Partnership for the goals and its associated targets, as the nucleus for strengthening the wealth economy framework of natural capital in the long term. As a small island developing state, sustainable financing, capacity building, technology just to name a few have been a real challenge over the years.

In recent times, the government has strengthened partnerships with various international accredited development partners in achieving its goals and objectives of the National Sustainable Development Plan. Issues relating to all the other SDG's are currently been addressed collaboratively among partners with shared goals. These include but are not limited to, His Majesty's Government (UK), The Caribbean Regional Fisheries Mechanism (CRFM), the OECS Commission and the Food and Agriculture Organization (FAO).

In restoring the health and wealth of the ocean, an adaptive 7-point roadmap has been adopted by the GOM. The roadmap will serve to strengthen the Legal framework, international partnerships, institutional capacity development, data management systems, science and research, sustainable financing and boundary delineation. The overall goal is to collaboratively promote, protect and unlock the socioeconomic opportunities of the ocean, while restoring it to a healthy and prosperous state.

KEYWORDS: Partnerships, Harmonized, Legal, Data, Ocean, Resources, Accredited

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1. MONTSERRAT FISHERIES AND OCEAN/NATURAL CAPITAL OVERVIEW

The Fisheries and Ocean Governance Unit (FOGU) formally known as the Fisheries Unit (FU) is a unit within the Department of Agricultural Services, Ministry of Agriculture, Lands, Housing and the Environment (MALHE), GOM. The Revised Fisheries Act and Subsidiary Legislation Law as of 01 January 2013, makes provision for the promotion, management and conservation of fisheries and fisheries resources within waters of national jurisdiction and for matters connected therewith.

Subject to subsection (2) of the Act states that the Minister in collaboration with the Chief Fisheries and Ocean Governance Officer formally the Chief Fisheries Officer, shall take such measures as they think necessary to promote the sustainable management, governance, development, conservation of the fisheries and ocean sector. This is to ensure the optimum utilization of available ocean resources for the benefit of future generations.

Figure 1. <12 meter fishing vessels

Overview of the sector

Montserrat's legally defined ocean space encompasses, 5556 km/3,452 or 3 nautical mile territorial sea. Fisheries activities within the space can be categorized as small-scale, artisanal by nature, open access, multi-species, and multi-gear fishery. With one (1) of the smallest fishing sectors within the Wider Caribbean Region (WCR), as at August 2023, the fishing fleet comprises thirty-nine (39) <12-meter open pirogues, 125 combined registered, full-time, part-time, occasional and sports fishers.

Table 1. Main gears and species

Main Fishing Gears	Reef/Demersal Fish	Coastal Pelagic	Pelagic
Beach Seine	Trigger fish	Ballyhoo	Wahoo
Pot/traps	Coney	Bigeye scads	Tuna
Gill nets	Blue, Tang	Needlefish	Mahi-Mahi
Hook and Line	Doctor Fish	Crevalle Jack	Bonito
Longline	Snappers (various)		Kingfish
	Hind, red		
	Grunt		
	Longjaw, squirrelfish		

Ninety-eight percent (98%) of the fishing vessels operate from the Little Bay landing site, an area that is shared with the Montserrat Port Authority commercial vessel activities. Daily fishing activities, weather permitting, target reef/demersal, coastal pelagic and pelagic species within this relatively small geographic space.

In collaboration with His Majesty's Government (HMG) agency and the Joint Nature Conservation Committee (JNCC) a 2018 natural capital accounts study estimated the total annual value of fisheries to be approximately XCD 1.8 million (USD 666,000). This compared to previous valuations of between XCD$450,000 and XCD$650,000.

Transforming fisheries and ocean related challenges into socio-economic opportunities

Recognizing the following challenges within the fisheries and ocean resources.

1. Inadequate legal and institutional framework
2. Insufficient dedicated accredited staff
3. Limited legal ocean space and finalizing maritime boundary delimitation,
4. Poor data collection and management systems,
5. Appropriate accredited partnerships with share vision,
6. Sustainable financing
7. Dedicated landing site, safe harbours, and marketing facilities
8. Increasing impacts of climate variabilities coupled with human related activities and pollution
9. Continuous political and administrative will

The Government of Montserrat through its Chief Fisheries and Ocean Governance Officer, requested technical assistance for the Overseas Countries and Territories (OCTs) Association, through an Innovation Project to support sustainability governance, management and conservation of our natural capital.

The aim of the innovation project scoping mission was to, review and identify the critical gaps in Montserrat's natural capital, environment and make recommendations for sustainability development in the health and wealth of the ocean resources in the future.

The objective of the scoping research was to make evidence-based recommendations to

1. Revising and updating the fisheries and ocean institutional and management framework,
2. Update the fisheries and ocean resources policy and legal framework,
3. Creating and establishing an effective and adaptable monitoring, control, and surveillance system,
4. Support the 2030 SDGs and develop an action plan for the implementation of the SDG 14 targets within the governance and management framework,
5. Develop and implement a robust fisheries and ocean resources data collection, recording, storage, and management systems.

It would be important to undertake a socio-economic study about the characteristics of the fisheries to better understand the importance and contribution of fisheries to livelihoods and to the economy. These studies would also give insight and promote professionalism in the sector, gain credibility with the banking sector, encourage investment and lead to sustainable development of the fisheries.

Recognizing the importance and need to account for the value of natural capital in socio-economic decision making, management undertook a quantitative evidence-based study was

undertaken to improve understanding of Montserrat's coastal and marine environment. The Government of Montserrat—having recognised the need to ensure the sustainable management and utilization of the ocean natural capital as the basis for improved livelihoods, food security, nutrition, and socioeconomic growth—continues its progressive paradigm shift to strengthen governance of its coastal and ocean capital under national jurisdiction.

Amidst this background GOM, in an effort to comply with regional and international mandate to promote the sustainable development and utilization of our natural capital, took the following steps in the short-term;

1. Institutional and human capacity development in ocean sustainability, governance, and management,
2. Renaming the role of Chief Fisheries Officer to Chief Fisheries and Ocean Governance Officer and the institution name of Fisheries Unit to Fisheries and Ocean Governance Unit,
3. Building strategic partnerships with trustworthy organisation,
4. Community sensitisation on the importance and requirement to improve at the national level in the future.

As such, the Ministry of Agriculture, Lands, Housing and the Environment's 2016 – 2021 Agriculture Strategy and Marketing Plan (ASMP) and the Agricultural Services Annual Work Program, became the nucleus to support this paradigm.

The Fisheries and Ocean Resources Strategic Goals and Objectives which are enshrined within the ASMP, is a critical and important step in developing a coordinated transnational approach in achieving the following:

Goal 3.1: Expand and modernize infrastructure projects and capacity building programs for the management, governance, and conservation of fisheries and ocean resources;

Goal 3.2: Restructuring and strengthening the institutional framework of the Fisheries and Ocean Governance Unit;

Goal 3.3: Modernise the policy and legislative framework for the governance, management, conservation and sustainable utilization of the Fisheries and ocean resources sub-sector;

Goal 3.4: Collaborate with stakeholders and strategic development partners with shared to promote sustainable development of the fisheries and ocean resources under national jurisdiction.

2. TRANSFORMING FISHERIES AND OCEAN RESOURCES MANAGEMENT AND GOVERNANCE FOR SUSTAINABILITY IN MONTSERRAT WITH ACCREDITED DEVELOPMENT PARTNERS

In response to recommendation to the existential environmental threats, challenges and gaps highlighted in the EU-OCTA report, 'Montserrat Marine and Fisheries Sector' report and the CFOGO, academic thesis 'The future of fisheries in Montserrat a proposed framework for management reform', the government adopted these two evidence-based documents as two (2) official fisheries and ocean policy guidance instruments.

To achieve adaptive transformation in fisheries and ocean resources management and governance for sustainability, GOM continues to strengthen partnerships with accredited development partnerships with shared goals and values. In addition, a bold step was also taken

to put in place mechanisms to minimise the influence of blue washing and greenwashing. It is important to identify and address unrevealed reasons for supporting environmental development.

In collaboration with the various accredited partners, the Chief Fisheries and Ocean Governance Officer, developed and implemented an adaptive robust ocean governance and management road map. Turning the challenges and gaps identified into socio-economic opportunities for sustainable growth and well-being, the following issues became priority in the short to medium term.

1. Improving the fisheries and ocean resources data infrastructure with advances in emerging new technologies.
2. Strengthening additional partnership with shared goals, values, and sustainable financing to support project development and implementation.
3. Legislative reform and addressing boundary delineation with neighboring states.
4. Institutional and human capacity development, while acquiring continuous political and administrative will.
5. Improving knowledge and understanding of the ocean ecosystems goods and services.

Figure 2. ASMP 2016 - 2021

Strengthening accredited partnership was a powerful solution to aid in addressing the complex and interconnected global challenges we face in fisheries and ocean resource management. By integrating economic, social and environmental dimension, improving the governance and management structure seeks to achieve a balance between human needs and resource protection. It was the vehicle through which we were able to drive environmental change and ensure that our actions today contribute to the well-being and growth of present and future generations.

All development partners have made significant financial contributions in ensuring that the ocean space and its associated invaluable capital are used wisely, responsibly and remain an important source of life for the benefit of all future generations in Montserrat and through extension the global community.

These strategic funding projects by various organisation's partnership instruments have been driving progress on national biodiversity, sustainable development, evidence-based data management, natural capital policy, governance, and management reform. Through multifaceted approaches, these projects align directly with the UN's Sustainable Development Goals and generated significant progress on key SDG 14 targets.

Figure 3. Development Partners

Creating stronger partnerships was not enough throughout this journey. It was also important to prioritise institutional and human reform, because natural capital challenges, management, and governance interconnected, as it is globally. As such, it was therefore critical to sensitise the Chief Fisheries and Ocean Governance Officer (CFOGO) professionally regarding natural capital sustainability, governance and management.

With the support of the Caribbean Regional Fisheries Mechanism (CRFM), the CFOGO was afforded the opportunity to build capacity at the International Ocean Institute (IOI) and the University of Portsmouth, UK. The CFOGO was able to develop further Intellectual capacity during his academic pursuits and participation in international symposiums, while advancing his knowledge and understanding of best practices within the global fisheries and ocean network.

Natural capital governance and management have been the key for Montserrat, both internally and externally, to sustainably develop its blue economy, cooperate on transboundary ocean related issues, integrate marine policy areas, whilst encouraging other ocean nations to improve its own ocean management.

3. IMPLEMENTING THE TERRITORY-TO-TERRITORY PARTNERSHIP BETWEEN THE FALKLAND ISLAND GOVERNMENT INSTITUTE (SAERI) AND THE GOVERNMENT OF MONTSERRAT

A Memorandum of Understanding (MoU) was signed between the Joint Nature Conservation Committee (JNCC) UK, and the Government of Montserrat to provide technical assistance to facilitate a fisheries and oceans project. This Territory to Territory (T2T) project partnership between the Falklands Islands Government Institute (SAERI) and the Government of Montserrat (GOM), was aimed at transferring knowledge and skills from the South Atlantic to the Caribbean. This skills and knowledge transfer were focused on information management and marine spatial planning.

In addition, the project facilitated by the JNCC was also geared towards advancing and enhancing the GOM's data collection systems in accordance with best practices for sustainable governance and management and to transfer knowledge and skills from the South Atlantic to the Caribbean. Objectives of the project included assisting GOM to:

1. Formulate a data infrastructure appropriate to the islands needs to support its marine and terrestrial spatial planning in the context of environmental management and socio-economic development;
2. Improve the legal framework for sustainable management and use of the ocean resources; and
3. Formulate a strategy to implement Marine Spatial Planning and produce a Marine Spatial Plan in the context of environmental management and socio-economic development.

Under this MoU, JNCC continues collaborating with GOM and local stakeholders over the past decade in enabling the collection and recording of a robust fisheries and ocean resource evidence-based to support decision making processes and improved governance and management. The partnerships projects are highlighted in the web links below.

1. Territory to Territory (T2T) project; https://data.jncc.gov.uk/data/5c478eb3-c7d5-4e78-8b58-57f3b3250e9f/ot-nca-sup-cbn-11-mst-t2t-workshop-2016.pdf
2. Montserrat iVMS data: results of integration with landings data; https://data.jncc.gov.uk/data/95b562bb-f276-463d-a899-11a85c18adbf/ot-nca-sup-cbn-05-mst-ivms.pdf
3. Fisheries Data Collector Code of Conduct 2018; https://data.jncc.gov.uk/data/b58c41d0-6372-4a34-af65-ab1b5e25fbe4/ot-nca-sup-cbn-12-mst-fisheries-data-coc-draft-2018.pdf
4. Fishery data collection and integration strategy for underpinning sustainable fisheries management in Montserrat 2018; https://data.jncc.gov.uk/data/879ac41b-63a0-4981-afce-9d1e47b4da7d/ot-nca-sup-cbn-07-mst-data-int-strategy-draft.pdf
5. A National Ecosystem Assessment of the UK Overseas Territory Montserrat: Earth Observation Based Mapping and Interpretation 2018; https://data.jncc.gov.uk/data/64ae2a94-09df-4ff4-9b52-1e4e5534a5bf/ot-nca-sup-cbn-13-mst-nea-eo-may2018.pdf;
6. A National Ecosystem Assessment of the UK Overseas Territory of Montserrat: natural capital assessments, mapping and monitoring methods – Phase II 2019; https://data.jncc.gov.uk/data/b5490850-786d-42df-8c1a-b08b9a32dd79/ot-nca-sup-cbn-46-mst-nca-Oct2019.pdf
7. Using Evidence From Voluntary Fisheries Data Collection Programmes to Support Marine Spatial Planning and Resolve Multiple-Use Conflicts; https://www.frontiersin.org/articles/10.3389/fmars.2021.635890/full.

4. INTEGRATING VESSEL MONITORING SYSTEMS (VMS) IN ADVANCING THE FISHERIES AND OCEAN RESOURCES MANAGEMENT SYSTEMS FOR THE SOCIO-ECONOMIC BENEFITS OF FUTURE GENERATIONS.

For decades' knowledge of the spatial distribution and intensity of fishing and other ocean resources activities in waters under national jurisdiction lacked research, and as such was poorly understood by the appropriate authorities. The governance and management framework for commercially targeted species was based on catch and effort fishery dependent data.

These data when reviewed were deemed inadequate, unreliable and incomplete. Inaccurate fisheries and ocean resources data frequently lead to inconsistencies in the decision-making processes. In addition, the risks to safety of life at sea increase owing to the unknown position of fishers and their vessels during times of emergencies. These potentially tragic circumstances highlighted the need for the Government of Montserrat to support a Vessel Monitoring System (VSM) project which is ongoing.

Determined to improve the data management system, the Government of Montserrat in 2016 reached out to HMG, through the Joint Nature Conservation Committee (JNCC) to seek technical assistance and financial assistant to support the installation of VMS systems on all active fishing vessels. Under a memorandum of understanding, the JNCC has been collaborating with the Government of Montserrat and the fishing community to enable the collection of a robust fisheries and ocean evidence based to support future decision making, improved governance and management system.

The VMS system continues to support the Fisheries and Ocean Governance Unit and the Marine Search and Rescue Unit with accurate information to locate fishers and their vessels when they are in distress. Since the increase of the volcanic sand and aggregate mining industry in 2011, there have been an increase of fishing gears (traps) being lost due to the high volume of badges transiting through fishing areas.

The data collected over the past years are being used to identify the fishing areas and allowed marine planners to establish a shipping route for the tugs and barges to avoid these sensitive areas.

The fisheries and ocean resources management authorities have recognized that the implementation of VMS is a highly effective management, governance and enforcement tool which will improve health and wealth of the ocean resources. The data collected and analysed to date have improved knowledge and understanding of the spatial distribution native and non-invasive (lionfish) fish species, the socio-economic benefits of the fisheries sector, core high valued fishing areas, and evidence-based data to support future decision-making process in MSP.

Based on the findings of the analysis, the Government of Montserrat will be developing capacity, accuracy and consistency in its fisheries data collection and management systems, to better support future ocean related decisions. It is envisioned that in the future evidence-based data obtained from the new equipment will realize the benefits of:

1. A fully documented evidence-based fisheries;
2. Development and enactment new and updated oceans related legislation and policies;
3. Improving the accuracy and reliability of fisheries data infrastructure governance systems;
4. Ensure that GOM meet its international legal obligations in developing and implementing National Plan of Action to prevent, deter, and Eliminate Illegal, Unreported and Unregulated Fishing (NPOA−IUU); 5. Real-time monitoring of local fishing vessel activities and identifying;
5. Monitoring Control and Surveillance (MCS);
6. Improving the health and wealth of the oceans resources to support livelihoods;
7. Improve safety of life at sea
8. Identification of core value fishing areas;
9. A comprehensive socio-economic valuation of the fisheries sector in Montserrat;
10. Integrating vessel movement and evidence-based fisheries data as a governance tool to support the MSP component of the T2T partnership project.

Mandating the integration of VMS in the fisheries and ocean related governance system will become an essential tool geared towards improve data for marine management, spatial planning and valuing ecosystem goods and services, with the enactment of the New Draft 2022 Fisheries, Aquaculture and Ocean Resources Management Bill and Regulation.

5. ADVANCING THE FISHERIES AND OCEAN RESOURCES POLICY AND LEGAL FRAMEWORK

The Government of Montserrat has received support from the United Nations Environment Programme (UNEP) to draft comprehensive fisheries legislation in keeping with recent regional commitments and undertakings. To support this New Draft 2022 Fisheries, Aquaculture and Ocean Resources Management Bill and Regulation, a New Draft Management Plan was developed through a Darwin funded project in collaboration with The Caribbean Natural Resources Institute (CANARI) and the Centre for Resource Management and Environmental Studies (CERMES).

The Ministry of Agriculture, Lands, Housing and the Environment in 2019, requested technical assistance from the Commonwealth Secretariat (COMMSEC) in the development of the National Ocean Policy (NOP) and Strategic Action Plan (SAP) for the Government of Montserrat. The aim is to effectively strengthen ocean governance harmonized with regional and international standards and obligations.

Figure 4. iVMS information

COMMSEC through the Commonwealth Fund for Technical Cooperation (CFTC) provide financial and is currently providing technical assistance to the Government of Montserrat. This assistance was centered around:

(1) The development of an Ocean Policy, aimed at effectively strengthening ocean governance, including future development of a Marine Spatial Plan, and

(2) A Legislative and Policy Review to ensure National Policies and laws are harmonised with regional and international standards and best practices.

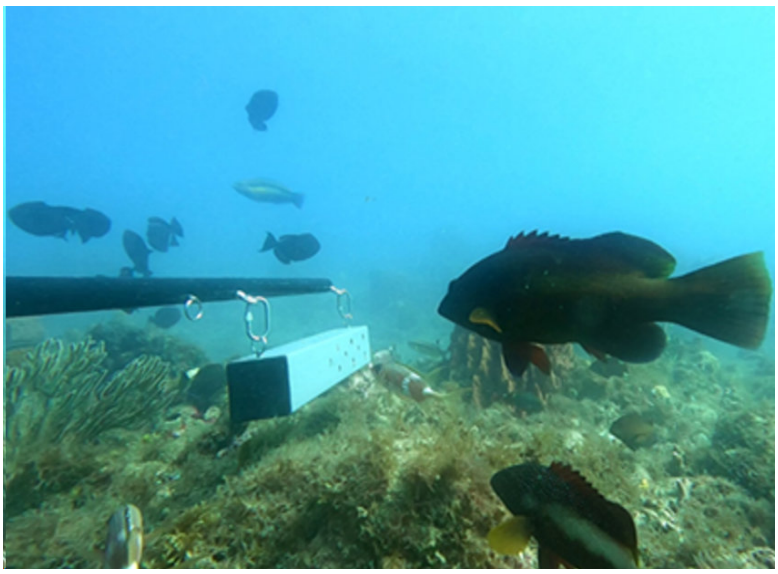

Figure 5. Underwater habitat captured by BRUVs

A Draft New National Ocean Policy (NOP), Strategic Action Plan (SAP) and ToR for the establishment for a National Ocean Governance and Advisory Committee (NOGAC) was developed and submitted to the Government of 2023 in for further actioning at the national level.

6. GOVERNMENT OF MONTSERRAT JOINS THE GLOBAL GHOST GEAR INITIATIVE TO PREVENT ABANDON, LOST, DISCARDED, FISHING GEARS (ALDFG) IN WATERS OF NATIONAL JURISDICTION

The UK Overseas Territory of Montserrat, in March 2019 became the fourteenth global Government to become a member of the Global Ghost Gear Initiative (GGGI), and first Caribbean Community (CARICOM) to pledge official support for the GGGI.

The GGGI, lends synergy with the Government of Montserrat effort to advance its paradigm shift in improving the governance and management of its fisheries and ocean resources, including support for Montserrat's 2016 – 2021 Agriculture Strategy and Marketing Plan. As a result, the Government of Montserrat embarked on an ambitious program to reverse ocean degradation due to the current and emerging critical issues such as plastic pollution from various sources including fishing gear. This vision is being made possible through collaboration with strategic development partners such as the GGGI with shared goals, as well as adequate and sustainable long-term financing.

The Government of Montserrat was approached by the GGGI through the Gulf and Caribbean Fisheries Institute (GCFI) to potentially implement a predictive model and fisher survey analysis for Montserrat under a grant from the Government of Canada – Department of Fisheries, Oceans and the Canadian Coast Guard. GGGI member Natural Resources Consultants (NRC) was contracted to create this desktop analysis and predictive model. This study conducted by NRC, consolidated and overlaid various data sets on oceanographic and benthic conditions as well as fisheries effort data from Montserrat, which created a baseline understanding of the conditions that might lead to gear loss.

These fisher surveys and predictive model provided the Government of Montserrat a clearer insight into the ALDFG situation in Montserrat and as a result will inform Policy-makers in the evidence-based decision-making processes in ocean resources governance and management to prevent, mitigate and remediate ALDFG within waters of National Jurisdiction.

This is seen as the first critical step toward implementing future ALDFG-related work, and the Government of Montserrat is looking forward to working proactively with the GGGI to implement future ALDFG projects based on the outcomes of the predictive model.

The ultimate goal of these efforts is to reduce ALDFG with knowledge based and technological solutions and working with fisherfolk on the ground. Montserrat's objectives are to collaboratively promote, protect and unlock further socio-economic opportunities, while restoring the ocean back to the healthy and prosperous resource that we really need, and The GGGI is helping us to achieve these goals.

7. A TECHNOLOGICAL TRANSFORMATION IN OCEAN GOVERNANCE AND MANAGEMENT

For decades, uncontrolled practices have constituted an alarming and dangerous source of ocean ecosystems degradation. With projected rapid continual growth in the ocean sector, if left unmanaged, these activities can have detrimental environmental and social implications. However, there is good news The Government of Montserrat is committed to embrace the United Nation's Sustainable Development Goal Target SDG 14 which specifically calls for Governments to significantly restore the ocean ecosystems services to what we want.

As such, the Government has embarked on various ambitious capacity program to reverse the ocean degradation through the development and implementation of evidence-base scientific novel projects. This has been made possible in collaboration with strategic development partners to include His Majesties Government (HMG) with shared goals, adequate and sustainable long-term financing.

Funded as part of the UK Government Blue Belt programme, the Government of Montserrat in 2021 joined the Global Ocean Wildlife Analysis Network, as part of the UK Government Blue Belt Programme. The aim was to improve understanding of the ocean environment, whilst providing accurate evidence-based data that will ultimately help us ensure the ecosystems are protected and management for future generations.

In collaboration with CEFAS, the Government continues pioneering a progressive paradigm shift in improving understanding and valuing its coastal and ocean ecosystems with the use of modern and emerging technologies to include Baited Remote Underwater System (BRUVS), https://youtu.be/y6SeOgr1DKA . Led by the Principle local point Alwyn Ponteen, Chief Fisheries and Ocean Governance Officer (CFOGO), the UKOT of Montserrat became the first of the eleven (11) UKOTs, to trial the new BRUVS ground-breaking project across the ocean environment.

The new underwater camera systems trialed across Montserrat ocean environment forms part of the new global ocean wildlife analysis network. The Blue Abacus team throughout the ocean survey provided invaluable online and on-the ground training support with assembling, deploying the equipment and retrieving and analyzing the data collected. Several research mid-water and benthic surveys were conducted along the west to north at depths ranging from 50 – 130 feet below the surface.

Preliminary insights and data gathered with the use of modern and emerging BRUVS technology have provide invaluable knowledge and understanding of the biodiversity of the ocean. The evidence-based data collected to-date has begun to help ensure that the management and protection of ocean biodiversity in waters of national jurisdiction.

The unknown became known. What we thought we knew about the ocean biodiversity and the benthic environment in waters of national jurisdiction, became known with evidence-based information. For over two (2) decades, the marine environment has been significantly impacted by volcanic related activities (1995 – 2023, ash deposits and mudflows).

Videos retrieved from the BRUVS camera brought to light the significant impacts that the deposits are having on the reef ecosystems and habitat. As such, areas that fishers indicated was rich in biodiversity no longer exits, as the reefs are covered and food and protection for various species is sparse. Areas of reef ecosystems that existed in the past are now covered also with volcanic ash and seagrass. As such, marine species would therefore migrate to other areas to

survive. The use of new emerging technologies including BRUVS, has allow data relevant for the management and conservation of a range of species and habitats to be collected in a consistent, comparable and statistically robust manner. The collection of these data through a coordinated BRUV network allowed the Government of Montserrat to begin achieving some of its existing management and monitoring objectives.

Figure 6. Sea bed bruvs

In addition, it has increased knowledge and understanding of connectivity biodiversity and ecosystems management, thereby increasing capacity to develop evidence informed oceanic scale management and protection strategies. The Global Ocean Wildlife Analysis Network, with the use of the BRUVS, lends synergy and complement other ongoing ocean management, governance, development and conservation projects in Montserrat. Use of BRUVS in the future can improve:

1. Understanding and knowledge ocean biodiversity to support stock assessment;
2. Monitoring of native, non-native/invasive species, lionfish etc.;
3. Volcanic sediment drift along the coast; Reef checks – Stoney Coral Disease;
4. Locate ALDGF;
5. Monitor pollution material on the ocean floor;
6. Collection of data to support an adaptive and evidence base Marine Spatial Plan;
7. Support the establishment of shipping lanes;
8. Development of habitat maps; Establishment of marine sensitive areas.

CONCLUSION

Incorporating the invaluable contribution by each credible development partner highlighted above in developing and strengthening the institutional and legal framework of ocean governance and management at the national level has:

- Built human and institutional tools and skills to develop and implement the appropriated legal and policy framework required for effective ocean governance, whilst contributing to socioeconomic opportunities within the sector;

- Effectively updated Montserrat National Ocean Policies and Laws and realign them with the 2030 UN Development Goals, especially SDG 14: Conserve and sustainably use the oceans, seas, and marine resources for sustainable development - Life Below Water.

- Provided technical support to the Government of Montserrat and the United Kingdom Government in its effort to finalize boundary delineation negotiation between neighboring states and develop a workable Marine Spatial Plan (MSP).

- Ensure National Policies and Laws are harmonised with regional and international agreements, standards and best practices.

- In addition, they will be designed to facilitate transboundary cooperation, monitoring and assessment, planning, management, and decision making.
- Improve the data collection, recording and reporting management systems.