



Republic of Mauritius

**MINISTRY OF BLUE ECONOMY, MARINE RESOURCES,
FISHERIES AND SHIPPING**



**ANNUAL PERFORMANCE REPORT
FOR FINANCIAL YEAR 2021/22**



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Statement from the Honourable Minister

I am pleased to present the Annual Report for the Ministry of Blue Economy, Marine Resources, Fisheries and Shipping for the Financial Year 2021-2022.

In the wake of the global COVID-19 pandemic and adverse effects of the Russian-Ukraine war, the Blue Economy is poised to become an important sector to contribute to food and nutrition security, job creation and wealth generation with sustainability being at the heart of socio-economic development in line with Government's strategies.



The main strategy and policy of the Ministry of Blue Economy, Marine Resources, Fisheries and Shipping is to develop the Blue Economy as an economic pillar of Mauritius with the objective of doubling its contribution to GDP by 2025 by tapping into the economic potential of the ocean while at the same time protecting the aquatic resources.

With a view to enhancing fish stocks in the lagoon and as a measure to adapt and mitigate against the impacts of climate change, the Marine Ranching Programme is being continued whereby a total of 105,000 sea bream fingerlings produced in the hatchery at the Albion Fisheries Research Centre were released at five sites around the island and in the Marine Parks.

As an incentive to fish farmers and in order to boost aquaculture production, berri rouge fingerlings were partly sold or distributed free of charge to small scale fish farmers and individuals for aquaculture activities in tanks/small size ponds and for culture in an aquaponic system. In the same vein, a total of 300,000 freshwater prawn juveniles produced in the hatchery at the AFRC were partly stocked in ponds at AFRC to constitute the future brood stock.

The Fisheries Protection Service of the Ministry pursued the monitoring of fish landings at the fish landing stations around the island of Mauritius to curb illegal fishing. A total of 1,530 units of seized fish specimens were brought to the AFRC for examination and reports were submitted to the National Coast Guard, Fisheries Protection Service, Anti-Piracy Unit, the Laboratories Division and Mauritius Police Department for prosecution, in alleged illegal fishing cases.

Protection and conservation of marine aquatic organisms are one of the main objectives of the Fisheries Division. In this respect, fishing of octopus was closed from 15 August to 15 October and from the 15 January to 15 March to ensure the preservation and sustainability of this resource.

The total fish production was 28,400 tonnes. The total catch in the coastal fishery was 1,156 tonnes, including both from artisanal and amateur fishermen. The FAD fishery produced 190 tonnes. Banks fishery produced a total of 948 tonnes of fresh/frozen



fish. The pelagic fishery produced some 23,638 tonnes tuna and associated species. The total production from Aquaculture was 2,468 tonnes.

According to figures from the Statistics Mauritius, some 120,000 tonnes of fish and fish products valued at about Rs. 9.897 billion were imported and 78,608 tonnes of seafood products valued at Rs. 12.849 billion were exported, resulting in a positive trade balance of Rs.2.952 billion.

In order to gather scientific data on the vital habitats and ecosystems, the long-term monitoring of coral reefs was carried out at established sites namely Ile aux Benitiers, Bel Ombre, Trou d'Eau Douce, Le Goulet and Pointe aux Sables between July was continued.

In addition to the coral nurseries at Blue Bay Marine Park and Trou aux Biches, two new coral nurseries have been established at Mon Choisy and Eau Bleue. Under the project of "Assistance scheme for coral farming and fish breeding" for fishers, four regions have been selected around Mauritius for setting up of coral nurseries. Around 270 trainee fishers and 70 trainer fishers have been registered for the project. Theoretical training of trainers and trainees has already started and registration is ongoing.

As part of its research activities on coral farming, coral samples were collected at five sites around Mauritius and three sites around Rodrigues for genetic analysis under the UNDP funded project "Restoring Marine Ecosystem Services by Restoring Coral Reefs to Meet a Changing Climate Future".

A Letter of Agreement was signed between the Ministry and the Nairobi Convention for Small Scale Funding Agreement (SSFA) in November 2021. The project is being made possible with the help and funding from the United Nations Environment Programme (UNEP) Nairobi Convention under their scheme "Implementation of the Strategic Action Programme for the protection of the Western Indian Ocean from land-based sources and activities (WIO-SAP)". To date, island-wide seagrass surveys, comprising ground-truthing, species composition and distribution have been completed around Mauritius. The surveys were carried out in 21 sites.

At present, the area under mangroves' cover around Mauritius is around 243 hectares. This area includes both planted and naturally regenerated mangroves. Two sites were identified at Le Morne namely Coteau Raffin and Batterie Cassé for planting of 9,000 mangrove seedlings.

In the context of the oil spill from MV Wakashio and the aft removal operations at Pointe d'Esny, the monitoring program for hydrocarbon contamination in seawater, marine sediment and fish was continued. The results of the analyses were used for decision making concerning the re-opening of fishing activities in the region from Pointe Canon to Vieux Grand Port and the lifting of restrictions in the region at Pointe d'Esny and Pointe Jerome.

In its effort to address the long-term impacts of the Wakashio oil spill, an Integrated Environment Monitoring Programme (IEMP) is being implemented. 19 permanent monitoring sites have been set up in mangroves areas and sediment cores were taken and sent to an accredited laboratory for analysis of residual content of petroleum



hydrocarbon. 24 new long-term monitoring stations that were established in the South-Eastern region were also monitored twice after the oil spill.

Mauritius has again been impacted by the grounding of other vessels during the year. The Ministry was better prepared to address the challenges arising from these ship wreckages. 100 seawater samples were collected in the context of the monitoring exercise initiated on 25 August 2021 to assess the possible presence of oil and grease arising from the Fishing Vessel Ruey Chien Tsai 112 which caught fire on the night of 24 August 2021 in the Port Louis harbour.

157 seawater samples were collected along the shoreline, lagoon and off-lagoon in the region of Pointe aux Sables and analysed for physico-chemical parameters including oil and grease following the grounding of Fishing Vessels Le Wen Hung Dar 168, Maan Yu Feng 168 and Maan Yu Feng 1 on 23 February 2022 at Pointe aux Sables.

As part of its strategy to replace retired fishermen and those voluntarily submitting their fishermen cards, the Ministry has undertaken to train 500 fishermen. A total of 210 fishers were trained in the “General Course for Fishers”. 15 FADs were replaced and there were 15 active FADs as at June 2022. The Ministry is presently proposing the use of a new type of FAD namely the single-buoy FAD which is more ocean-resistant and has more features.

One licence was issued to a bank fishing vessel active in the industrial bank’s fishery. 28 licences were issued to boats engaged in semi-industrial fishery. One fishing licence was issued to a new boat operating in the Advanced Coastal Fishery. Four licences were issued to purse seiners and supply vessel active in the pelagic fishery. 78 foreign Fishing Licences/Extension Licences were issued in respect of longliners not operating under Fishing Agreements. 96 Licences were issued to boats operating under different Fishing Agreements. 16 letters of Intent were issued to fishing promoters in respect of new fishing development projects.

An Interim Bilateral Fishing Agreement was signed between Mauritius and Seychelles for fishing in each other’s waters in April 2022 valid for a period of one year. Under the new Agreement, 15 Mauritian purse seiners and 20 Mauritian tuna long liners can undertake fishing operation in Seychelles waters.

I thank all the staff of my Ministry for their commitment in the face of the challenging year and hope they renew and multiply their efforts to overcome the future challenges.

Honourable Sudheer Maudhoo
Minister of Blue Economy, Marine Resources, Fisheries and Shipping



Statement from the Acting Permanent Secretary

I am deeply honoured and pleased to be associated with the publication of the Annual Report on Performance of the Ministry of Blue Economy, Marine Resources, Fisheries and Shipping for the Financial Year 2021-2022.

I fully acknowledge the contribution and dedication of the staff of the Ministry, including the Shipping Division, the Fisheries Division, the Fisheries Protection Service, the Competent Authority and the other institutions falling under the purview of the Ministry, in ensuring the timely and efficient implementation of the projects and initiatives of this Ministry.

With Ocean Economy identified as one of the pillars of its economic development, the Ministry of Blue Economy, Marine Resources, Fisheries and Shipping plays a pivotal role in leading to the transformation of Mauritius into a high-income economy by 2025 and for achieving more economic development in line with the 2030 Agenda of Sustainable Development. The Ocean Economy has assumed a prominent role, especially post Covid 19.

The release of the Annual Report on Performance of the Ministry for the Financial Year 2021-2022 takes us one step closer to disseminating our activities, achievements and challenges, particularly in the “Maritime Century” and in the face of an erratic environment.

During the Financial Year 2021-2022, the Ministry of Blue Economy, Marine Resources, Fisheries and Shipping has enjoyed numerous achievements, although challenges were too many.

On another score, the Ministry has, through several meetings with various key stakeholders and officers of the Ministry, initiated the process for the drafting Roadmap for the implementation of the Blue Economy in Mauritius.

Lastly, I convey my appreciation to the staff of the Ministry for their commitment, devotion and commendable accomplishments during the period under review as well as the editorial team of this report.

I wish you a pleasant reading.

Mr R. K. BUNJUN
Acting Permanent Secretary



Part I – Overview of the Ministry

Vision and Mission

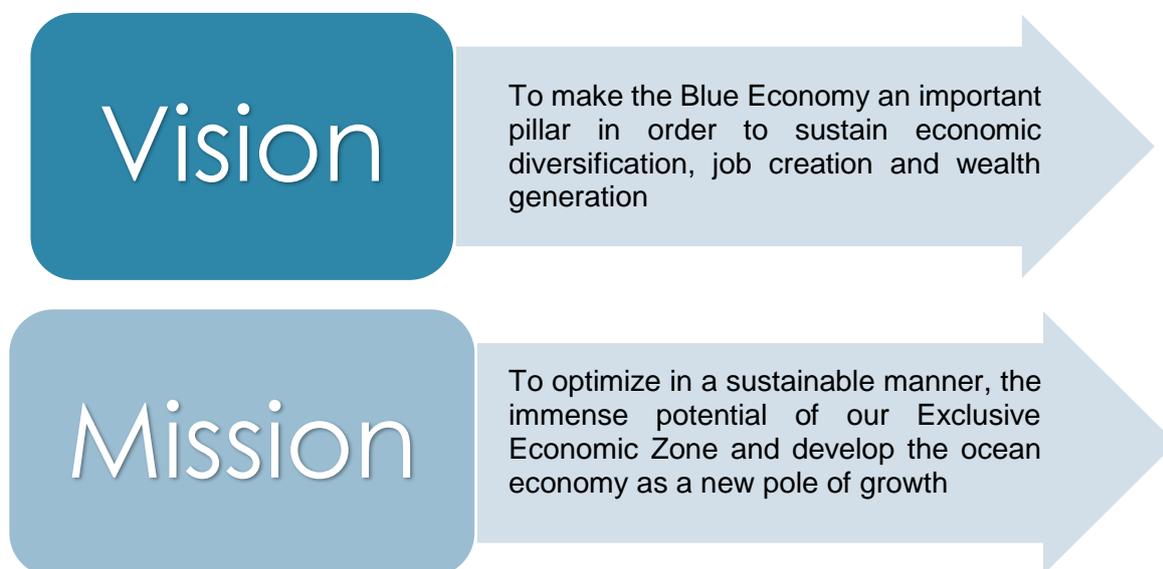


Figure 1 – Vision and Mission of the Ministry

Key Objectives

- To ensure long-term benefits of the sustainable use of marine resources;
- To develop local capacity in the blue economy;
- To improve ocean hazards management for greater climate resilience;
- To enhance efficiency as a Maritime Safety Administration.



Core Values



Figure 2 - Core Values of the Ministry

Strategy and Policy

Develop the Ocean Economy as an economic pillar of Mauritius with the objective of doubling the contribution of the Blue Economy to GDP by 2025 by tapping into the economic potential of the ocean while at the same time protecting this resource.

Our Customers

The customers of the Ministry are the fisher community comprising artisanal fishers, semi-industrial fishing operators, fishers involved in aquaculture projects, amongst others, the fishing industry, ship owners, shipping agents, seafarers' welfare associations, the maritime industry, maritime training institutions, oceanography experts, coastal zone users, non-governmental organisations, the public sector, the private sector, researchers, students, international partners/lending institutions and the public at large.



Services offered by the Ministry

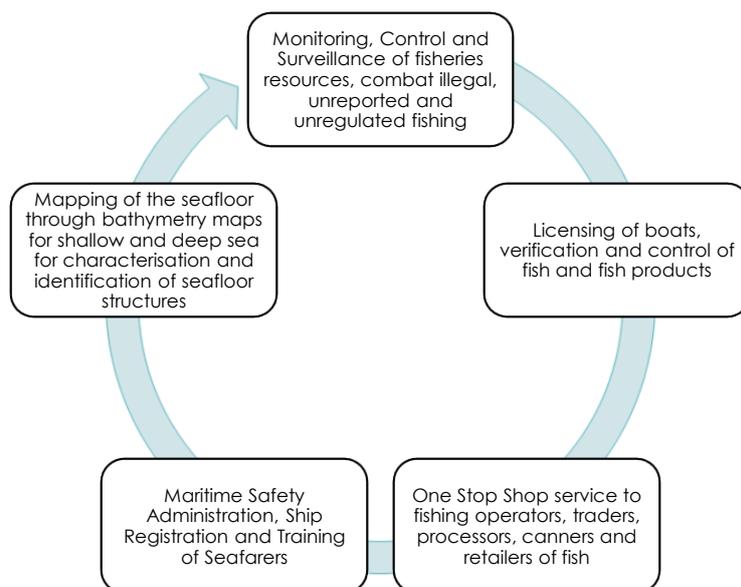


Figure 3 - Services offered by the Ministry

Blue Economy

Mauritius is focusing on the Blue economy as a new frontier for development. The government of Mauritius is endeavouring to make its nation fully aware of its potential as a coastal state and Blue economy is believed to create more jobs and economic development in the future.

In 2015, the Ministry of Ocean Economy, Marine Resources, Fisheries and Shipping had been set up in line with Government’s vision to make the ocean economy an important economic pillar to sustain economic diversification, job creation and wealth generation. In 2019, the Ministry was renamed Ministry of Blue Economy, Marine Resources, Fisheries and Shipping.

The Government in its “Vision 2030” strategy has clearly stated the vision to transform Mauritius into an Ocean State by promoting ocean/blue economy as one of its main pillars of development.

Presently, the Blue economy is driven by established sectors, namely coastal tourism, fishing, seafood processing, aquaculture, shipping and port-related services. New sectors include sea bed explorations, ocean based energy and maritime digitization, amongst others.



Departments

Fisheries Division

The Fisheries Division is the technical arm of the Ministry and is headed by the Acting Director of Fisheries. The latter oversees the different divisions within the Fisheries Division as detailed hereunder. The Fisheries Division is responsible for the development of the fisheries sector, the training of fishers, the provision of fishing licences, monitoring and combatting Illegal, Unregulated and Unreported (IUU) fishing and the regulation of import and export of fish and fish products.

The Fisheries Division comprises eight sub-divisions, namely the Aquaculture Division, Marine Resources Division, Marine Science Division, Marine Conservation Division and Laboratories Division based at the Albion Fisheries Research Centre (AFRC), Fisheries Training and Extension Centre, Planning and Licensing Division based at the Head Office, MCS/VMS/Port State Control and Import & Export Division based at the Seafood Hub.

The Albion Fisheries Research Centre (AFRC)

The AFRC was set up in 1982 with the assistance of the Government of Japan. It carries out applied research, development and management activities through specific divisions, namely Aquaculture Division, Marine Resources Division, Marine Science Division, Marine Conservation Division and Laboratories Division.



Aquaculture Division

The Aquaculture division is responsible for the promotion and development of aquaculture with a view to increase fish production through research on different marine and freshwater species. It is also involved in the dissemination of information on aquaculture and provision of technical advice and support to different stakeholders.

The Aquaculture division is also responsible for:

- transfer of aquaculture techniques to fish farmers for the production of different fish species and improvement of aquaculture techniques for quality seed production;
- production of fish fingerlings for stock enhancement in the lagoon;
- appraisal of aquaculture projects;
- providing technical assistance to promoters; and
- monitoring aquaculture projects.



Marine Resources Division

This division is responsible for carrying out research, development and management of the fishery resources in a sustainable manner for the benefit of all stakeholders of the fisheries sector and the public at large. It is also responsible for development activities aimed at increasing knowledge on the fishery resources found in our Exclusive Economic Zone (EEZ) with a view to enabling its sustainable utilisation. The Marine Resources Division deals with the Coastal Fishery, Pelagic Fishery and Offshore Demersal Fishery projects.

(i) Coastal Fishery

- monitoring, sampling and estimation of coastal catch data around the island of Mauritius;
- processing data for the Producer's and Consumer's Price of fish;
- computation of fishery-dependent and fishery-independent variables such as the number of fishing days and the catch per fishermen day;
- identification and examination of seized fish specimens and submission of reports to allow prosecution of defaulters by the Fisheries Protection Service and Police;
- identification and examination of fish specimens submitted by the Laboratories Division;
- biological analysis of commercial fish specimens to determine sex of fish and gonad maturity stage; and
- sampling of octopus specimens island-wide to determine sex, weight and mantle length, during pre-closure, opening and post-opening of the closed seasons for octopus fishing.

***(ii) Pelagic Fishery***

- keeping a record of logbook data from licensed longliners and purse seiners unloading in Mauritius as well as transshipment data by licensed and non-licensed vessels;
- collection, verification and processing of catch and effort data received from local and foreign licensed vessels;
- sampling of tuna and tuna like species during unloading of tuna fishing vessels;
- analysis of tuna data for the study of exploitation rates, species composition, stock structure and spatial distribution;
- co-operate at a regional level in the management of tuna and tuna-like resources;
- submission of tuna fishery statistics to the Indian Ocean Tuna Commission (IOTC) as per calendar; and
- implementation of IOTC Conservation and Management Measures.

(iii) Offshore Demersal Fishery

- collection and analysis of catch and effort data from logbooks and estimation of yield;
- sampling of the main fish species on landing at the port for analysis of biological parameters; and
- assessment /monitoring of Maximum Sustainable Yield and setting of Total Allowable Catch for the different banks and quota allocation to fishing operators.



Marine Science Division

The Marine Science division is responsible for:

- the long-term protection and conservation of coastal marine ecosystems for ecosystem resilience and sustainable use of marine resources;
- sustainable development and management of coastal areas; and
- projects regarding mangroves propagation, seagrass mapping and blue carbon around the island, marine turtles' conservation, stranded marine mammals/turtles, climate change adaptation and scientific research.

Main activities:

- (a) long-term coral reef monitoring at selected sites around the island;
- (b) hosting of the Coral Reef Network;
- (c) mangrove Propagation Programme in collaboration with NGOs;
- (d) mangrove sensitization campaign;
- (e) carry out Integrated Environment Monitoring Plan icw Wakashio Oil Spill;
- (f) seagrass mapping around the island;
- (g) blue carbon assessment in seagrass meadows;
- (h) monitoring Crown-of Thorns (COTs) outbreaks in Mauritius;
- (i) conducting underwater ecological surveys to provide views in connection with tourism seabased activities and coastal development works;
- (j) assessing requests for marine scientific research, film shooting and other projects icw ocean matters and marine mammals/ turtles and marine ecosystem;
- (k) attending to cases of stranded marine turtles/mammals;
- (l) treating and rehabilitating of injured turtles;
- (m) coastal area development and coastal erosion;
- (n) stakeholder in the Integrated Coastal Zone Management;
- (o) participating in Commonwealth Blue Charter champion groups; and
- (p) hosting of International delegations.



Marine Conservation Division

The Marine Conservation division is responsible for the long-term protection and conservation of marine bio-diversity and habitats for sustainable use while maximizing economic and social benefits derived from the coastal zone.

Main activities:

- managing Marine Protected Areas (MPAs) and monitoring of permissible activities in the Blue Bay Marine Park and other MPAs around the island of Mauritius;
- monitoring state of corals, seagrass and associated biota, through field and underwater surveys;
- conducting underwater ecological surveys for coastal development and tourism related projects;
- assessing Environmental Impact Assessment (EIA) applications and Preliminary Environmental Reports and submission of appropriate recommendations to the Ministry of Environment, Solid Waste Management and Climate Change and representing the Ministry at the statutory EIA Committee;
- carrying out Post Environmental Impact Assessment monitoring for projects along the coast as an enforcing agency;
- regulating permissible activities through the issue of permits for the Blue Bay Marine Park and interference permits for Marine Protected Areas;
- providing views and recommendations on projects, in the vicinity of or within wetlands, to the National Ramsar Committee; and
- sensitization of members of the public on MPAs, sustainable development and use of the coastal zone.



Laboratories Division

This division comprises three Laboratories namely Marine Chemistry, Marine Microbiology and Fish Toxicity, and the Quality Control Unit. The division is committed to instil the highest standard of quality for the testing of seawater, the screening of fish for toxicity and dispensing associated services in view of monitoring, protecting, conserving marine resources and safeguarding public health. The Marine Chemistry and Marine Microbiology Laboratories of the Division are accredited to MS ISO/IEC 17025:2017.

Main activities:

- perform tests, monitor and provide scientific information on seawater quality, marine sediment and biota for a sustainable coastal zone management and to ensure the safety of lagoon waters for recreational purposes;
- provide information and initiate appropriate measures in cases of fish kills and marine pollution;
- screen fish deemed to cause fish intoxication and conduct toxicity tests for ciguatoxin and other bio-toxins in fish and fish products;
- monitor the density of harmful marine microalgae and occurrence of harmful algal blooms; and
- carry out public awareness campaigns on harmful marine microalgae, algal blooms and toxic fish poisoning.



Fisheries Training and Extension Centre (FiTEC)

FiTEC caters for the various training needs of the fishing industry, carries out research and trial fishing for untapped resources. FiTEC also designs, develops, sets, re-sets and maintains Fish Aggregating Devices (FADs) for the benefit of artisanal fishers thereby encouraging fishing around the FADs where fish is more abundant and also allows the marine ecosystems within the lagoons to rehabilitate and increase the supply of fresh fish on the market.

The objectives of the FiTEC are to:

- provide basic knowledge and skills to new entrants for a career in the fishing industry;
- upgrade the knowledge and skills of fishermen to operate in the off-lagoon area;
- encourage use of effective and efficient fishing techniques;
- promote production and supply of safe and quality sea food;
- educate fishermen to develop safety at sea culture;
- create awareness on the protection and conservation of the marine environment; and
- foster the ecosystem approach in fisheries for sustainability.

FiTEC offers the following training courses for fishers and fishmongers:

- The General Course for Fisher (GCF): to provide artisanal fishers with basic knowledge and skills to fish outside the lagoon and around Fish Aggregating Devices in an efficient, responsible and safe manner.
- Fish Handling, Preservation and Marketing for fishmongers: to provide licensed fishmongers with the knowledge and abilities to maintain the freshness and quality of fish sold so as to ensure that the fish is safe for human consumption.
- Fish Aggregating Devices (FADs) fishery training course: to address the training needs of registered fishers willing to leave the lagoon and venture out for off lagoon fishing. It also targets fishers interested to upgrade their fishing skills around FADs. After completing this training course, the fishers are able to safely and efficiently fish pelagic species in the open sea around FADs, using new fishing techniques.



MCS/VMS/Port State Control and Import/Export Division

Monitoring Control Surveillance (MCS) / Vessel Monitoring System (VMS) / Port State Control Unit

This unit is responsible for the implementation of conservation and management measures to:

- combat Illegal, Unreported and Unregulated (IUU) fishing;
- keep the port free of illegal fishing boats/vessels;
- ensure that only legally caught fish are traded;
- ensure a continuous supply of safe fish and fish products for local consumption; and
- monitor licensed fishing boats/vessels in the EEZ of Mauritius through the VMS.

Import/Export Unit

The Import/Export Unit mainly controls the import and export of fish and fish products to ensure that:

- good quality and wholesome fish and fish products are marketed in the country;
- there are fair trade practices;
- the products intended for import or export do not originate from illegal sources; and
- imported fish and fish products conform to international requirements (WTO, Codex Alimentarius and the EU).



Planning and Licensing Division

Planning Unit

The Planning Unit is responsible for planning and implementation of fisheries policies as well as the compilation and processing of information in the fisheries sector. Its main activities include:

- drafting and reviewing of fishing agreements and Memorandum of Understanding (**MoU**) for cooperation in the fisheries sector;
- coordinating with the seafood processing sector and other stakeholders; and
- following-up actions on international fisheries negotiations.

Licensing Unit

The Licensing Unit is mainly responsible for the processing and issue of fishing licences in respect of local and foreign fishing vessels. Local fishing vessels operate in industrial banks fishery, semi-industrial chilled fish fishery and industrial pelagic fishery (purse seine fishery).



Competent Authority Seafood

The Competent Authority Seafood (CASF) is responsible for the inspection and certification of fish and fish products for export primarily to Member States of the European Union (EU) as well as to non-EU countries.

Its activities are governed by the Government Notice 147 of 2009 (Export of Fish and Fish Products Regulations), Government Notice 204 of 2010 (Export of Fish and Fish Products [Amendment] Regulations) and Government Notice 209 of 2012 (Export of Fish and Fish Products [Amendment] Regulations) under the Fisheries and Marine Resources Act 2007. The activities include:

- registration of Fish Business Operators (processing plants, cold stores, freezer vessels, reefer vessels, aquaculture farms, exporters etc.) involved directly or indirectly in the export of fish and fish products to EU and non-EU countries;
- issuance of Export Veterinary Health Certificates for all consignments of fish and fish products according to the importing country's requirements;
- inspection of consignments of fish and fish products for compliance before export to EU and non-EU countries;
- official audits, routine/follow-up/ad-hoc inspections of approved facilities for verification of compliance with national legislations and importing countries' requirements;
- inspection of fishing vessels providing raw materials to registered processing plants prior to departure for fishing campaign;
- inspection of landing sites for whole brine-frozen tuna and pelagic/demersal fish;
- sampling of water, ice, fish and fish products from each EU-approved facility for analysis in a designated laboratory as per EU regulations;



Competent Authority Seafood (ctd)

- preparation of a national residue monitoring plan for aquaculture products on a yearly basis for approval by the Health and Consumers Directorate-General of the European Commission (DG SANTE);
- control of imported live fish larvae meant for aquaculture at all stages from point of entry, transfer to nursery, transfer to sea cages, harvesting and transfer to processing plant;
- control of imported live fish brood stock meant for aquaculture at all stages from point of entry, transfer to quarantine facilities and transfer to brood stock farm;
- control of imported live ornamental fish at point of entry and quarantine premises;
- inspection and approval of quarantine facilities of registered ornamental fish importers and follow-up during quarantine period;
- regular monitoring of fish growth at hatchery, nursery and cage level on aquaculture farms; and
- approval of Veterinary Medicinal Products' prescriptions before being administered to farmed fish by registered aquaculture farms and ornamental fish establishments.



Fisheries Protection Service

The Fisheries Protection Service (FPS) is responsible for the enforcement of fisheries legislations and monitoring of the fishing and fishing related activities for the protection and conservation of fishing resources. The FPS comprises 14 fisheries posts (Figure 4) and oversees 61 fish landing stations around the island of Mauritius (Figure 5). The FPS also operates one Fisheries Post in Agalega.

Main activities:

- coast and afloat patrols, including participation in joint surveillance programme in the Exclusive Economic Zone of the Republic of Mauritius;
- supervision of 61 fish landing stations, sale points and fishing port;
- collection of fisheries data;
- registration and documentation of fishers/fishing boats;
- issue/renewal of net fishing and fishmongers' licences;
- issue of clearances for importation of fish and fish products at the SSR International Airport and at the port;
- secure fishing gears during closed period for net fishing;
- monitoring of activities in the Marine Parks; and
- prosecuting Court cases.



Figure 4 - Fisheries Posts of the Ministry



Figure 5 - Fish Landing Stations around Mauritius



Shipping Division

The Shipping Division is responsible for Maritime Safety, Security, and Prevention of Pollution of the Marine Environment from ships, thus facilitating and providing a policy environment for maritime business in Mauritius.

It ensures compliance with International Maritime Laws and Conventions and also acts as the Maritime Administration responsible for ensuring that all vessels registered under the Mauritius Flag and all foreign vessels plying in the Mauritian territorial waters comply with international standards and for the development of the Mauritius Shipping Sector.

To maintain the status of Mauritius on the IMO STCW "White List", the Shipping Division has implemented the new provisions of ISO 9001:2015 standards and transited to ISO 9001:2015 in March 2018. The Division has been recertified by the Mauritius Standard Bureau on 11 April 2021 and the first Surveillance audit was conducted by the Mauritius Standard Bureau on 28 April 2022.

Some of its objectives are as follows:

1. To ensure that Mauritian Seafarers meet the highest possible standard of competence as specified in the STCW Convention.
2. To ensure the authenticity of certificates of competency issued by Foreign Administrations to seafarers working on Mauritian vessels.
3. Certification of Seafarers: Examination and certification according to requirements of the STCW Convention.
4. Registration of Ships: Registration of vessels under the Mauritius flag within three working days, if all documents submitted including certificates/surveys are in order.
5. Inquiries into casualties affecting ships: Report of preliminary inquiry completed within seven days after completion of inquiry.
6. Survey and certification of fishing and non-convention size vessels: All processes completed within two weeks, if vessel is seaworthy.
7. Approval and Monitoring of Maritime Training Institutions/ Courses.



Mauritius Maritime Training Academy

The Mauritius Maritime Training Academy (MMTA) previously known as the Sea Training School is mandated to provide quality maritime training in line with international standards. Training courses are provided in accordance with the Merchant Shipping (Maritime Training Provider) Regulations 2018 and guidelines issued by the Shipping Division.

The MMTA provides training to all categories of ratings for merchant and fishing vessels and for personnel working in the catering/hospitality department of passenger/cruise vessels. Additionally, the MMTA dispenses officer courses for fishing vessels of 24 metres in length and over and fishing vessels with propulsion power up to 1500 KW, namely Skipper, Second Hand, Chief Engineer and Second Engineer. The MMTA is ISO Certified (ISO 900: 2015).

Regular courses delivered to prospective Seafarers are as follows:

- Basic Safety Training;
- Crowd Management and Safety Training for personnel providing direct services to passengers in Passenger Spaces;
- Crisis Management and Human Behaviour;
- Proficiency in Security Awareness Training;
- Proficiency in Designated Security Duties;
- Refresher Course in Basic Safety Training, Crowd Management and Crisis Management and Human Behaviour Training;
- Rating Forming Part of a Navigational Watch;
- Refresher Training for Rating Forming Part of a Navigational Watch;
- Rating Forming Part of an Engineering Watch; and
- Refresher Training for Rating Forming Part of an Engineering Watch.



Parastatals

The Parastatal Bodies operating under the aegis of the Ministry and their main objectives are as below.

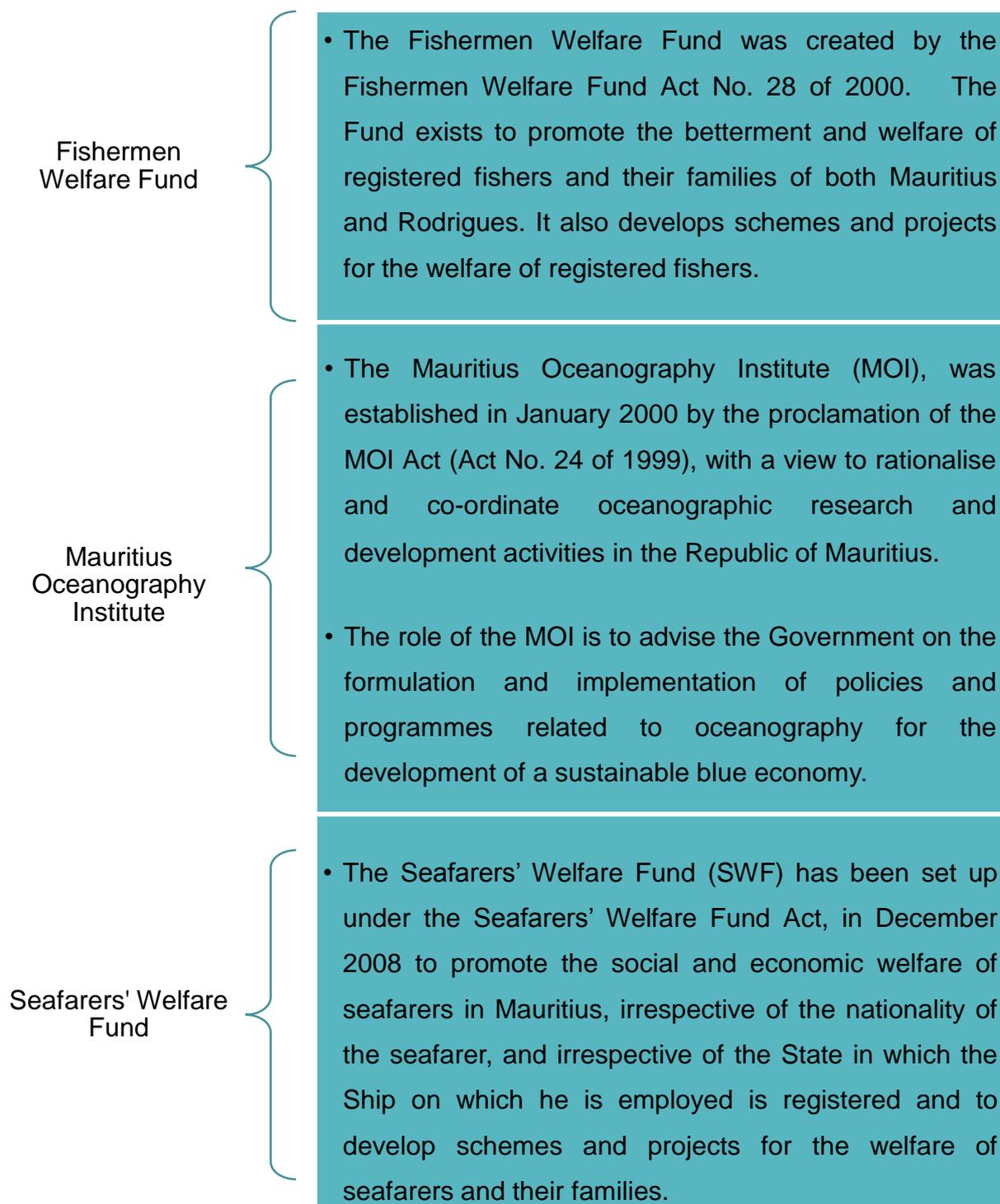


Figure 6 - Main Objectives of Parastatal Bodies



Gender Statement

The Ministry of Blue Economy, Marine Resources, Fisheries and Shipping complies with all legislations and policies of the government in the context of gender equality and empowerment. The Ministry has set up a Gender Cell under the chair of the Deputy Permanent Secretary to look into the issues related to gender streaming policies, strategies and programmes.

Under the vote item 'Gender Mainstreaming', an amount of Rs 200,000 has been provided in the budget of this Ministry for Financial Year 2021-2022, to implement an activity/project to promote gender equality and enhance awareness on gender sensitivity within the Ministry.

Thus, with a view to sensitise our staff about gender equity, equality, social justice and sustainable development, a workshop was organised for 200 officers in four batches comprising male and female participants at the Henessy Park Hotel, Ebene and Le Labourdonnais Hotel, Caudan, Port Louis.

About our people

The Permanent Secretary is the Accounting Officer and is responsible for the overall administration and general supervision of the Ministry of Blue Economy, Marine Resources, Fisheries and Shipping. He is assisted by two Deputy Permanent Secretaries, the Acting Director of Fisheries, the Director of Shipping, the Acting Deputy Controller of the Fisheries Protection Service and other officers in the administrative and technical cadres of the Ministry, as well as line managers from the Human Resources, Financial Operations and Procurement and Supply departments. The Senior Management Team of the Ministry for the financial year 2021-2022 is presented in table 1 below.



Designation	Name
Acting Permanent Secretary	Mr. BUNJUN Raj Kishore
Deputy Permanent Secretaries	Mrs. RAMNATH Hemila
	Mrs. MOOSOOHUR Devika
Assistant Permanent Secretaries	Mrs. GUNGADEEN Swaleha
	Mr. RUGHOO Dashyant
	Mr. RAJABALEE Mohammad Belal
	Dr. (Miss) REETOO Namrata
Manager, Human Resources	Mr. RAMBURN Mado (01.07.21 - 07.03.22)
	Mrs. JANMAHAMOD Shirine
Manager, Financial Operations	Mr. ETWAREE Satyawani
Manager, Procurement and Supply	Mr. DHUWAL Subash
Director of Fisheries	Mr. NORUNGEE Devanand (01.07.21- 01.03.22)
Acting Director of Fisheries	Mrs. KOONJUL Meera Satishchandra
Acting Deputy Controllers, Fisheries Protection Service	Mr. MATHURA Oomesh Chand
	Mr. SENEDHUN Sooriadev
Director of Shipping	Mr. DONAT Louis Alain Enrico
Officer in Charge, Mauritius Maritime Training Academy	Mr. MOORGHEN Marday Armoogum
Acting Head , Competent Authority Seafood	Dr. (Mrs.) LAKE Bakshi Diya

Table 1: Senior management team of the Ministry for the FY 2021-2022



The Ministry comprised a workforce of 480 employees as listed in the table 2 below:

Employees by Grade & Cadre	Male	Female	Total
Permanent Secretary	1	-	1
Deputy Permanent Secretary	-	2	2
Assistant Permanent Secretary	2	2	4
Acting Director of Fisheries	-	1	1
Acting Assistant Director of Fisheries	3	-	3
Technical (Fisheries)	31	28	59
Director of Shipping	1	-	1
Secretary for Shipping Development	-	1	1
Deputy Director of Shipping	1	-	1
Technical (Shipping)	7	5	12
Head, Mauritius Maritime Training Academy (MMTA)	1	-	1
Technical (MMTA)	3	-	3
Acting Head, Competent Authority	-	1	1
Technical (Competent Authority)	2	3	5
Acting Deputy Controller, Fisheries Protection Service	2	-	2
Technical (Fisheries Protection Service)	182	-	182
Human Resources Cadre	-	5	5
Finance Cadre	3	6	9
Procurement and Supply Cadre	4	4	8
General Services Cadre	15	72	87
Workmen's Group	52	12	64
Advisers	3	-	3
Analyst Cadre	1	1	2
Internal Control Cadre	1	2	3
Health and Safety Cadre (part time)	-	1	1
IT Cadre	1	1	2
Statistics Cadre	-	1	1
Library Officer	-	1	1
Receptionist/Telephone Operator	1	3	4
Agricultural Clerk	1	-	1
Office Auxiliary Cadre	6	4	10
All employees by Grades and Cadres	324	156	480

Table 2 : Number of employees in post as at June 2022



- Gender Parity: the workforce of the Ministry comprised of 67% male officers and 33% female officers.
- Number of vacancies advertised: 8
- Number of vacancies filled: 33
- Number of officers who retired from the service: 21
- Number of Schemes of Service prescribed: 3
- Number of officers who attended training programmes: 86

Organisational Chart

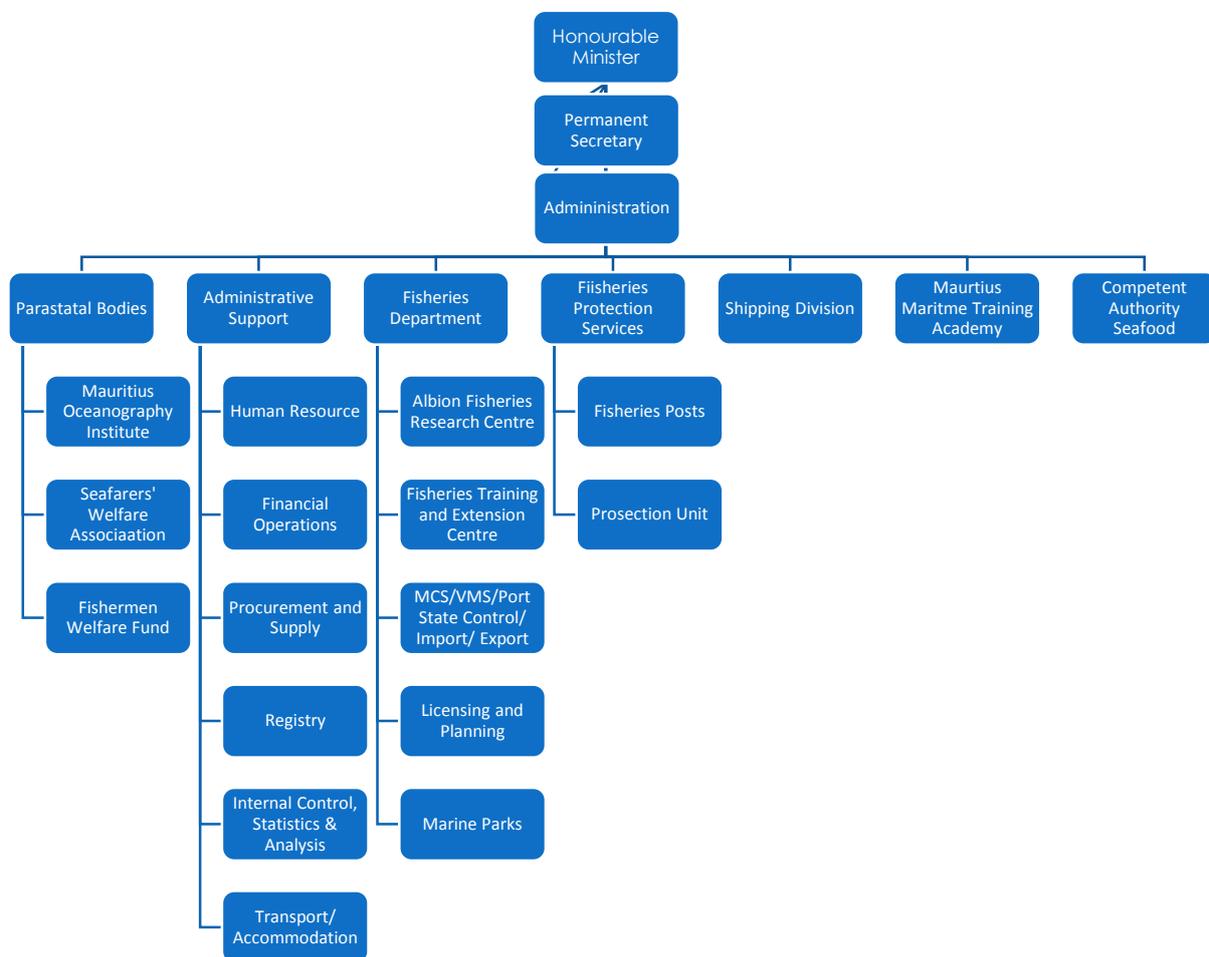


Figure 7-Organigram of the Ministry



Scarcity Areas

The Ministry of Blue Economy, Marine Resources, Fisheries and Shipping has encountered difficulties to fill in certain vacancies due to scarce human resources with specific know how and qualifications.

These grades have been categorised as scarcity areas and are listed in table 3 below:

SN	Division/Unit/ Section	Grade
1	Fisheries Development	Fishing Boat Inspector (Engineering)
2		Fishing Boat Inspector (Nautical)
3		Skipper (on contract)
4		Second Hand Fishing (Limited)
5		Deckhand/Fisherman
6		Motorman/Engine Driver
7	Shipping Division	Principal Marine Engineering Surveyor
8		Marine Engineering Surveyor
9		Training, Certification and Standards Officer
10		Nautical Surveyor
11		Nautical Inspector
12		Naval Architect
13	Marine Engineering inspector	
14	Mauritius Maritime Training Academy	Head, Deck Department
15		Head, Engineering Department
16		Instructor, Mechanical Workshop
17		Marine Training Officer
18		Petty Officer

Table 3 : Details of Grades falling under scarcity areas



Part II - Major Achievements

Aquaculture Division

- Under the Marine Ranching Programme for stock enhancement, a total of 105,000 sea bream fingerlings were produced in the hatchery at the AFRC and were released at Poste de Flacq, Albion, Pointes aux Sables, Sables Noires, Rivière Noire, Balaclava Marine Park, Blue Bay Marine Park.
- Some 976 units of berri rouge fingerlings were sold to four small scale fish farmers and 1,270 units of fingerlings were sold to five individuals for culture in an aquaponic system.
- Some 1,193 units of berri rouge fingerlings were distributed free of charge to 18 individuals for aquaculture activities in tanks / small size ponds.
- Some 3,490 units of berri rouge fingerlings were distributed free of charge to 59 individuals for aquaponic purposes.
- A total of 300,000 freshwater prawn juveniles were produced in the hatchery at AFRC out of which some 12,000 juveniles were stocked in pond at AFRC to constitute future broodstock and the remaining 281,750 juveniles were sold to 97 individuals.
- A total of 138 individuals were provided with technical assistance and support for aquaculture related activities at the Albion Fisheries Research Centre.
- During a culling exercise carried out at AFRC, a total of 84 kg of Red Tilapia Hybrid (Berri rouge) fish was harvested from ponds at AFRC and sold to the staff of the Ministry.
- Mass production of phytoplankton (*Nannochloropsis sp.*) was carried out in nine tanks of capacity 3,000L and zooplankton/rotifers (*Brachionus plicatilis*) were undertaken in seven tanks of capacity 2,000L and two tanks of 500L respectively for the larval rearing of silver seabream.



Marine Resources Division

Coastal Fishery

241 fish landings were monitored by the officers of the Fisheries Protection Service at 37 fish landing stations around the island of Mauritius.

A total of 1,530 units of fish specimens were examined and 74 reports were submitted to the National Coast Guard, Fisheries Protection Service, Anti-Piracy Unit, the Laboratories Division and Mauritius Police Department for prosecution, in alleged illegal fishing cases.



Figure 8 - Tuna unloaded by FAD fishers

Octopus Fishery

Fishing of octopus was closed from 15 August 2021 to 15 October 2021 and from the 15 January 2022 to 15 March 2022 to ensure the preservation and sustainability of this resource.



Exhibits at the Coastal Fishery

A total of 1,270 units and 840g of various marine species received from 63 occurrences in respect of various offences under the Fisheries and Marine Resources Act 2007 and 433 units of marine specimens received from the Laboratories Division for research purposes, were examined, identified and reported accordingly by the Coastal Fishery Unit.

2021		2022	
Month	No. of Exhibits	Month	No. of Exhibits
July	150	January	55
August	55	February	270
September	63	March	330
October	142	April	209
November	117	May	148
December	8	June	156
Total	535	Total	1,168

Table 4 : Number of Exhibits examined for FY 2021-2022



Figure 9 – Specimens during sampling exercises at Fish Landing Stations


Offshore Demersal Fishery

Type of Fishery	Number of vessels involved in fishing activities	Total Catch (Tonnes)	Fish Species caught	Data collection
Industrial Shallow Water Bank Fishery	1	8.3	White fish	No. of fishing trips: 3 A total of 89 specimens of white fish were sampled for length data.
Semi-Industrial St. Brandon Fishery	24	151.7	White fish	No. of fishing trips: 48 A total of 154 specimens of white fish were sampled for length and weight data.
Semi-Industrial Shallow Water Chilled Fish Fishery		660.1	White fish	No. of fishing trips: 157 A total of 649 specimens of white fish were sampled for length and weight data.
Semi-Industrial Deepwater Snapper/Grouper Fishery		112.1	Sacrechien Gueule Pave Doree Vieille Laboue	No. fishing trips: 15 A total of 88 specimens of sacrechien were sampled for length and weight data. A total of 102 specimens of gueule pave doree were sampled for length and weight data.

Table 5 : Statistics on Offshore Demersal Fishery for FY 2021-2022



Figure 10 - 'Capitaine'(Lethrinus nebulosus) caught in the inshore waters of St Brandon

Pelagic Fishery

Type of Vessels	Number of vessels involved in fishing activities	Total Catch (Tonnes)	Targeted Species	Data collection
Purse seiners operating under the Mauritian flag	3	21,579	Tuna	30 fishing logbooks 3,102 fish specimens sampled for length frequency
Mauritian flagged longliners involved in the semi-industrial fishery	1	5	Tuna	Three fishing logbooks 156 fish specimens sampled for length frequency
Mauritian flagged longliners involved in the industrial tuna fishery	11	40	Tuna	One fishing logbook 715 fish specimens sampled for length frequency
Foreign-flagged longliners operating under a Mauritian fishing licence	56	3,404	Tuna	56 fishing logbooks 583 fish specimens sampled for length frequency

Table 6 : Statistics on Pelagic Fishery for FY 2021-2022

Note: Tuna include yellowfin, skipjack, bigeye and albacore



Fish Production Statistics

The total fish production for FY 2021-2022 was 28,400 tonnes comprising:

- (i) Coastal fisheries (including artisanal and amateur fisheries): 1,156 tonnes;
- (ii) FAD fishery: 190 tonnes;
- (iii) Pelagic fishery: 23, 638 tonnes;
- (iv) Offshore Demersal fishery: 948 tonnes; and
- (v) Aquaculture production: 2,468 tonnes.

Marine Science Division

The Marine Science Division conducted the long-term coral reef monitoring at seven stations namely Ile aux Benitiers (Shore Reef and Back Reef), Albion (Shore Reef), Bel Ombre (Shore Reef), Trou d'Eau Douce (Shore Reef), Le Goulet (Shore Reef) and Pointe aux Sables (Back Reef) between July 2021 and June 2022.

Figure 11 and figure 12 below show the percentage substrate cover at monitoring sites for periods July 2021 to December 2021 and January 2022 to June 2022 respectively, while table 7 represents the Fish visual census for the financial year 2021-2022.

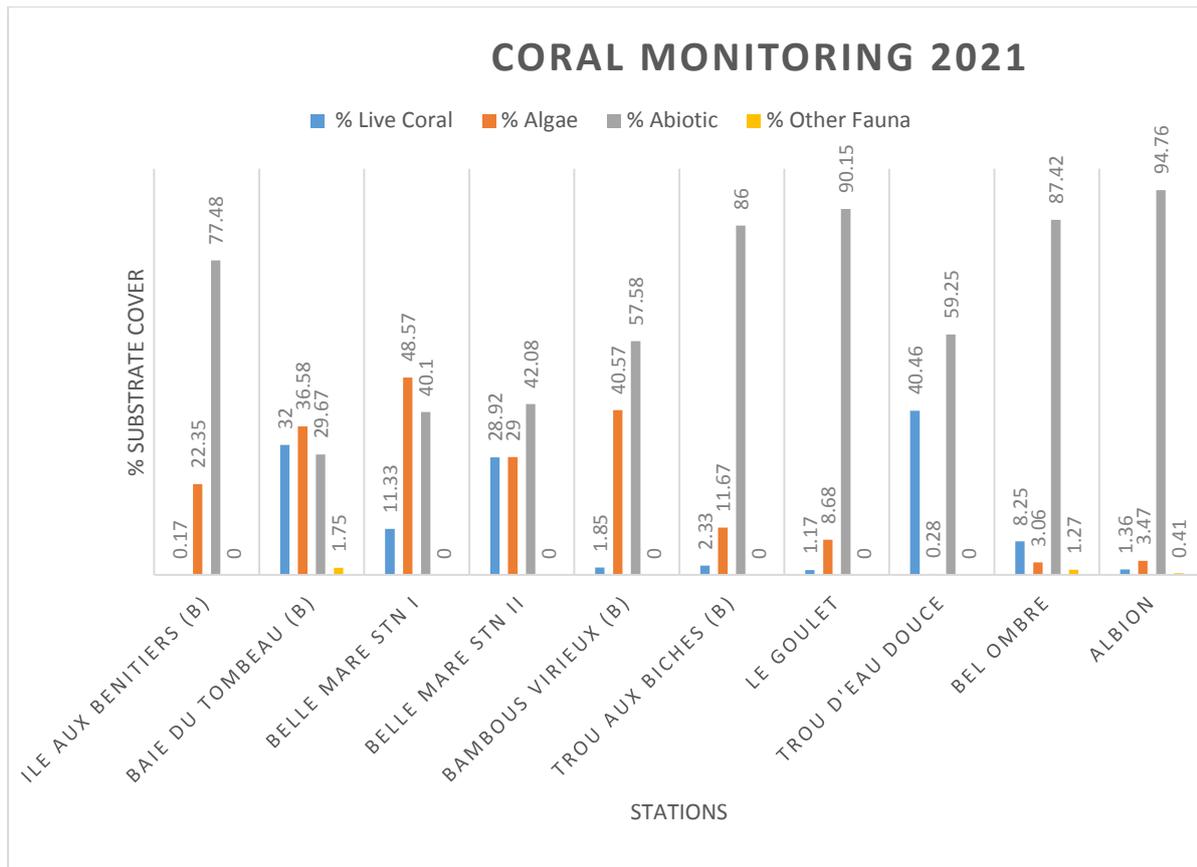


Figure 11- Percentage substrate cover at monitoring sites for period July 2021 to December 2021

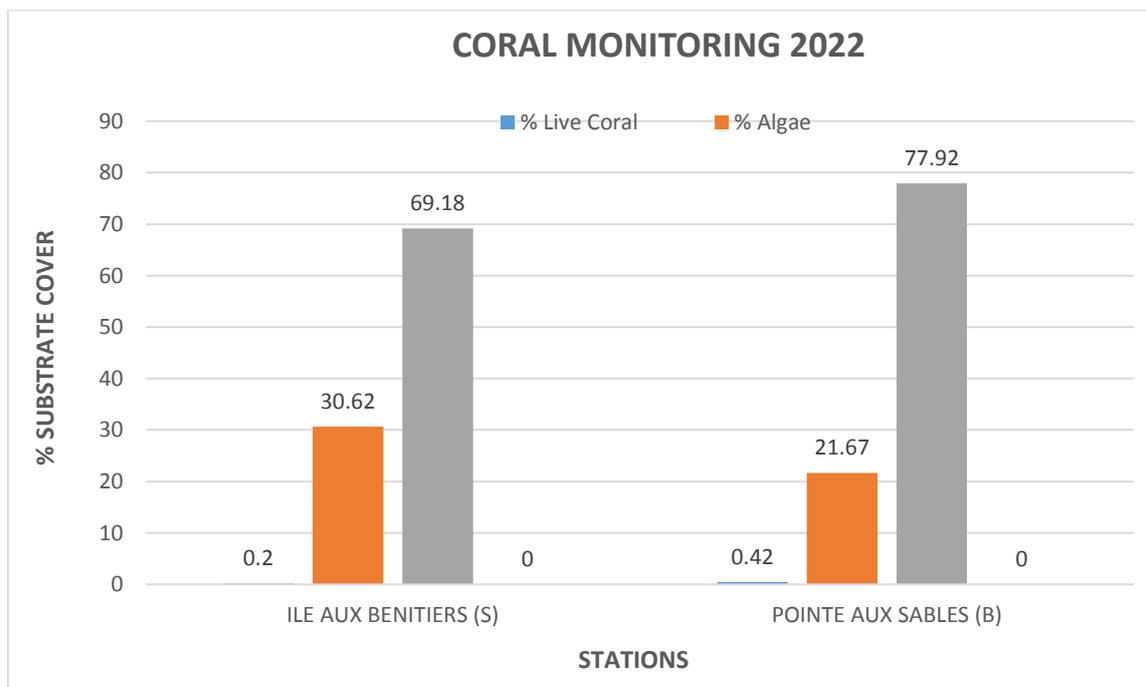


Figure 12 - Percentage substrate cover at monitoring sites for period January 2022 to June 2022



Fish Diversity (Jan 2022-Jun 2022)															
Site	Stations	Pomacentridae	Acanthuridae	Labridae	Serranidae	Balistidae	Holocentridae	Scaridae	Chaetodontidae	Siganidae	Mullidae	Ostraciidae	Gerreidae	Zanclidae	Aulostomidae
Ile aux Benitiers	Shore Reef	35	6	6	2	1	*	*	*	*	*	*	*	*	*
Pointe aux Sables	Back Reef	7	*	6	*	*	*	*	*	*	*	*	*	*	*
Fish Diversity (Jul 2021-Dec 2021)															
Ile aux Benitiers	Back Reef	7	*	9	*	*	25	26	3	*	*	*	*	*	*
Albion	Shore Reef	45	*	*	*	*	*	*	*	33	8	1	12	*	*
Bel Ombre	Shore Reef	90	11	19	*	*	*	27	*	5	*	*	*	4	*
Trou d'Eau Douce	Shore Reef	41	*	*	*	*	*	*	*	*	*	*	*	*	*
Le Goulet	Shore Reef	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Baie du Tombeau	Back Reef	83	*	*	*	*	*	20	*	*	*	3	*	*	*
Belle Mare	Back Reef Station I	195	15	2	3	*	*	34	4	155	*	*	*	*	3
Belle Mare	Back Reef Station II	248	52	*	*	*	*	92	3	*	12	*	*	*	*
Bamboo Virieux	Shore Reef	16	*	*	1	*	*	6	3	*	3	*	*	*	1
Trou aux Biches	Back Reef	>120	71	*	*	*	*	42	4	*	*	*	*	*	*

Table 7 : Fish Visual Census for FY 2021-2022

Note: * Not observed



- A total of 20 cases were reported between July 2021 and June 2022. Nine cases of dead dolphins occurred. One of them included case at Roche Noires on 27 March 2022 whereby a Spinner Dolphin, *Stenella longirostris*, was stranded and eventually died. Eight cases dead marine turtles were attended to;



Figure 13 - Dead *Stenella longirostris*

- The Letter of Agreement for Small Scale Funding Agreement (SSFA) between this Ministry and the Nairobi Convention was signed on 03 November 2021;
- To date, island-wide seagrass surveys, comprising ground-truthing, species composition and distribution have been completed around Mauritius. Surveys were carried out in 21 sites namely Le Bouchon, Mahebourg, Blue Bay, Albion, Poste La Fayette, Palmar, Le Morne, Mon Choisy, Wolmar, Merville Beach Hotel, Pointe aux Biches (Veranda Hotel), Pointe aux Sable, Trou d'Eau Douce, Anse La Raie, Bambous Virieux, Pointe aux Cannonier, Eau Bleue, Vieux Grand Port, Ile aux Aigrettes, Fer à Cheval and Banc d'Olive ;
- Permanent long term monitoring sites have been established at Le Morne, Albion, Banc d'Olive (Mahebourg), Poste La Fayette and Mon Choisy;
- The carbon sequestration work within the project has already started in April and May 2022. Sediment coring at the five specific seagrass meadow were carried out in triplicate to determine the carbon sink potential in seagrass meadows around Mauritius;



- A total of 141 sediment samples were obtained and pretreated in the Marine Ecological Laboratory at the Albion Fisheries Research Centre, and sent to the Commonwealth Scientific and Industrial Research Organisation (CSIRO) and University of Western Australia (UWA) for elemental analysis and determination of organic and inorganic carbon (blue carbon content);
- To date the area under mangroves' cover around Mauritius is around 243 hectares. This area includes both planted and naturally regenerated mangroves;
- Two sites were identified at Le Morne namely Coteau Raffin and Batterie Cassé for planting of 9,000 mangrove seedlings;
- A concept note was submitted to the Ministry of Finance, Economic Planning and Development, and Rs 2 M has been made available for mangrove propagation and sensitization;
- The Integrated Environment Monitoring Programme (IEMP) is being implemented following the Wakashio oil spill at a quarterly interval;
- 19 permanent monitoring sites have been set up in Mangroves areas namely at Rivière des Creoles-Cemetery, Rivière des Creoles-Mosque, Niyon river, Bois des Amourettes Public beach, Vieux Grand Port-debardadere, Mahebourg (Pointe Canon) and Case Noyale;
- 38 sediment cores were taken and sent to an accredited laboratory for analysis of residual content of petroleum hydrocarbon;
- 57 monitoring/fieldworks have been carried out during the month of August/September 2021, November/December 2021 and in February/March 2022 as per the plan;
- The MSD has contributed in the preparation of several reports in connection with climate change by providing inputs and comments. Some of them are as follows:
 - (i) The First Biennial Update Report (BUR) to the United Nations Framework Convention on Climate Change finalised in December 2021;
 - (ii) NDC Action Plan Report;
 - (iii) Update of National Climate Change Adaptation Policy Framework;
 - (iv) Climate Change Vulnerability Assessment of Mauritius and Rodrigues;
 - (v) Climate Change Policy Toolkit prepared as part of the process to review the Mauritius' Nationally Determined Contributions;



- (vi) Technical assistance for an institutional gaps and needs assessment to implement the provisions of the climate change act 2020 in the Republic of Mauritius; and
- (vii) Inception meeting for the preparation of the project implementation of the 4th National Communication 21 Jan 2022.

Marine Conservation Division

1. Coral Rehabilitation

- The coral nurseries established at Blue Bay Marine Park and Trou aux Biches were repopulated with coral fragments as follows:
 - 1,000 coral fragments were successfully planted in the nurseries of the Blue Bay Marine Park, which included 650 fragments placed by AFRC and 350 fragments in joint collaboration with Seaground through coral triage project; and
 - 500 cultured coral fragments were grown in the coral nursery located at Trou aux Biches.
- 24 new long-term monitoring stations that were established in the South-Eastern region following the grounding of MV Wakashio were also monitored twice after the oil spill. The project is ongoing under the Integrated Environmental Monitoring Plan (IEMP);
- Monitoring and servicing of coral nurseries were carried out at Trou aux Biches and Blue Bay Marine Park;
- Two new coral nurseries have been established at Mon Choisy and Eau Bleue, with five coral tables at each site left for acclimatization;
- Through the project of “Assistance scheme for coral farming and fish breeding” for fishers, four regions around Mauritius for coral nurseries have been selected;
- As at date, around 270 trainee fishers and 70 trainer fishers have been registered for the project. Theoretical training of trainers and trainees has already started and registration is ongoing;



- Official launching of the project was done at Le Morne on 08 June 2022 on the occasion of the World Ocean Day 2022 celebration with the deployment of three coral nursery tables and populating the coral tables with coral fragments; and
- Coral samples were collected at five sites around Mauritius and three sites around Rodrigues for genetic analysis under the UNDP funded project “Restoring Marine Ecosystem Services by Restoring Coral Reefs to Meet a Changing Climate Future”.

2. Coral Reef Monitoring in Marine Parks

- Long-term monitoring of the coral reefs ecosystem has been carried out at the five established permanent stations in Blue Bay and Balaclava Marine Parks.

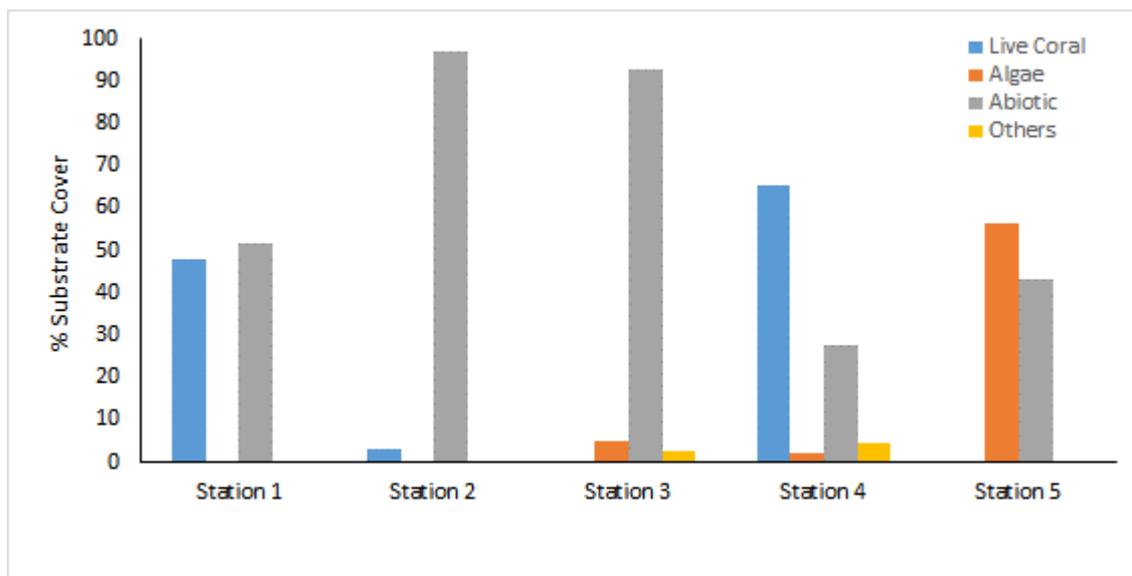


Figure 14 - Monitoring of coral reefs at Blue Bay Marine Park

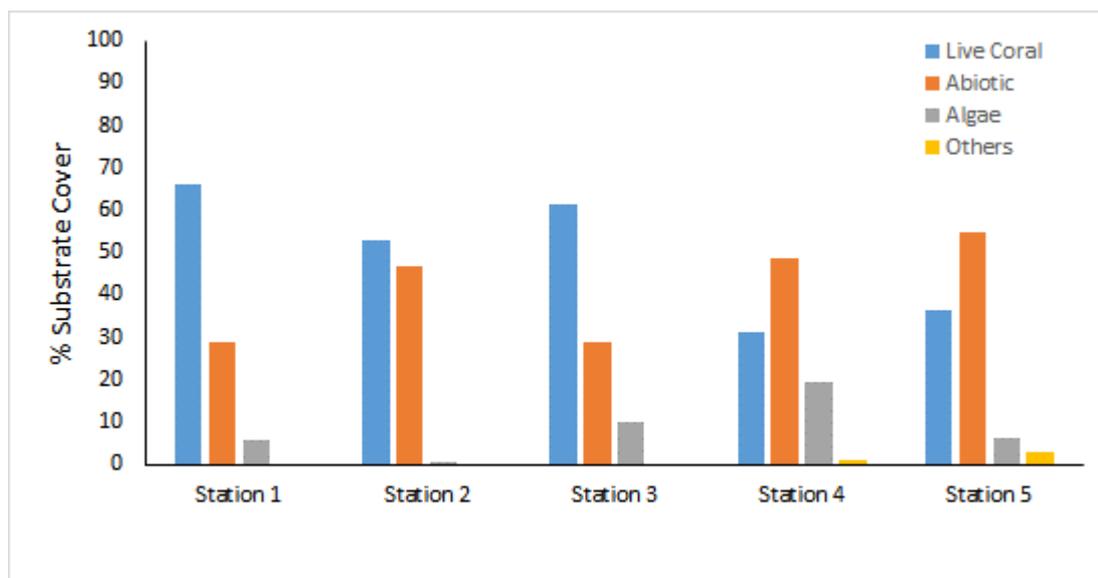


Figure 15 – Monitoring of coral reefs at Balaclava Marine Park

3. Management of Marine Protected Areas

- (i) 626 Coast patrols were effected at the Blue Bay Marine Park to monitor & sensitize activities of fishers and stakeholders & arrest defaulters.
- (ii) 773 Afloat patrols were effected at the Blue Bay Marine Park - the activities carried out by the FPS officers were regular afloat patrols, assist AFRC staff in collection of sea water for sampling and control of Crown of Thorns Starfish (COTs), conduct bathymetric surveys with staff of MOI and Integrated Monitoring Programme for the setting up of three stations by officers of MOI, University of Mauritius, Eco Sud, Reef Conservation, FPS & AFRC officers from the region of Grande Anse (Shandrani) to Ile aux Aigrettes.
- (iii) 45 interference permits and 154 permits for permissible activities in marine protected areas were issued during the FY 2021-2022 and funds generated amounted to Rs 1,005,200.
- (iv) One picked up case of underwater fishing equipment in the lagoon of Pte D'Esny was recorded during the period under report.
- (v) One telescope was received as donation from UNDP on 01 June 2022. The telescope is being used for the monitoring and surveillance of the Blue Bay Marine Park.



4. Environmental Impact Assessment Reports

32 Environmental Impact Assessment (EIA) reports, among which 15 coastal projects, were processed and views submitted to the Ministry of Environment, Solid Waste Management and Climate Change.

Laboratories Division

- In the context of the oil spill from MV Wakashio and the aft removal operations at Pointe d'Esny, the monitoring program for hydrocarbon contamination in seawater, marine sediment and fish was continued. The results of the analyses were used for decision making concerning the re-opening of fishing activities in the region from Pointe Canon to Vieux Grand Port and the lifting of restrictions in the region at Pointe d'Esny and Pointe Jerome
 - I. 350 seawater samples were collected along the shoreline from La Cambuse to Trou d'Eau Douce and in the lagoon & off-lagoon regions of Blue Bay to Mahebourg and were analysed for physico-chemical parameters including oil and grease.
 - II. 164 sediment samples were collected along the shoreline from La Cambuse to Trou d'Eau Douce and in the lagoon of Pointe d'Esny and submitted to SGS (Mauritius) Ltd for analysis of Total Hydrocarbon (HCT), Polycyclic Aromatic Hydrocarbons (PAHs) and Heavy Metals.
 - III. 90 fish samples were collected from the lagoon and off lagoon in the regions affected by the oil spill including aquaculture sites and submitted to Quantilab Ltd for analysis of HCT, PAHs and Heavy Metals.
- 100 seawater samples were collected in the context of the monitoring exercise initiated on 25 August 2021 to assess the possible presence of oil and grease arising from the Fishing Vessel Ruey Chien Tsai 112 which caught fire on the night of 24 August 2021 in the Port Louis harbour;
- 157 seawater samples were collected along the shoreline, lagoon and off-lagoon in the region of Pointe aux Sables and analysed for physico-chemical parameters including oil and grease following the grounding of Fishing Vessels Le Wen Hung Dar 168, Maan Yu Feng 168 and Maan Yu Feng 1 on 23 February 2022 at Pointe aux Sables;



- A monitoring program for oil & grease in seawater was established following an oil spill incident at Quay D, Port Area on 29 April 2022. A total of 32 seawater samples were collected at six stations in the harbour;
- 352 seawater samples were collected from 26 permanent representative sites, in cases of alleged marine pollution & fish kills and 2,464 analyses were conducted for physico-chemical parameters;
- 457 seawater samples were collected from 13 permanent representative sites at public beaches and in cases of alleged marine pollution & fish kills. 1,094 analyses were performed to determine the level of Total Coliform and Faecal Coliform bacteria;
- Six alleged cases of Marine Pollution and four alleged cases of fish kill at sea were attended to. No harmful algal bloom were reported;
- 115 macro-algae samples were collected from ten representative sites and examined for the identification and enumeration of harmful marine microalgae;
- Authorization was granted to ten local fishing operators to provide fish which are deemed to be toxic for research purposes and a total of 20 fish samples were received. In addition, 51 fish seized by the Fisheries Protection Services were received. Toxicity tests for ciguatoxin were conducted on 43 fish specimen; and
- 33 Environmental Monitoring Reports in connection with coastal development projects including desalination plants were received and the test results for seawater quality reported therein were compared to the *Coastal Water Quality Guidelines* for compliance.

Fisheries Training and Extension Centre (FiTEC)

- 210 Fishers were trained in the “General Course for Fishers”;
- 26 trips were carried out for the re-setting, verification and maintenance of FADs and sampling of sea water;
- 15 FADs were replaced;
- There was 15 active FADs as at June 2022;
- The second National Steering Committee for the FAO REEFFISH project was conducted in May 2022; and



- Site selection for the placement of Single Buoy FADs and Ice making machine were finalized under the UNDP ECOFISH project.

MCS/VMS/Port State Control and Import & Export Division

Import/Export Unit

- 166 individuals/companies were registered as importers for the import of fish and fish products;
- 3,169 landing permits were issued;
- 65,840 tons of tuna were imported for processing and 11,796 tons of fish and fish products were imported for direct consumption;
- 101,106 tons of fish and fish products (salted snoek, frozen fish, chilled fish, canned fish, tuna in jars, tuna in pouch, frozen precooked tuna, fish meal, fish oil, frozen baits) were exported;
- 3,615 export authorisations were issued ;
- Each importer paid a registration licence fee of Rs 25,000 to the Mauritius Revenue Authority, which amounted to Rs 4,150,000 for the 166 registered importers.

The details on the import and export of fish and fish products for the FY 2021-2022 are presented in tables below.



Type	Products	Jul- Dec 2021 (Tonnes)	Jan-Jun 2022 (Tonnes)	Total
Chilled	Fish	75	138	213
	Crustacean	2	8.2	10.2
	Cephalopod	3	7.7	10.7
	Shell Fish	4	6.5	10.5
Frozen	Fish	1,026	2,879	3,905
	By Catch	187	525	712
	Controlled fish sp	27	27	54
	Crustacean	248	299	547
	Cephalopod	103	132	235
	Shell Fish	6	13.3	19.3
Frozen Prepared Products	Fish	1,042	419	1,461
	Cephalopod	23	24	47
	Crustacean	116	87.3	203.3
Canned Products	Fish	1,195	1,005	2,200
	Crustacean	413	0	413
Dry	Fish	1,680	28.3	1,708.30
	Crustacean	32	14.7	46.7
	Cephalopod	0	0	0
Frozen For Processing	Barracouta	270	231	501
Frozen Tuna For Processing	Tuna/Processing	29,752	30,710	60,462
Frozen Tuna	Tuna/Processing/ Export	2,542	2,836	5,378
Frozen fish in Freeport area	Fish	4,537	2,040	6,577
Dry	Fish Feed	1,958	521.7	2,479.70
Fish waste (frozen)	For processing of fish meal/fish oil	589	165	754
Frozen baits		2,561	2,467	5028
Type	Products	Jul- Dec 2021 (Units)	Jan-Jun 2022 (Units)	Total
Live	Ornamental Fish	846,732	757,175	1,603,907
	Fish For Culture	70	0	70
	Oyster For Culture	0	125,000	125,000

Table 8 : Import of Fish and Fish Products for FY 2021-2022



Products	Jul- Dec 2021 (Tonnes)	Jan-Jun 2022 (Tonnes)	Total (Tonnes)
Salted snoek	48.7	49.5	98.2
Chilled fish	5.7	21.4	27.1
Chilled fish from Aquaculture	745.0	698.9	1,443.9
Fish meal (dry)	4,965.5	7,022.7	11,988.2
Fish oil	1,565.1	951.7	2,516.8
Frozen/precooked tuna	7,218.5	6,397.5	13,616.0
Frozen fish	17,468.5	18,268.5	35,737.0
Tuna in jars	279.6	1,817.4	2,097
Canned tuna	12,283.7	9,633.0	21,916.7
Baits	2,669.7	2,995.7	5,665.4
Products	Jul- Dec 2021 (Units)	Jan-Jun 2022 (Units)	Total (Units)
Live marine ornamental fish	390	1,141	1,531
Live freshwater ornamental fish	0	0	0
Export Authorisation	1,803	1,812	3,615

Table 9 : Exports of Fish and Fish Products for FY 2021-2022



MCS/VMS/Port State Control Unit

SN	Item	Achievements
1	Local Vessels	
	Number of callings	213
	Number of boarding and inspection	210
2	Foreign Vessels	
	Number of callings	664
	Number of boarding and inspection	454
3	Number of surveys carried out on board local boats/vessels for departure clearances	296
4	Number of departure clearances issued (local boats/vessels)	276
5	Number of Processing Statements validated and endorsed	1, 462
6	Number of Mauritius Catch Certificates (Master) validated and endorsed	201
7	Number of Mauritius Catch Certificates (Re-Export) validated and endorsed	973
8	Number of Swordfish Statistical Documents validated and endorsed	0
9	Number of Big Eye Statistical Documents validated and endorsed-Mauritian Flag	268
10	Number of Big Eye Re-Export Documents validated and endorsed-Foreign Flag	199
11	Patagonian Toothfish Vessels	
	Number of callings	17
	Number of boarding and inspection	12
	Number of DCD issued	13
	Number of DED issued	105
	Amount of toothfish transhipped (MT)	1,573
12	Trawlers	
	Number of callings	9
	Number of boarding and inspection	7
	Amount unloaded (MT)	2,448
13	Vessel Monitoring system	
	Number of logbooks information verified against VMS data	528
	Number of trips from local fishing vessels monitored in the EEZ and Indian Ocean Region	223
	Number of trips from foreign fishing vessels monitored in the EEZ	200
	Number of VMS report produced for departure clearances to local fishing vessels	302
	Number of VMS report produced for validation of Mater-Mauritius Catch Certificates	42
	Number of new transponders of local and foreign fishing vessels registered	41

Table 10: Statistics pertaining to Port State Control Unit/Vessel Monitoring System for FY 2021-2022



Planning and Licensing Division

Planning Unit

(1) Implementation of fishing schemes

(i) 'Canotte' Scheme

This Ministry is implementing a scheme so as to provide financial support to fishers to enable them to purchase better equipped boats "Canottes" of length 7 – 12 meters in order to enhance their livelihood and encourage them to fish off lagoon.

Under the scheme, a registered fisher is eligible for a grant representing 50% of the cost of a "Canotte" and up to an amount of Rs. 200,000 per "Canotte".

Since 2015 to date, the scheme has been implemented through seven phases and a total of 117 fishermen have benefitted under the Scheme including 16 for the financial year 2021/2022.

(ii) Semi-Industrial Scheme

In order to encourage outer-reef and bank fishing, financial support in the form of a grant of 50 percent, up to a capital of Rs. 4 million is given to cooperative societies to enable them to acquire semi-industrial vessels less than 24 metres in length overall fitted with inboard engine and all navigation, communication, safety and appropriate fishing equipment. Since the beginning of the scheme in 2016, a total of five fishermen cooperative societies, including one during the present financial year, have benefitted from the semi-industrial scheme. As at date two fishing boats have been acquired and registered with the Ministry.

(2) Signature of Agreements & Memorandum of Understandings (MoUs)

(i) Fishing Agreement

An Interim Bilateral Fishing Agreement was signed between Mauritius and Seychelles for fishing in each other's waters in April 2022 valid for a period of one year. Under the new Agreement, 15 Mauritian purse seiners and 20 Mauritian tuna long liners can undertake fishing operation in Seychelles waters.



(ii) *Memorandum of Understandings (MOUs)*

(a) A Memorandum of Understanding was also signed on 27 August 2021 between Curtin University Australia and the Ministry of Blue Economy, Marine Resources, Fisheries and Shipping. The MoU will allow both parties to cooperate and collaborate in the areas of marine science research to promote development of activities that build knowledge in academic and research within the field, including an initial focus on underwater acoustics and marine bioacoustics.

(b) A Memorandum of Understanding was signed on 08 September 2021 between the Federal Agency for Fisheries Russia and the Ministry of Blue Economy, Marine Resources, Fisheries and Shipping. The MoU will allow mutual cooperation for the conservation, management and rational use of living marine resources as well as assist in prevention, warning and elimination of illegal, unreported and unregulated fishing.

(c) The Ministry signed a Memorandum of Understanding with the University of Sunshine Coast on 17 February 2022 for the implementation of the Sea Cucumber Project in Mauritius. This project is being funded by the Australian Government under the Australian Food Aid Programme. The areas of cooperation covered under this MoU include amongst others: development of seed production techniques, field culture of sea cucumber and training and capacity building of officers of the Ministry.

Licensing Unit

Number of Licences issued:

- One licence was issued to bank fishing vessels active on Banks and amount generated was USD 1000 ;
- 28 licences were issued to boats engaged in semi-industrial fishery and amount generated was Rs 28,000;
- One new fishing boat joined the semi-industrial fishery;
- One fishing licence was issued to a new boat operating in the Advanced Coastal Fishery;



- Four licences were issued to purse seiners and supply vessel active in the pelagic fishery and amount generated was USD 67,863;
- 78 foreign Fishing Licences/Extension Licences were issued in respect of foreign fishing vessels not operating under Fishing Agreements and amount generated was USD 1,167,000;
- 11 fishing vessels (Mauritian Industrial Longliner) operated in the industrial longline fishery and amount generated was Rs 11,000;
- Under Seychelles Agreement there were 28 fishing Seychelles flagged vessels and amount generated was USD 311,273.61;
- Under Seychelles Interim Agreement 2022-2023, there were 16 fishing Seychelles flagged vessels and amount generated was EURO 302,203.77;
- Under EU Agreement there were 52 EU fishing vessels and amount generated was EURO 147,150; and
- 16 letters of Intent were issued to fishing promoters in respect of fishing development projects.



Competent Authority Seafood (CASF)

1	Number of EU Export Health Certificates issued by the CASF	1,884
2	Number of non-EU Export Health Certificates issued by the CASF	1,263
3	Total Number of Export Health Certificates issued by the CASF	3,147
4	Number of inspections carried out at Registered Fish Business Operators	1,043
5	Number of registered Fish Business Operators	32
6	Number of newly registered Fish Business Operators	1
7	Number of EU-approved establishments	18
8	Total Revenue (Rs)	Rs 2,955,800

Table 11: Statistics from Competent Authority Seafood for FY 2021-2022

Note: Revenue collected at the CASF account for fees stipulated in the First and Third Schedule of the GN 147 of 2009 (Fisheries and Marine Resources (Export of fish and fish products)).



Fisheries Protection Service

- o Total number of registered fishmongers as at 30 June 2022: 1,112
- o Number of new fishers registered during FY 2021-2022: 106
- o Total number of registered artisanal fishers as at 30 June 2022: 1,693
- o Total number of registered fishing boats as at 30 June 2022: 1,129
- o Total amount of Bad Weather Allowance paid in FY 2021-2022: Rs 136,012,675
- o Number of contraventions established for prosecution in FY 2021-2022: 17
- o Number of pick up cases in FY 2021-2022: 106

Month	Illegal Nets (Units)	Underwater Fishing (Units)	Undersized Fish (Units)	Other Cases	Total cases	Illegal Net Seized (Metres)
2021						
July	3	-	-	1	4	57
August	3	2	-	2	7	25
September	2	1	-	3	6	80
October	4	8	-	2	14	172
November	2	6	-	2	10	68
December	6	7	-	-	13	347
2022						
January	11	7	-	1	19	983
February	6	3	-	-	9	117
March	5	11	1	5	22	106
April	4	-	-	1	5	36
May	2	6	-	3	11	80
June	2	-	-	1	3	485
Total	50	51	1	21	123	2,556

Table 12 : Number of cases reported in breach of Fisheries Act and length of illegal nets seized



2021			2022		
Month	No. of Cases	Fine (Rs)	Month	No. of Cases	Fine (Rs)
July	9	16,600	January	7	11,000
August	2	1,500	February	3	3,000
September	13	18,200	March	Nil	Nil
October	7	11,000	April	Nil	Nil
November	2	2,000	May	1	500
December	7	8,000	June	2	3,800
Total	40	57,300	Total	13	18,300

Table 13 : Number of cases prosecuted and amount collected as fine

Shipping Division

➤ AIS second phase trial 2022

This Shipping Division had embarked in a second phase of the trial project for the testing of Five (5) units of WEATHERDOCK (VMS- Track Pro) and Two (2) units of Angel Fish- solar powered in 2022. The first trial phase has been successful and has demonstrated the usefulness and applicability of these devices and the tracking system for the safety of life at sea specially those of fishermen.

The 7 AIS Transponders were tested at the Mauritius Radio Services (MRS) at Cassis in June 2022 are ready to be deployed on vessels. A web meeting was held on 20 April 2022 with Mr Alfred Kotouczek, CEO of Weatherdock AG and the modus operandi was established. The second phase of the trial project is expected to start in the second quarter of the year.

➤ Ferry-Boat Service at GRSE

A ferry boat service has been established on the Grand River South East (GRSE) in the district of Flacq. The service connects the two remote



communities of “Deux Frère” and GRSE, and offers a faster alternative to the residents of these communities who would otherwise travel a long distance by road across the GRSE Bridge to reach their respective villages. Passengers are of all ages and use the service for different reasons, such as going to school and work. The ferry operates at the mouth of the river, where many pleasure boats navigate carrying tourists upstream to the famous waterfall of GRSE, from 6 a.m. to 6 p.m. and even later if required.

➤ **Ballast Water Management**

The International Maritime Organization (IMO) has developed an International Convention for the Control and Management of Ships Ballast Water & Sediments (BW Convention) to prevent, minimize and ultimately eliminate the transfer of harmful aquatic organisms and pathogens through the control and management of ships’ ballast water and sediments.

So far, two PBBs have been conducted in port of Port-Louis and Port Mathurin to identify the types of species existing in the port waters of both Mauritius and Rodrigues. Two projects have been extended for two years at no additional cost, namely “Ballast Water Management project for Port Mathurin” and the “Ships’ BioFouling in Port Louis Harbour”, starting from July 2021

➤ **Guidelines for Maritime Training Institutions conducting online courses under the STCW Convention 1978 (as amended).**

These Guidelines are intended for Maritime Training Institutions who are already accredited to deliver specific “face-to-face” (Traditional Instruction) courses, where e-learning (online learning) will be an alternative method of delivering the same training and conducting the related assessment as prescribed under the International Convention of Standards of Training, Certification and Watch keeping for Seafarers (STCW), 1978 (as amended).



Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
No of vessels	162	160	165	168	165	145	151	139	138	128	135	130

Table 14 ; Number of Vessels registered under the Mauritius Flag, 2011-June 2022

Types of Vessels	Number	GT
Barge	22	23804
Booster Station	1	256
Product Carrier	3	51265
Bunker Barge	3	2364
Passenger/Cargo	3	20089
Reefer	1	5084
Crew Boat	3	60.05
Dredgers	9	36748
Fishing Vessels	6	9184.72
Floating Crane	1	250
Launch	7	245.04
Leisure Submersible	2	35.5
Pontoon	13	7192.04
Split Hooper Barge	3	4568
Survey Vessels	4	233.11
Tug Boat	22	7859.33
Work Boat	2	302
Yachts	23	722.69
Total	128	170262.98

Table 15 : Types of Vessels registered under the Mauritius Flag for FY 2021-2022



Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
No of casualties at sea	2	2	2	0	1	1	1	0	0	0	1	4

Table 16 : Number of Casualties at Sea, 2011-June 2022

Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
No of Port State Inspections	1	2	1	0	0	3	3	1	2	3	0	7

Table 17 : Number of Port State Control Inspections, 2011-June 2022

SN	Service	Number
1	Endorsement Certificates Issued	171
2	Attestation Certificates Issued	133
3	Certificates of Competency/Proficiency Issued	6
4	Ship's Cook Certificates issued	12
5	Minimum Safe Manning Certificates	68
6	Port Clearances Issued	2,405
7	Discharge Books Issued	726
8	Vessels registered under the Mauritian Flag	130
9	Surveys and Inspections	68

Table 18 : Other statistics pertaining to the Shipping Division



Mauritius Maritime Training Academy

SN	Course	Male	Female	Total	Trainees (place of employment- Cruise/Cargo/both/ other)
1	Basic Safety/Crowd Management/Crisis Management/Proficiency Security Awareness	209	80	289	Mostly employed on cruise vessels
2	Designated Security Duties	-	-	-	Employed on both cruise and cargo vessels
3	Rating Forming Part of Engineering Watch	5	-	5	Employed on Cargo vessels
4	Rating Forming part of Navigational Watch	5	-	5	
5	Proficiency for Able Seafarer (Deck)	1	-	1	Both
TOTAL		220	80	300	

Table 19: Number of Seafarers trained for the FY 2021-2022



Figure 16 - Training of Seafarers at MMTA



Implementation of budget measures

A series of key budget actions and measures were announced by the Minister of Finance, Economic Planning and Development for FY 2021-22 pertaining to the Ministry. A status of the achievements of the budget measures and key actions are provided in Tables 20 and 21 respectively.

SN	Budget paragraph	Budget Measure	Status as at 30 June 2022
1	167 (a)	An additional 500 Fishermen Cards will be provided	106 fishermen cards were provided.
2	167 (b)	The Bad Weather Allowance will be increased from Rs 425 to Rs 475	Bad weather allowance has been increased to Rs 475.
3	167 (c)	Every fisherman aged 65 and above will receive a lump sum of Rs 52,500 if they return their fishermen card or transfer it	271 fishers returned their fishermen card and received a lump sum of Rs 52, 500 per fisher.
4	167 (d)	Some 1,800 artisanal fishers will be provided with an annual financial assistance to the tune of Rs 2,500 for the purchase of hooks	1600 artisanal fishers were provided with an annual financial assistance of Rs 2,500 for purchase of hooks.
5	171	Navigation aids will be installed in 22 sites to promote safe navigation.	Installation of Navigational aids were installed in 14 recommended sites.
6	172	The use of fiberglass vessels of 24 meters and above will henceforth be authorised for fishing activities.	11 fibreglass vessels of 24 metres and above have been registered and licensed to operate in Long line fishing.

Table 20 : Status on Implementation of Budget Measures



Key Action	Key Performance Indicator	Target for FY 2021-2022	Actual for FY 2021-2022	Remarks
Increase local fish production and fish export	Tons of fish produced	33,000	27,000	This decrease is due to reduction in the number of vessels operating in the bank fishery.
Development of local fleet and promotion of off lagoon fishing	Number of Canottes acquired by registered fishermen	150	28	Fishers did not fully avail of the Rs 25M from National Resilience Fund under the scheme. Only some fishers were interested upon launching of the EOIs.
	Number of semi industrial fishing boats acquired by fishermen cooperatives	6	0	The revised scheme was not yet finalised.
Preservation of marine ecosystems through coral farming to rehabilitate degraded coral reefs	Number of sites rehabilitated	3	2	The coral fragments did not attain sufficient growth in the nurseries and thus could not be transplanted to degraded coral reefs.
Empowerment of fishers	Number of fishers trained	500	210	By the end of the FY 2021-2022, only 210 fishers met the eligibility criteria required to follow the course at FiTEC.
Enforce compliance of merchant vessels with national and international maritime standards	Number of audit inspections on vessels registered under Mauritian Flag	30	68	Target was achieved.
Provision of training to seafarers	Number of trainees	1,000	300	Due to Covid 19 pandemic, the Mauritius Maritime Training Academy was not fully operational during the FY 2021-2022.

Table 21: Status on Key Actions and KPIs of the Ministry



Workshop/Training

1. An online Validation Workshop was organized for the National Aquatic Animal Health Strategy and Biosecurity (NAAHS&BS) plan for Mauritius on 23-24 May 2022 at the Competent Authority Seafood by Dr Marc Le Groumellec, International consultant appointed by SADC for the alignment of National AAH&BS Strategy with SADC countries.
2. Workshop on the National Situation and Surveillance System Assessments on Antimicrobial Resistance (AMR) and Antimicrobial Use (AMU) was held in Mauritius from 21 to 25 March 2022.
3. 1st and 2nd virtual workshops on Development of an “IORA Declaration on Combatting Marine Debris” and a Strategic Framework of Action on Marine Debris in the Indian Ocean were held.
4. Workshop on the update of the ecosystem profile for the Madagascar and the Indian Ocean Islands Biodiversity Hotspot’ was held on the 4 March 2022.
5. A webinar was hosted by the IORA Blue Carbon Hub, titled “International policy mechanisms to support blue forest protection and restoration” on 11 April 2022.
6. Capacity building workshops were organised by the Ministry of Finance with expert from the Green Climate Fund (GCF) under the Readiness Support in March 2022.
7. A virtual training on “*Determination of PAH in seawater using portable Fluorimeter*” was organized by the International Atomic Energy Agency from 07 to 09 September 2021. The virtual training was provided by Dr Marc Tedetti and attended by officers from AFRC and the National Environmental Laboratory.



8. Workshop on “Gender Mainstreaming”

With a view to acquire the notion of gender mainstreaming and to understand the importance of gender equality and gender gaps, a workshop on “Gender Mainstreaming” was organised by the Ministry. 172 employees consisting of 67 males and 105 females participated in the workshop which was held at the Hennessy Park Hotel, Ebene and le Labourdonnais Hotel, Caudan, Port Louis on 21 April, 04 May, 10 May and 16 June 2022.

Events

1. The Mauritius Accreditation Service (MAURITAS) conducted its annual surveillance visit in July 2021 & April 2022 and the accreditation of the Marine Chemistry and Marine Microbiology Laboratories to ISO/IEC 17025:2017 standard were maintained.

2. The Mangrove Sensitisation Campaign was launched during the World Ocean Day event on 08 June 2022 at Le Morne in the presence of the Honourable Minister and sensitization materials were distributed to the public on that date.

3. Celebration for “Day of the Seafarer” 2022

In the context of the 2022 ‘Day of the Seafarer’, a seminar with the theme ‘Mauritian Seafarers’ Challenges’ was successfully organised by the Seafarer’s Welfare Fund on 24 June and 25 June 2022 at the Intercontinental Hotel.

During the two days of the seminar, much emphasis was laid on the enormous contribution of seafarers in ensuring global trade. It is to be noted that for the twelfth time, the International Day of the Seafarer was being celebrated worldwide on 25 June. Since its launch in 2011, the day had focused public attention on the contribution made by seafarers to the entire global community and this year’s theme celebrated maritime voyages and journeys.



Figure 17 - Day of the Seafarer-2022

4. World Oceans Day 2022

The theme for World Oceans Day 2022 was “Revitalization: Collective Action for the Ocean” whereby emphasis was laid on sustainable management of the marine resources and development of the blue economy. This celebration consisted of the official launching of the National Environment and Climate Change Fund (NECCF) – Assistance Scheme for Coral Farming and Fish Breeding Project by the Honourable Mr Sudheer Maudhoo, Minister of Blue Economy, Marine Resources, Fisheries and Shipping at Le Morne Pointe Cassis Village on 8 June 2022.

Furthermore, a symbolic deployment of coral tables at sea was held in collaboration with officers of the MOI and the Albion Fisheries Research Centre (AFRC). Visibility materials such as caps, t-shirts and pamphlets on “Coral culture for small scale reef rehabilitation in Mauritius” funded by the UNEP-WIOSAP project were distributed by the MOI to all invitees.

5. Certificate Award Ceremony - Coral Culture Training Programme

The community based coral culture project which was under the budgetary measures for the financial year 2017-2018 was implemented at four locations around the island, namely La Gaulette, Quatre Soeurs, Bel Ombre and Grand Gaube, jointly by the MOI



and the Albion Fisheries Research Centre (AFRC) under the purview of the Ministry of Blue Economy, Marine Resources, Fisheries & Shipping.

This three year project primarily aimed at training and capacity building of local coastal communities in coral farming and reef rehabilitation techniques hence providing additional skills to the communities as an eventual means of livelihood. In view of the completion of the Coral Culture Training Programme whereby participants were trained, a ceremony to award certificates to the participants for the “Coral Culture Training Programme” was organised as follows:

Date	Site Location	No. of Trainees	Male	Female
24.07.2021	Bel Ombre	20	20	-
31.07.2021	La Gaulette	28	20	8
07.08.2021	Grand Gaube	25	25	-
14.08.2021	Quatre Soeurs	30	23	7
Total number of Trainees		103	88	15

Table 22: Date, location and number of trainees for Coral Culture Training Programme

The event consisted of a protocol ceremony in the presence of Honourable Mr Sudheer Maudhoo, Minister of Blue Economy, Marine Resources, Fisheries and Shipping, the Members of Parliament (MPs) of the Government of each constituency.

6. Participation of MOI and Aquaculture Division in the “Festival de la Pêche” at La Croisette, Grand Baie in November 2021.

The MOI and Aquaculture Division participated in the Mauritius Fishing Festival on 6 and 7 November 2021 hosted at Grand Baie La Croisette. The festival gathered fishing enthusiasts and the general public to discover fishing techniques, equipment, accessories and to enable people to learn about applied actions for responsible and sustainable fishing. As a means for visibility enhancement and to demonstrate community engagement, the MOI showcased the various research activities towards the development of the blue economy. Live interactions with the public on the research activities undertaken by the scientists were carried out and displays were set up.



Part III – Financial Performance

Financial Highlights of the Ministry

The Ministry is allocated its yearly budget through two votes: Vote 19-1 Ocean Economy and Vote 19-2 Fisheries.

Statement of Revenue of the Ministry

SN	Revenue	2020-2021 Actual (Rs)	2021-2022 Estimates (Rs)	2021-2022 Actual (Rs)
1	Fishing Vessel Licence	22,774,917	90,000,000	91,953,693
2	Fishmonger Licence	-	2,000	345,125
3	Ship's Registration Fee	157,269	240,000	458,074
4	Annual Fees (Shipping)	8,047,521	8,500,000	7,530,102
5	Processing fees for Inspection	4,325,000	5,000,000	4,800,000
6	Permits/Fees to Operate in Marine Protected Areas (MPA)	1,283,000	3,000,000	954,400
7	Fees for services provided at the Competent Authority for Seafood (CAS)	3,470,500	6,200,000	2,935,800
8	Sales of Produce	233,401	560,000	185,346
9	Miscellaneous Sales of Goods and Services (Fisheries)	6,236,752	11,000,000	10,533,108
10	Miscellaneous Sales of Goods and Services (Shipping)	4,271,616	5,700,000	4,972,046
Total		46,474,976	130,202,000	124,667,694

Table 23 : Statement of Revenue of the Ministry

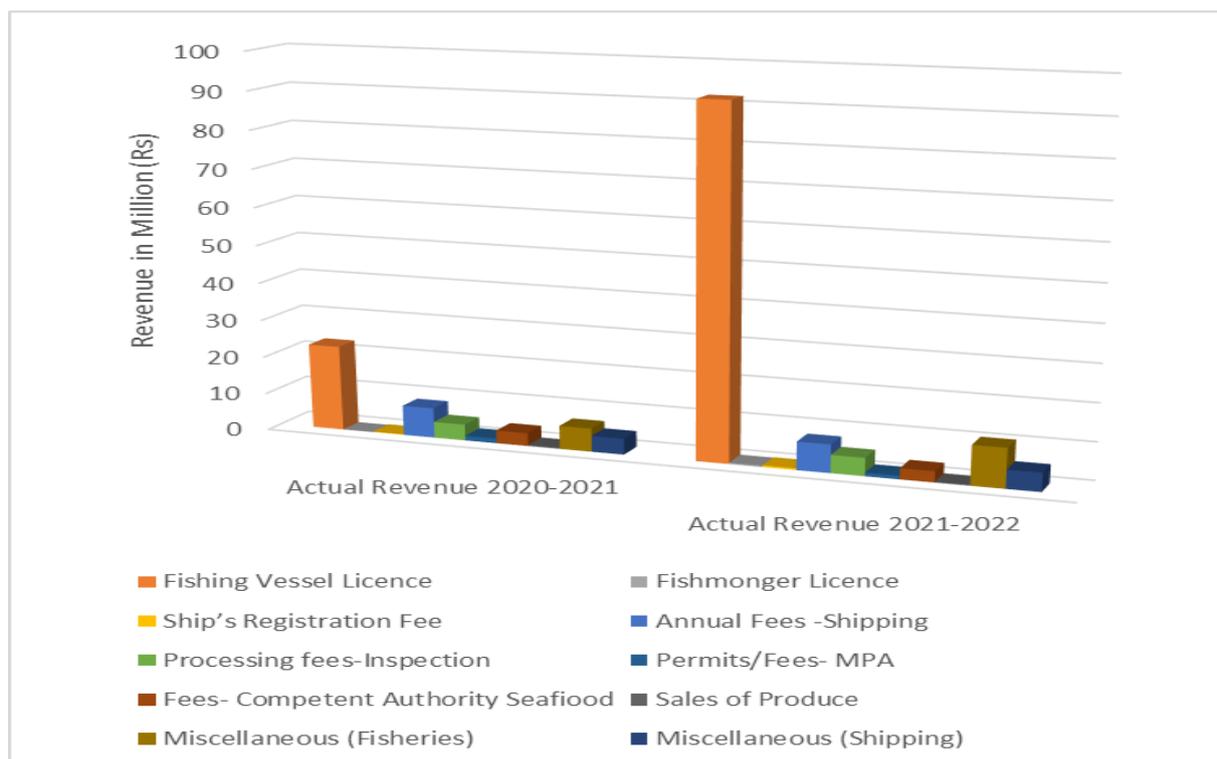


Figure 18 - Actual Revenue of the Ministry for FY 2020-2021 and FY 2021-2022

The financial highlights of the Expenditure by Votes and the Categories therein for the financial year 2021-2022 are illustrated below:

Expenditure for Vote 19-1 Ocean Economy

	Expenditure	2020-2021 Actual (Rs)	2021-2022 Estimates (Rs)	2021-2022 Actual (Rs)
1	Compensation of Employees	71,794,863	84,550,000	80,317,327
2	Goods and Services	63,384,092	80,660,000	55,768,640
3	Subsidies	402,328	450,000	428,800
4	Recurrent Grants	41,778,424	83,400,000	58,288,290
5	Capital Grants	5,429,474	3,600,000	2,901,367
6	Social Benefits	10,000	10,000	10,000
7	Other Expenses	315,000	330,000	330,000
8	Acquisition of Non-Financial Assets	0	3,000,000	0
	Total	183,114,181	256,000,000	198,044,424

Table 24 : Statement of Expenditure of Ocean Economy

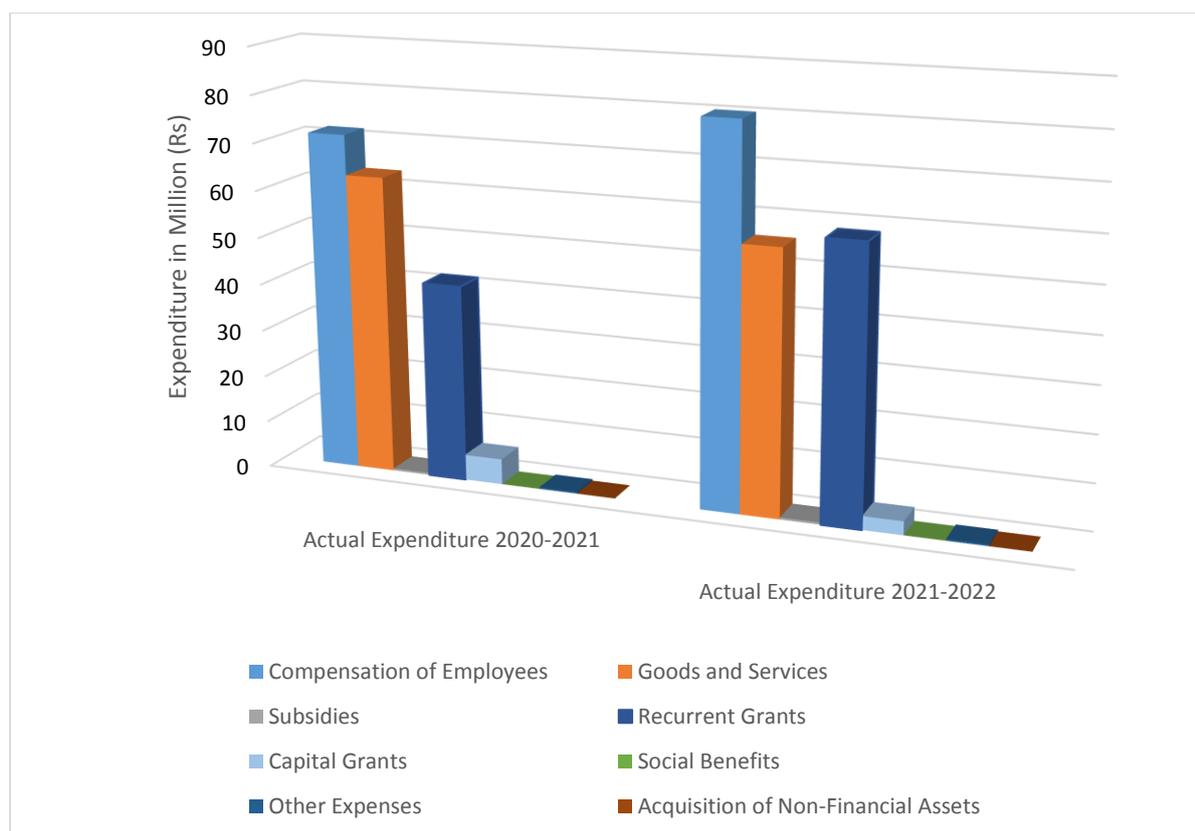


Figure 19 - Estimated and Actual Expenditure of Ocean Economy for FY 2021-2022

Expenditure for Vote 19-2 Fisheries

SN	Expenditure	2020-2021 Actual (Rs)	2021-2022 Estimates (Rs)	2021-2022 Actual (Rs)
1	Compensation of Employees	153,437,059	168,250,000	165,315,867
2	Goods and Services	35,983,106	65,300,000	47,192,242
3	Recurrent Grants	9,970,000	12,150,000	15,241,932
4	Other Expenses	10,053,968	35,200,000	21,922,927
5	Acquisition of Non-Financial Assets	19,093,824	47,100,000	20,064,914
Total		228,537,957	328,000,000	269,737,882

Table 25 : Statement of Expenditure of Fisheries

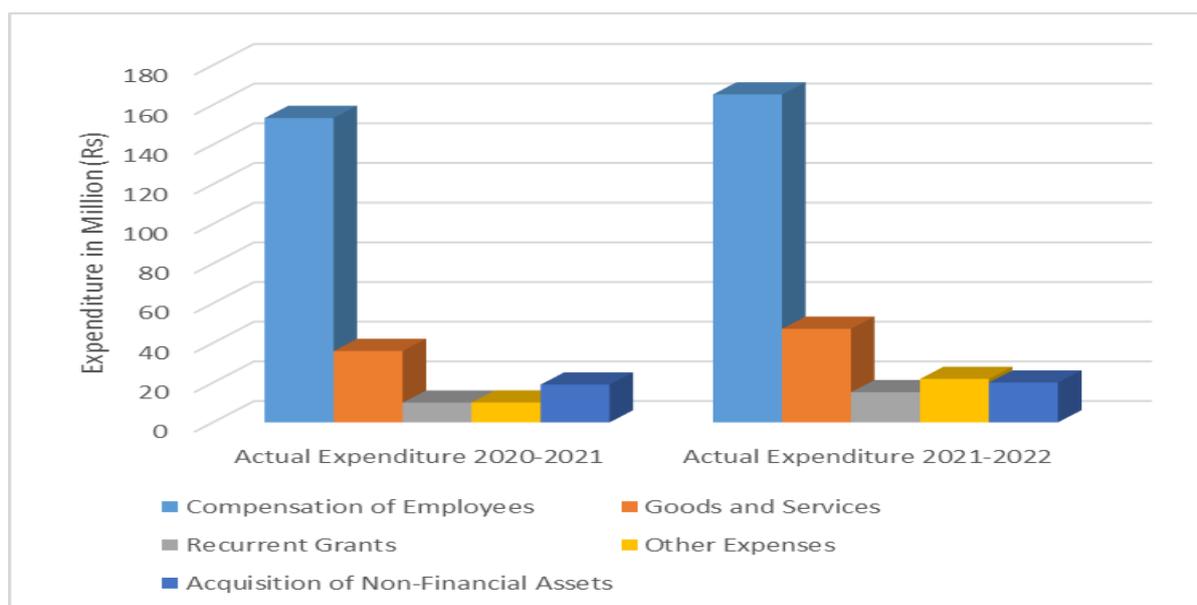


Figure 20 - Estimated and Actual Expenditure of Fisheries for FY 2021-2022

Analysis of Major Changes

Revenue

The expansion in economic activities post Covid-19 has resulted in an increase in actual revenue of 168 % in FY 2021/22 as compared to that of FY 2020/21. This is mainly explained by increases in the revenue of “Fishing Vessel Licence” and “Ship’s Registration Fees” and partly offset by decreases in the revenue of “Permits/Fees to operate in Marine Protected Areas” and “Sales of Produce”.

A decrease of 4 % in FY 2021/22 is noted when comparing the estimated total revenue with the actual total revenue of the same financial year.

Expenditures

The actual total Expenditure in FY 2021/22 shows an increase of 8% for Ocean Economy when compared to that in FY 2020/2021. This rise is due to increases in expenditure for “Recurrent Grants”, “Compensation of employees” and “Subsidies” partly offset by decreases in expenditure for “Capital Grants” and “Goods and Services”.



A decrease of 23% is noted for Ocean Economy when comparing the estimated and the actual total expenditure in FY 2021/22.

The actual total Expenditure in FY 2021/22 shows an increase of 18% for Fisheries when compared to FY 2020/2021. This rise is mainly due to increases in expenditure for “Other Expenses”, “Recurrent Grants” and “Goods and Services”.

A decrease of 18% is noted for Fisheries when comparing the estimated and actual total expenditure in FY 2021/22.

Performance of Procurement and Supply Section

The Procurement and Supply section of the Ministry carried out its activities in order to ensure that the objectives of the different departments of the Ministry are achieved. A breakdown of the different activities carried out by the Procurement Section and the value of contracts awarded during the financial year under report is given in Table 26 hereunder:

Tenders launched/Contracts awarded	Number
Formal tenders	101
Informal tenders	358
Value of Contracts awarded/ Donation	Amount (Rs.)
Total value of contract amount awarded above Rs. 100,000	28,146,203.13
Total value of contract amount awarded below Rs. 100,000	5,160,151.02
Total contract amount awarded to SMEs	28,155,859.22
Donations received	174,000.00
Value of physical stock as 30 June 2022	3,279,597.25
Number of Contracts awarded	Number
Contracts awarded to SMEs	340

Table 26 : Activities carried out by the Procurement Section for FY 2021-2022



Part IV – Strategic Direction and Way Forward

SWOT Analysis

Strengths

- Good international relations with relevant organizations (WOAH, SADC, FAO) and Competent Authorities of other countries for official control;
- Proximity and trading relations with main markets (EU and non-EU countries);
- Mauritius has a good Aquatic Animal Health Status with regard to infectious fish diseases listed by the World Organization for Animal Health (WOAH);
- Reliable and reputable International Ship Registry;
- Pool of qualified technical staff;

Weaknesses

- Poor regulatory framework restraining commercial aquaculture development;
- No aquatic animal health laboratory in Mauritius;
- Ageing seafaring elite;
- Lack of financial incentives to develop the luxury yachts industry;
- Delay in the implementation of future projects, namely, seed production of sea cucumber, seed production of marine shrimp (*Penaeus monodon*) and the importation of live feed species due to the flight restrictions following the Covid-19 pandemics;
- The building infrastructure of the MMTA is a modern one but yet to be equipped with training equipment. There is a lack of adequate technical staff for imparting instructions/training (scarcities areas);



Opportunities

- Increasing sustainable aquaculture production;
- Diversification of production by introducing new species in commercial farming;
- Establishment of land-based recirculating aquaculture systems (RAS) on the island;
- Improved shared responsibility for aquatic animal health between government, producers and academia;
- Development of the ship building/ship repair industry.
- Extension of MMTA to provide STCW courses at Officers level.

Threats

- Disease threats and Possibility of environmental pollution from high-intensity aquaculture systems;
- Market instability leading to a decrease in export of fish and fish products;
- Rapid growth of other Maritime Administrations in the Indian Ocean to compete with Mauritius;
- A global shortfall of seafarers;
- The MMTA is facing competitions with private training Institutions.

Challenges

- The Competent Authority Seafood has to constantly meet international standards and importing countries' requirements during its day-to-day activities. In this respect, CA staff have the responsibility to stay updated with regards to those requirements;
- Climate change affect the marine ecosystem, navigation and fishing operations;
- Illegal, Unreported and Unregulated fishing and inadequate resources for monitoring, control and surveillance of coastal waters and large EEZ;
- Inadequate stock assessment of untapped living marine resources in the EEZ of Mauritius and limited local fishing fleet;
- Shortage of skilled personnel in the maritime sector and inadequate skilled fishers in the longline/purse seine fisheries;
- Degrading of coastal and marine environment;



- Lack of resources and opportunities for enhancement of visibility for the research work and activities undertaken;
- Staff turnover thus impacting on the capacity to be adequately responsive to various requests from stakeholder Ministries.

Current and Future Projects

Implementation of a National Aquatic Animal Health Strategy and Biosecurity (NAAHS&BS) plan for Mauritius.

- Production of Gouramy fingerlings in ponds at AFRC;
- Seed production of sea cucumber at AFRC under the Australian Food Aid Programme;
- Seed production of marine shrimp (*Penaeus monodon*) at AFRC;
- Live feed production of five species of phytoplankton: *Chaetoceros spp*s, *Pavlova*, *Phaeodactylum tricornortum*, *Isocrysis*, *Tetraselmis spp*s;
- International Atomic Energy Agency (IAEA) Technical Cooperation Project.

Dr. M. Y Descraoui Bottein, IAEA Technical Expert, effected an Expert Mission (EM) at AFRC from 25 to 28 January 2022 to assess the capabilities of the Fish Toxicity Laboratory and prepare a work plan for capacity building. The EM was organised by the IAEA under the framework of the Technical Cooperation Project “MAR7006 - *Enhancing National Capabilities for Analysis, Monitoring and Mitigation of Ciguatera and Other Fish Poisoning*”;

- MMTA has already embarked in the design and development of new courses in line with 2010 Manila Amendments to the STCW Convention, 1978, as amended and guidelines from the Shipping Division. The new courses are as hereunder:
 - (i) Pre-Sea Course for Deck and Engine Room Rating (New Entrants)
 - (ii) Advance Fire Fighting
 - (iii) Medical First Aid/Medical Care
 - (iv) Able Seafarer (Deck and Engine)
 - (v) Officer of the Watch (OOW) Course for Navigational and Engineering Watch



- Restoring marine ecosystem services by rehabilitating coral reefs to meet a changing climate future.

The United Nations Development Programme - Adaptation Fund (UNDP-AF) project is a regional project with components in the Republic of Mauritius and Republic of Seychelles. The Project which was approved by the Adaptation Fund in October 2018 started in 2020 and will be implemented over a period of 6 years (72 months). In the Republic of Mauritius, the partners involved are the Ministry of Blue Economy, Marine Resources, Fisheries and Shipping, Mauritius Oceanography Institute (MOI), the Albion Fisheries Research Centre (AFRC) and Rodrigues Regional Assembly. The aim of the project is enhancement of food security and reduction of risks from natural disasters through the restoration of degraded reefs in Mauritius and Seychelles and knowledge management and sharing, training and sensitization to build regional capacity for sustainable reef restoration.

- Assessment of marine living resources

The MOI initiated an inventory of marine living resources in the EEZ of Mauritius using contemporary tools such as DNA-based techniques combined with taxonomical identification.

In order to meet the objectives set for the project, an inventory of crustaceans is important so as to understand the diversity of this phyla in Mauritius waters. The project is in line with the sustainable development goal 14 (SDG14) of the United Nations as well as the Government's Vision 2030 whereby protection and preservation of marine living resources is key to the establishment of a sustainable ocean economy in Mauritius.



Strategic Direction and Way Forward

- Enhance the capabilities of the Shipping Division and achieve excellence as a Maritime Safety Administration;
- Develop an appropriate legal and Regulatory Framework;
- Addressing the acute shortage of seafarers;
- Provide Maritime Education and Training;
- Preparation of a Barachois Policy for allocation of barachois vested in this Ministry for aquaculture development;
- Construction of an additional hatchery at AFRC to increase fish fingerlings production;
- Characterization of four additional off lagoon fish farming zones;
- Provide support for acquisition of fishing vessels to increase local fleet;
- Boost local fish and fishery resources production by encouraging sustainable aquaculture;
- Identify new fishing ground and exploitation of untapped resources and adopt new fishing techniques;
- Promote flagging of tuna fishing vessels in Mauritius;
- Establish additional Marine Protected Areas;
- Implement coral farming programme for restoration of degraded reef;
- Monitoring of the coral reef ecosystem, aquaculture sites and seawater quality screening of fish for toxicity;
- Propagation of mangroves and restoration of the seagrass ecosystem;
- Monitoring of aquaculture sites for biosecurity reasons;
- Reinforce surveillance and patrols at sea and the port.



List of Acronyms

AFRC	-	Albion Fisheries Research Centre
CASF	-	Competent Authority Seafood
DCD		Dissostichus Catch Document
DED		Dissostichus Export Document
EEZ	-	Exclusive Economic Zone
EU	-	European Union
FAD	-	Fish Aggregating Devices
FiTEC	-	Fisheries Training & Extension Centre
FPS	-	Fisheries Protection Service
FY	-	Financial Year
GMDSS	-	Global Maritime Distress and Safety System
GRSE	-	Grand River South East
ILO	-	International Labour Organisation
IMO	-	International Maritime Organization
IMSO	-	International Mobile Satellite Organisation
IOTC	-	Indian Ocean Tuna Commission
IUU	-	Illegal, Unreported and Unregulated
LRIT	-	Long Range Identification and Tracking of Ships
MAURITAS	-	Mauritius Accreditation Services
MCS	-	Monitoring, Control and Surveillance
MMTA	-	Mauritius Maritime Training Academy
MSA	-	Merchant Shipping Act
NGO	-	Non-Governmental Organisation
PBBS	-	Port Biological Baseline Survey
SOLAS	-	International Convention for the Safety of Life at Sea, 1974 (as amended)
STCW	-	International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978 (as amended)
VGM	-	Verified Gross Mass
VMS	-	Vessel Monitoring System

