JAMAICA FISHERIES:
Quarterly Statistics Report
Volume 1: Issue 3
JANUARY – MARCH 2023

NATIONAL
FISHERIES
AUTHORITY

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Front cover photo:

National Fisheries Authority

Acknowledgements

NATIONAL FISHERIES AUTHORITY,

The National Fisheries Authority (NFA) takes this opportunity to acknowledge the contribution of all fisheries and aquaculture stakeholders, in particular fishers, fish farmers, vendors, and processors that provided information on all data captured herein which made it possible for the timely compilation of the report.

The contribution made by all staff members is appreciated. In particular, the Extension Officers and Data Collection Officers conducted the data collection, compilation, processing, and analysis accordingly.

The Fisheries Statistics and Data Management Branch of the Fisheries Compliance, Licensing, and Statistics (FCLS) Division produced the report in collaboration with the NFA's Capture Fisheries and Aquaculture Divisions.

FCLS Division – Dr Zahra H. Oliphant, JP (Principal Director), Mr Garth Brown (Senior Director, Statistics & Data Management), Mrs Anginette Murray (Statistician/Data Manager), Mr Ian Jones (Senior Director, Compliance), Mr Lance McDonald (Licensing & Registration Manager), Mr Jvawnie Montgomery (Senior Compliance Officer), and Data Collection Officers – Ms. Kishawna Green, Ms. Shantol Powell, Mr. Robert Kenward, Mrs. Sashay Liking-Tennant, and Ms. Randeen Harrison.

Capture Fisheries Division: Mr. Stephen Smikle (Principal Director), and Mr. Howard Simpson (Senior Fisheries Extension Officer / Fisheries Inspector).

Aquaculture Division: Mrs. Avery Smikle (Principal Director), Ms. Kerrone Fairclough (Regional Fisheries Extension Officer), and Mr. Dehaan Brown.

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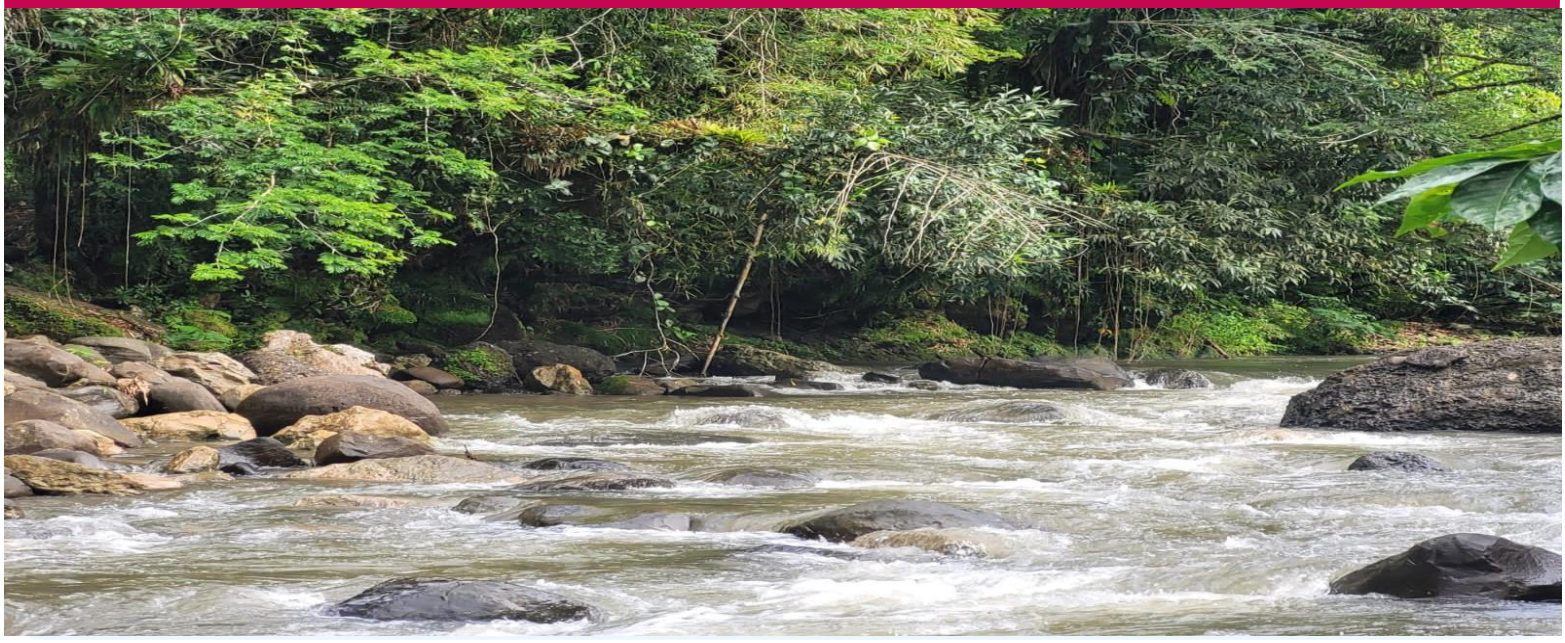


User Guide

This report provides details of the performance of the fisheries sector for the quarter of January to March 2023, in support of the GOJ's Programme and Sub-Programme objectives for Agriculture and Fisheries, i.e. *To increase agricultural production by at least 15% to meet domestic, export and manufacturing input demand* and *to improve the economic, social and ecological value of capture fisheries and aquaculture while increasing fisheries contribution to GDP to 0.6%*.

The Quarterly Statistics Report was developed by the National Fisheries Authority, Jamaica (NFA) and serves as a tool of accountability for the Jamaican Government. It also provides a valuable resource for NFA's clients, government at all levels, industry, and the general community.

Part 1 – The National Fisheries Authority

Provides an overview of the activities of the National Fisheries Authority.

Part 2 – Statistics Report Framework

Details NFA's Quarterly Statistics Report explaining its purpose, scope, and methodology used in capturing our performance results.

Part 3 – 4th Quarter Statistics Performance

Describes the performance of the two technical arms of the NFA – Capture Fisheries and Aquaculture, for the quarter, any significant operational success, opportunities, and challenges faced in meeting the Authority's objectives.

Part 4 – Conclusion

This section summarises the performance results for the quarter, and any significant operational changes, and highlights the opportunities and challenges the sector faces.

Part 5 – Appendices

BIG FISH CAUGHT IN JAMAICA WATERS

Photo courtesy: *App Developer Magazine.*

Photo courtesy: Mrs Anginette Murray
Location: Pagee Beach, Port Maria – St. Mary
Weight: 149lbs
Species: Blue Marlin

Photo courtesy: Gayon, NFA Compliance Officer
Location: St. Elizabeth
Weight: 27lbs
Species: King Fish

Photo courtesy: Garth Brown
Location: Whitehouse Beach, Westmoreland
Weight: 18lbs
Species: Snapper

Photo courtesy: Mr Robert Kenward
Location: Savanna la mar Fishing Beach
Weight: 22lbs
Species: Snapper

Photo courtesy: Mr Richard Smith
Location: Kingston, near Marine Police Base
Weight: 120lbs
Species: Tarpon

Photo courtesy: Garth Brown
Location: Alligator Pond Fishing Beach
Weight: 14lbs
Species: Snapper

Part 1

The National Fisheries Authority

PART 1

The National Fisheries Authority

PART 1

Jan – Mar 2023 Snapshot

Sustainable Fisheries Management

Two Fish Seizures
Totalling:
13.3kg (Lobster) and 82.3kg (Conch)

JMD $531K in Fines from 4 cases

Fisheries Management

2,242
Fisher Licences issued

36%
Increase over last quarter

36%
Represent new licence

FISHERIES ENFORCEMENT

Joint Enforcement Inspections with JCF

Socio-Economic

Sex Distribution of Licensed Fishers

1,736 Males
220 Females

21%

63%

Average Age Distribution of Licensed Fishers

Newly licensed:
17-35years

Renewal licensed:
36-55years

BOAT LICENSES ISSUED

393

8%
Increase over last quarter

19% new

The National Fisheries Authority

Our Agency

The National Fisheries Authority (NFA) was established as a body corporate, under Section 5(1) of the Fisheries Act, 2018, with the mandate being that the Authority will be responsible for the management and development of fisheries and aquaculture. The Authority is, therefore, the sole body with the responsibility of ensuring that there is conservation of Jamaica's fisheries, collection, compilation, and analysis of statistics for the sector, monitoring, control, and enforcement of activities related to fisheries and aquaculture; as well as, granting of licences, authorizations and permits and allocation of fishing rights and quotas for all who intend to fish in Jamaica's waters. Before its establishment, the fisheries and aquaculture sectors were regulated by the Fisheries Division which was established in 1949 and as a government division, fell within the portfolio with responsibility for Fisheries. Transitioning to a statutory body allows the NFA to regulate the fisheries and aquaculture sectors more independently within the structure of a strengthened legislative framework, enabled by the new Act.

Photo Courtesy: CMC and Caribbean Today
Minister of Agriculture and Fisheries Pearnel Charles Jr. (right), in dialogue with (from left) CEO of the National Fisheries Authority, Dr. Gavin Bellamy and Project Lead, United Nations Development Program (UNDP) Blue Resilience Project, Dr. Emma Witbooi, during the launch of the multi-agency fisheries crime-prevention mechanism.

Role and functions

The NFA is the Jamaican Government agency responsible for the provision of regulatory and other services to ensure efficient and sustainable management of Jamaica fisheries on behalf of the Jamaican community. The challenge in delivering these services is to find the right balance between competitive and profitable aquaculture production and keeping the impacts of fishing on Jamaica's marine ecosystems within sustainable and acceptable risk levels.

Our fisheries management practices aim to maintain the environmental sustainability of commercial fisheries for Jamaicans both now and into the future. These practices have regard to the impact of fishing on non-target species and the long-term health of the broader marine environment.

The National Fisheries Authority is also responsible for international fisheries matters, including preventing illegal foreign fishing in the Jamaican Fishing Zone. NFA participates in the management, monitoring, control, and surveillance activities as well as developing capacity-building activities, and providing advice and training to the Jamaican Fishers.

PHOTO: DAVE REID

Executive Director, Transformation Implementation Unit (TIU), Maria Thompson Walters (left), presents a laptop to the winner of the National Fisheries Authority (NFA) logo competition for its new information system – IrieFINS – Danielle Barnes, of the Ministry of Finance and the Public Service (right). With them is the NFA's Principal Director of Fisheries Compliance Licensing and Statistics, Dr. Zahra Oliphant.

Organizational Structure

The NFA, with a staff complement of 290 persons, is governed by a Board which advises the Minister with responsibility for fisheries, while the Chief Executive Officer is responsible for carrying out the functions and managing the operations of the Authority.

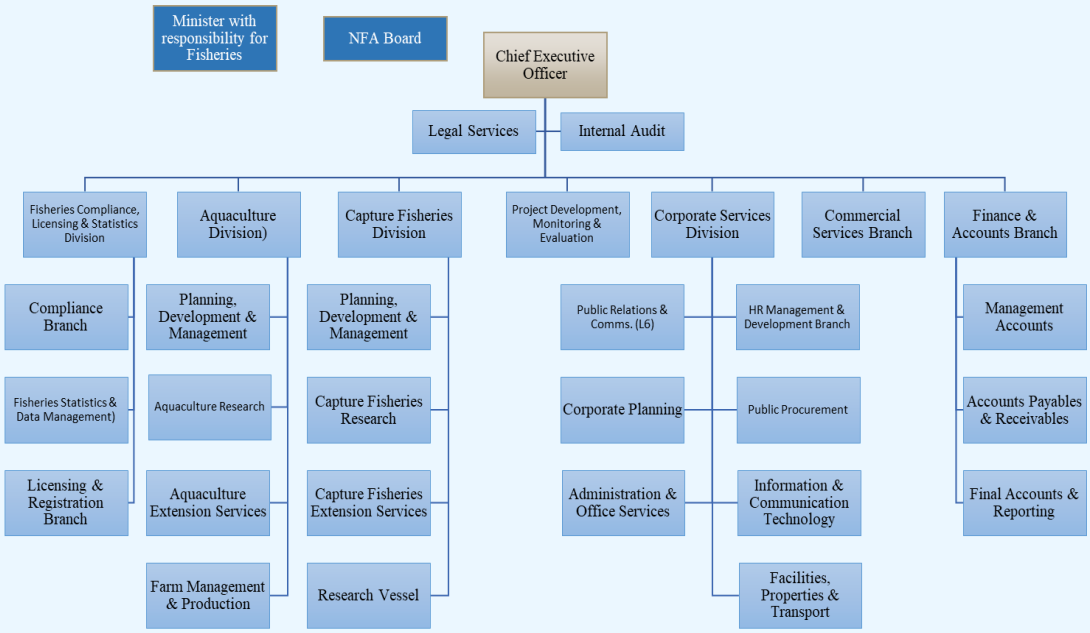


Figure 1 National Fisheries Authority of Jamaica Organizational Chart

Vision, Mission, Values

MISSION:

To facilitate the sustainable development of the Jamaican fisheries sector, including aquaculture, through effective and efficient management, regulation, administration, and participatory governance for the benefit of all Jamaicans.

VISION:

The NFA is a model of excellence in capture fisheries and aquaculture management and development.

CORE VALUES:

- *Integrity*
- *Accountability*
- *Fairness*
- *Respect*
- *Transparency*
- *Goal Oriented*
- *Professionalism*
- *Teamwork*

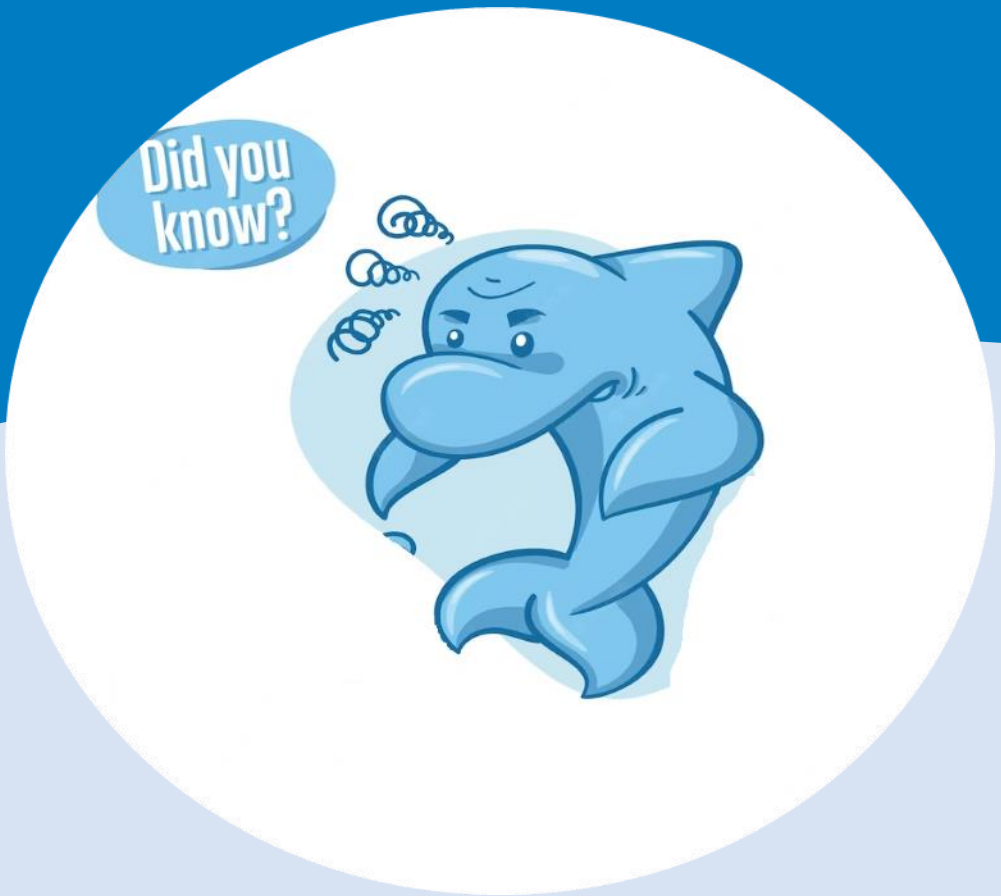


Photo courtesy: Freepikcompany

NAMES GIVEN TO FISH SPECIES IN JAMAICA

COMMUNITY NAME	SPECIES NAME	PARISH	PICTURE
Dog Teeth Snapper	*Lutjanus jocu*	Commonly caught in St. Ann	
Candy Snapper	*Lutjanus synagris*	Commonly caught in Old Harbour Bay, St. Catherine	
Cow Fish	*Acanthostracion polygonius*	Commonly caught in Old Harbour Bay, St. Catherine	
Moon Shine Snapper	*Priacanthus cruentatus*	Commonly caught in St. Ann	
Blackbar Soldiers	*Myripristis jacobus*	Commonly caught in St. Ann	
Goat Fish	*Mullus surmuletus*	Commonly caught in St. Ann	

PART 2

Statistical Report Framework

About NFA's Statistical Report Framework

Solid policy design and decision-making, which are predicated on hard evidence, are achievable through the provision and availability of timely, accurate, and high-quality data and statistics. This is recognized by Governments worldwide and as such, there is a high level of commitment at the policy level, as is stated in several sectoral and national development plans, as well as regional and global development agendas.

This publication is the third issue in a series of publications of Quarterly Reports by the National Fisheries Authority (NFA), as part of its ongoing programme to provide data and statistical information (production, social and economic) on the performance of the fisheries and aquaculture sector.

The data and statistical information in this report highlights the sector performance for the fourth quarter (January – March, 2023) of the financial year (2022-2023). The publication of this Report is intended to support sound decision-making and policy development for the sustainable growth and development of the fisheries and aquaculture sector locally and internationally.

Methodology

'The objective of the present data acquisition system is to collect basic fisheries data by sampling representative landing sites in Jamaica. The monitoring system provides accurate data on catches, effort, catch by fishing ground, the value of the catch, length of fish landed and data on fishing gear.'

The strategy for sampling from artisanal fishers is as follows:

1. Jamaica is divided into three statistical areas, the North Coast, South Coast, and Offshore Cays (Morant and Pedro), based on the nature of the fishery.
2. Landing sites are stratified by fishing ground, beach size (according to the number of boats), gears, and fish type. The categories are used as sampling strata and it is assumed that within a stratum, the gears, vessels, and fishing grounds are homogeneous throughout the area. This means that fishermen at all beaches within a category have access to fisheries of similar productivity. Once all the beaches were classified into strata, one or more beaches were selected to be sampled in each stratum (Figure 1).
3. The data are collected from fishers by the Data Collection and Extension Officers of the NFA.
4. Each sample beach is visited two days per month and the data collected from vessels landing that day. The data include vessel identification, fishing effort (amount of gear, number of crew, hours fished), fishing ground, species landed by weight, and the price. Other data collected include the total number of vessels that went to sea that day, the number of fishing days for the month, and descriptive comments on the weather and beach conditions.
5. Biological data such as weight, length, sex, and maturity of select species are also collected monthly. These species include Caribbean spiny lobster, dolphinfish, skipjack tuna, and conch. In conjunction with the catch and effort data, the biological data are used for stock assessment and for detecting trends, etc., which are necessary for proper decision-making.

6. Estimation of the total landings is based on the following:
   - ✓ Percentage of active vessels/gears for the sampled site(s)
   - ✓ Total fish landings at the known site for the sampled site(s)
   - ✓ Estimate of the Catch per unit of effort (CPUE) for the sampled site(s)
   - ✓ Calculate the estimate of active vessels/gears that went to sea multiplied by CPUE for un-sampled sites.
   - ✓ The summation of sampled and un-sampled sites will give total landings.
   - ✓ Calculations are done by stratification e.g. coastal pelagics.

Photo courtesy: NFA
Fishermen licensing session, Treasure Beach.

Photo courtesy: NFA
NFA Research Officers Ms Black and Ms Feddis conducting a Conch Survey of Fishermen in Westmoreland.

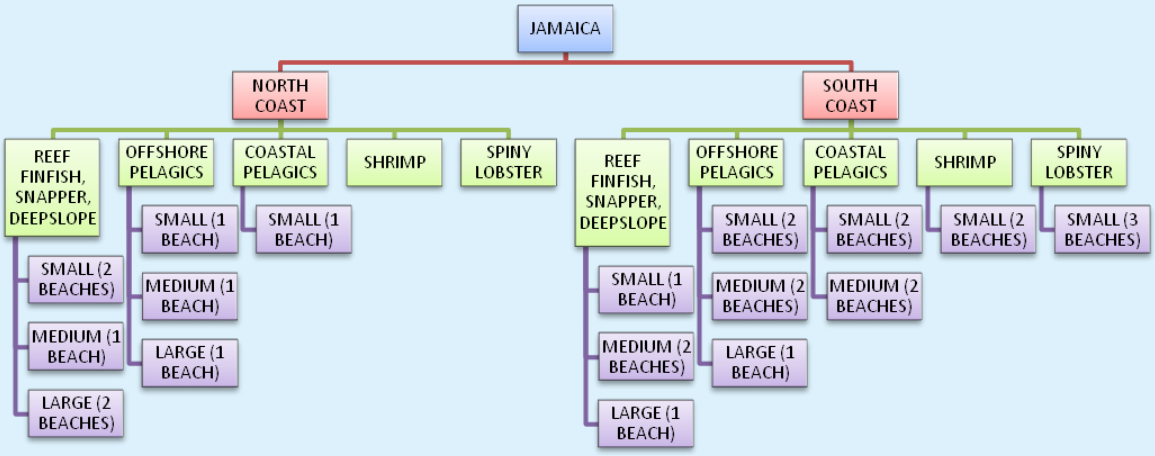


Figure 2 Overview of the sampling plan for the artisanal fishery of Jamaica

As it relates to the industrial (large-scale) fisheries, completed vessel log sheets are collected from the operators of industrial fishing vessels on the day of landing. The data captured on the log sheet include but are not limited to, catch, effort, location, gear type, level of processing on factory vessels and fishing ground. Landings are verified through inspections of catch at the landing sites.

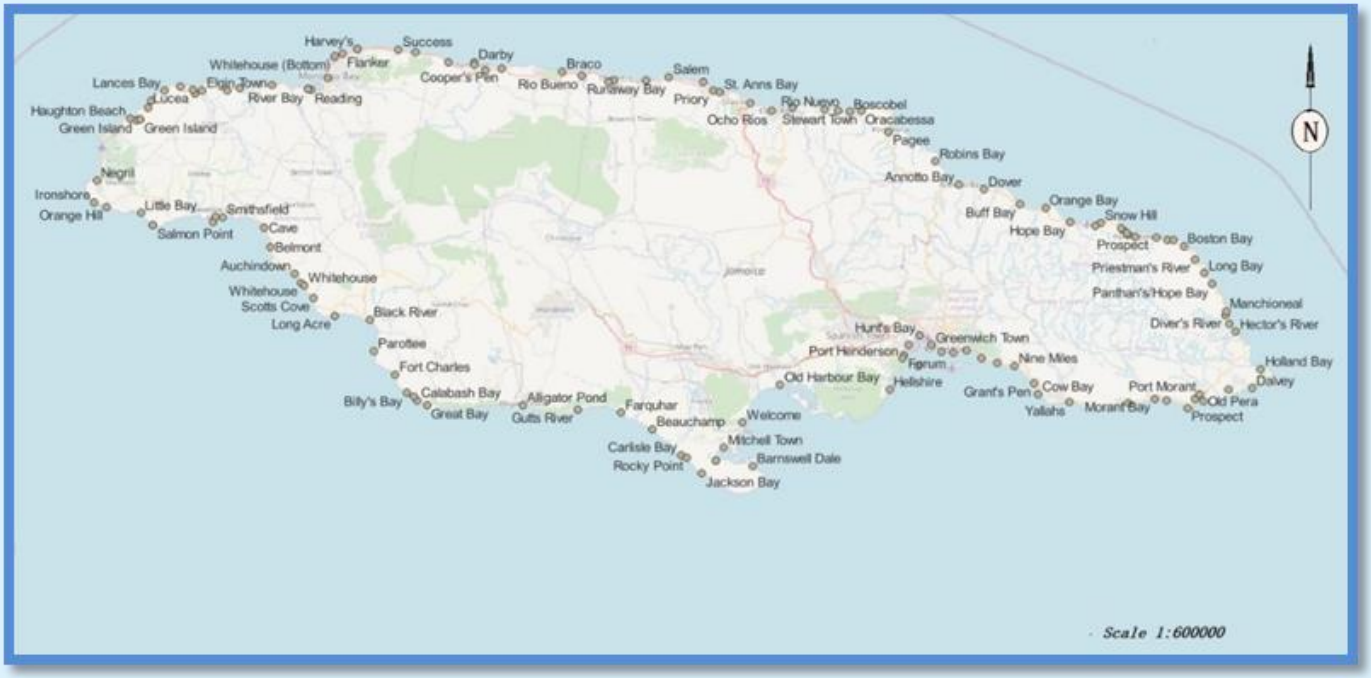


Figure 3 The Fishery areas of Jamaica

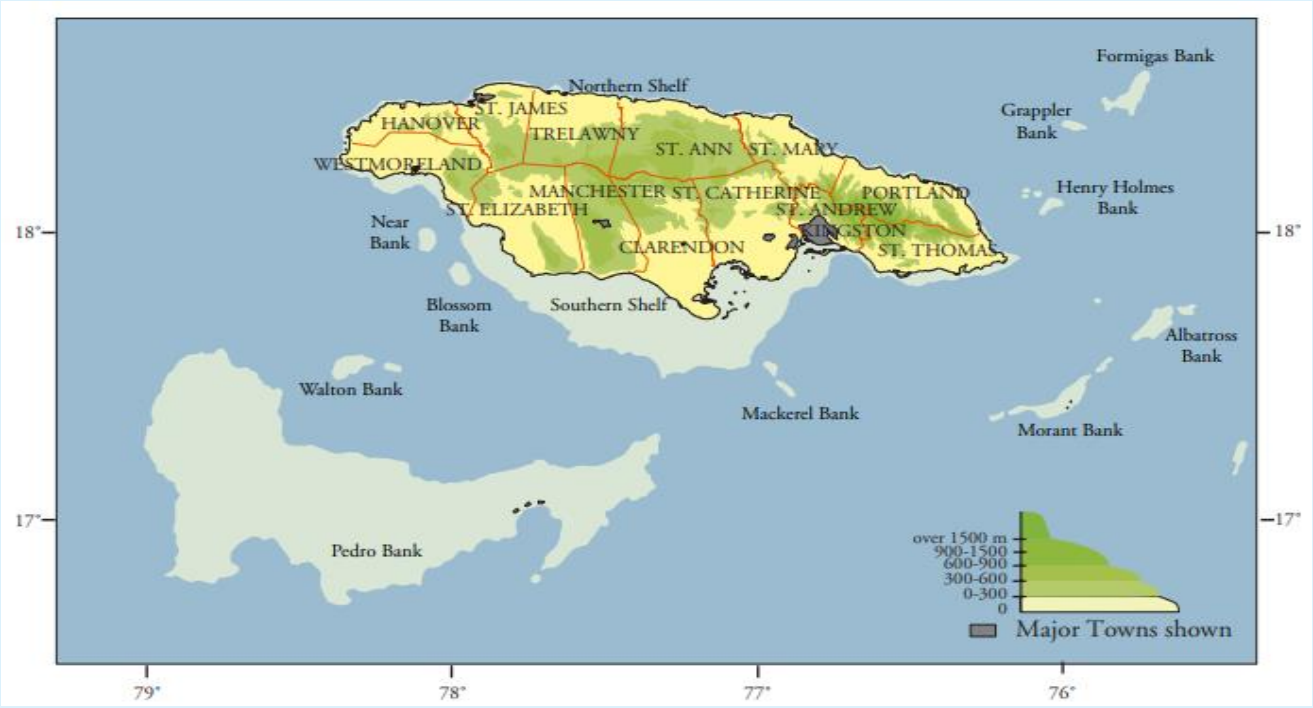


Figure 4 Major marine fish landing sites on the mainland, Jamaica

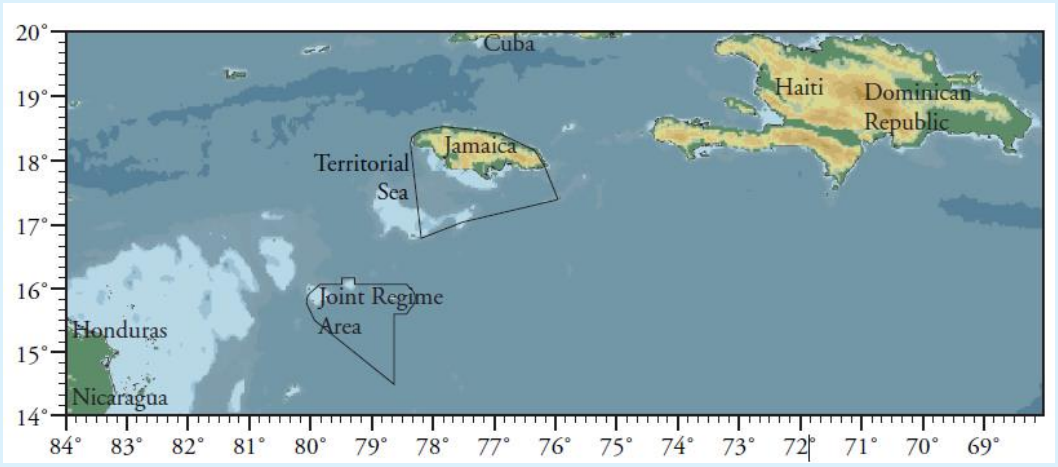


Figure 5 Regional position of Jamaica including delimited territorial waters and the Jamaica-Colombia Joint Regime Area

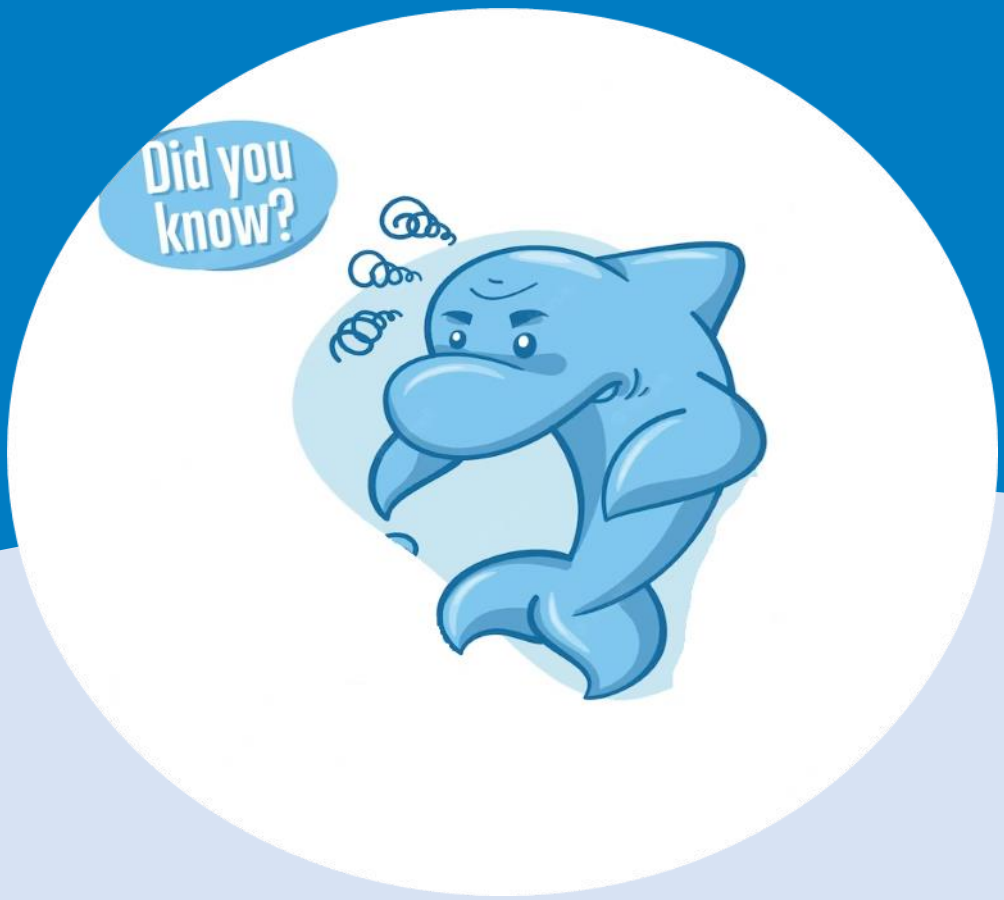
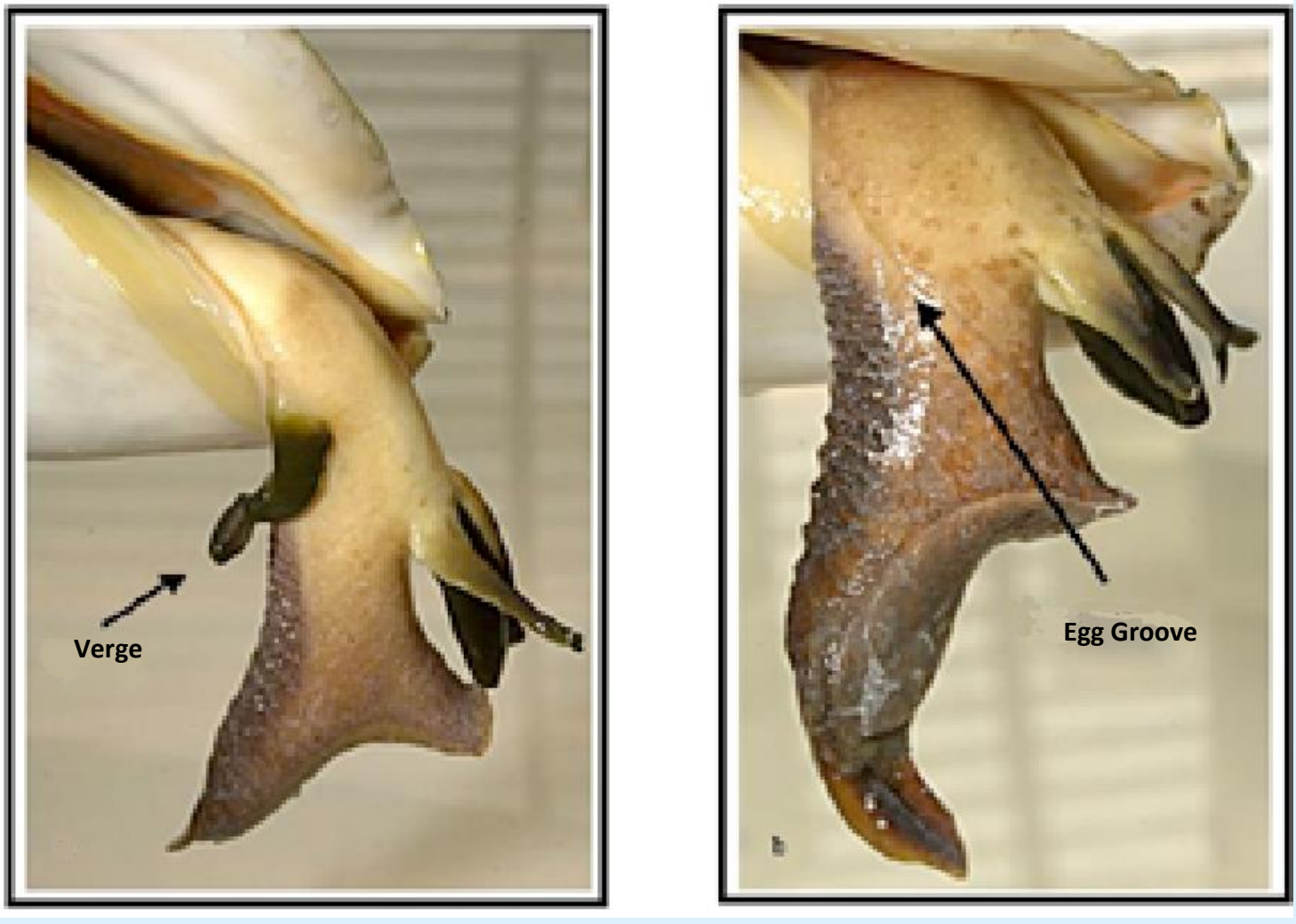


Photo courtesy: Freepikcompany

QUEEN CONCH
Gender Identification

Male Female



PART 3
4th Quarter Statistics

PART 3

4th Quarter Statistics Performance

1) CAPTURE FISHERIES
    a) Fishing Fleet
    b) Licensing Categories
    c) Estimated Production and Value
    d) Factors affecting the industry
2) AQUACULTURE
    a) Production
    b) Fish Farmers
    c) Price
    d) Factors affecting the industry
3) COMPLIANCE

Capture Fisheries

Fishing Fleet

For the fourth quarter under review (January to March 2023) there was an 8.8% increase in total number of vessel licence issued for both new and renew. 76 new licences were issued for this quarter representing a 17% decline compared to the 92 issued the previous quarter. The Licensing and Registration Unit has increased its Licensing outreach sessions for this quarter by 76% compared to the previous quarter, as the unit increase its renewal sensitization program coupled with encouraging more Jamaicans to get involved in the industry. For licences being renewed, the NFA recorded a 17.8% increase compared to the previous month, this is encouraging to the Authority as it increases its public campaign on the importance of licence renewal. Increased surveillance and inspection also act as a deterrent to unlicensed fishers. Additionally, the NFA usually have a higher renewal rate from January to March, as most Fishers stationed on the Morant and Pedro Cays usually come ashore to renew their licence.

Table 1 provides information on the number of vessels registered up to the end of the fourth quarter of the financial year 2022/2023.

Table 1 Number of vessel licences issued since 1996 to March 2023.

	Period	Number
Registered Vessels	1996 – March 2023	9,088

Table 2 Number of vessel licences issued for the fourth quarter January – March 2023.

	Jan. – Mar. 2023
New	76
Renewals	317
TOTAL	**393**

This brings the total number of vessels that have been registered from 1996 to March 2023, to 9088.

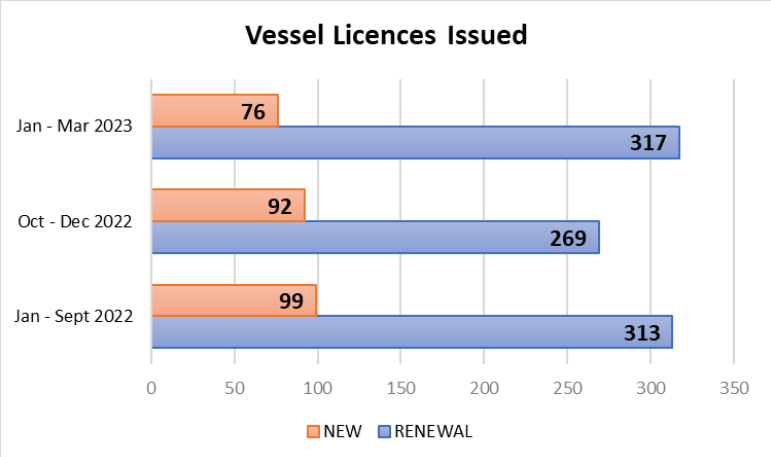


Figure 6 Number of boat licences issued from January to March 2023

The fourth quarter (January - March 2023), showed an average of 131 boat licences being issued per month, representing a 9% increase compared to the previous quarter's monthly average. November 2022 recorded the highest number of new vessel licences issued, over the last two quarters, while October 2022 recorded the highest number of vessel renewals (Figure 7). Of the 393 vessel licences issued from January to March 2023, 19% or 76 represented new applications as highlighted in Figure 6; this represented our best quarter performance. For the financial year the total number of boat licences issued, the majority were from Kingston and St. Catherine areas (Figure 8).

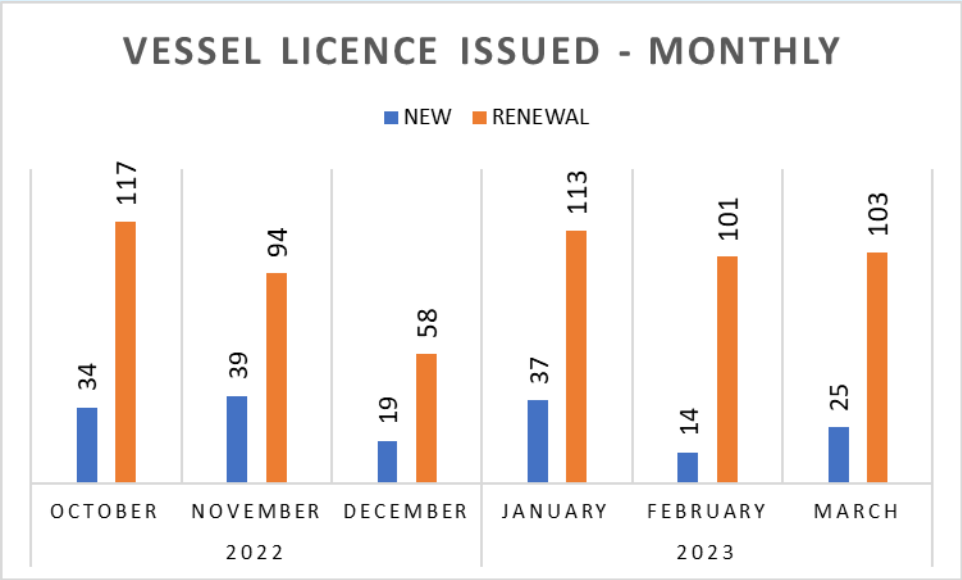


Figure 7 Number of boat licences issued by parish

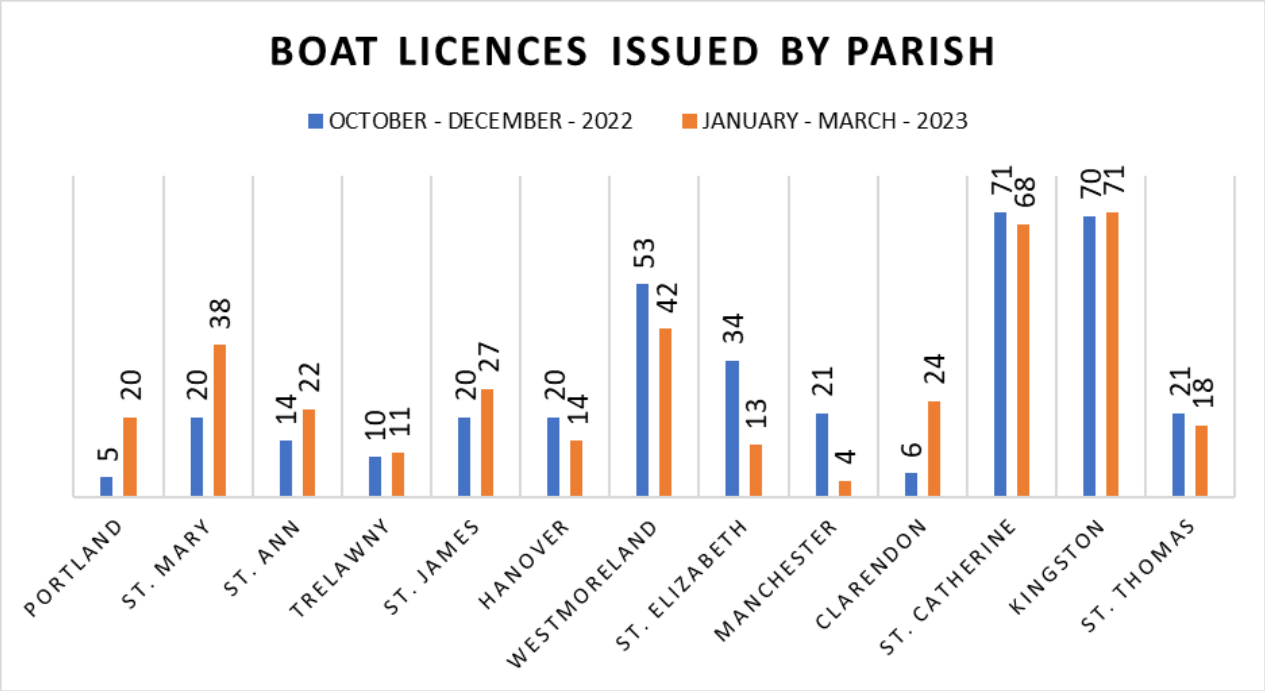


Figure 8 Two Quarter Comparison - Number of boat licences issued by parish

Licensing Categories

During the period January to March 2023, a total of 2,242 licences were issued, with the highest number recorded in January (Figure 9). January normally sees an increase in the number of licences issued due to the number of persons being licensed to fish from Morant and Pedro Cays. The 2,242 licences issued in Q4 [January – March] represents a 32% increase when compared to the previous quarter. For the 4th Quarter under review, most Fishers who renewed their licence were within the age group 36-45; this age group recorded a 52% increase when compared to Q3. 44% of new licences issued in Q4 were fishers within the age group of 17-35; this is encouraging as the Authority continues its drive to have more young Jamaicans getting involved in the sector. New Fisher Licence issued to Fishers within the age group of 17-35 increased by 57% compared to Q3. (Figure 10).

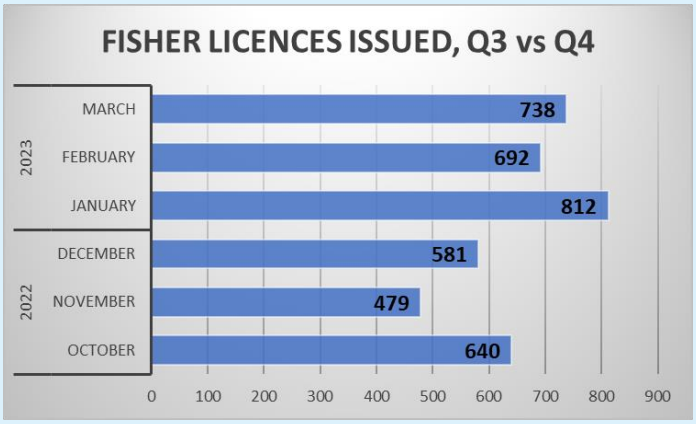


Figure 9 Number of fisher licences issued, Q3 vs Q4

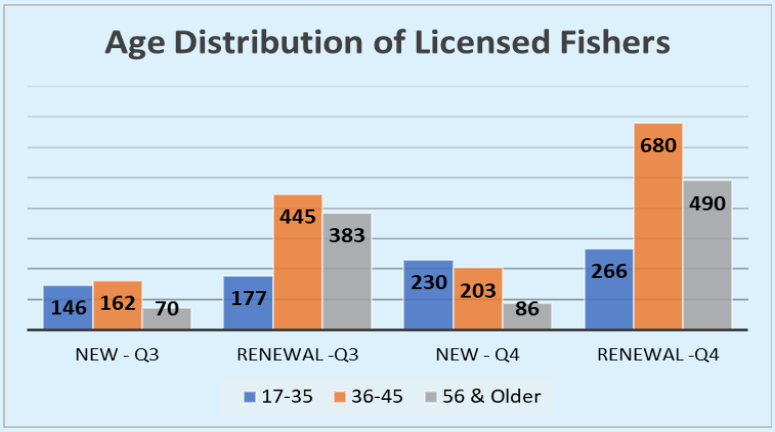


Figure 10 Age distribution of licensed fishers, Q3 vs Q4

Photo courtesy: NFA, Fishermen removing fish caught in their nets.

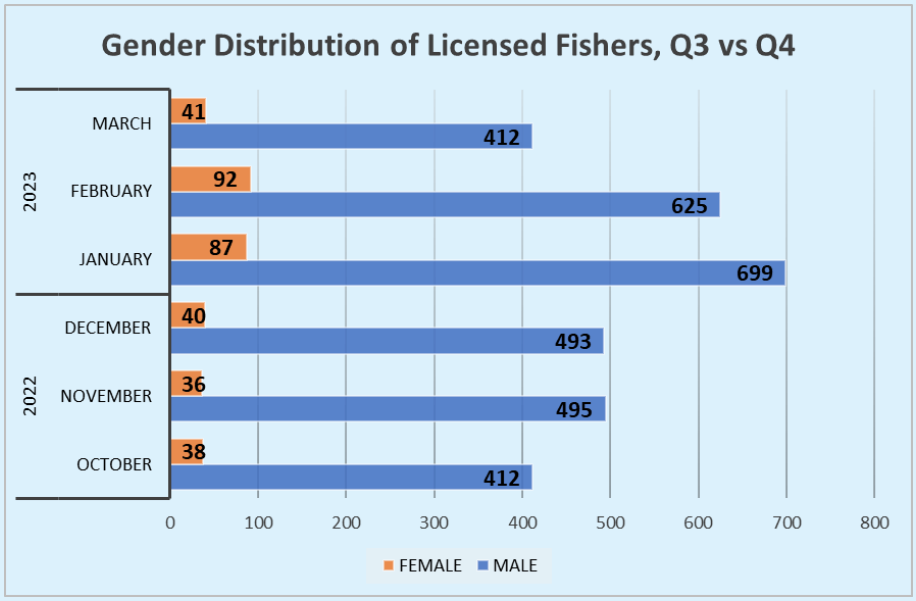


Figure 11 Gender distribution of licensed fishers

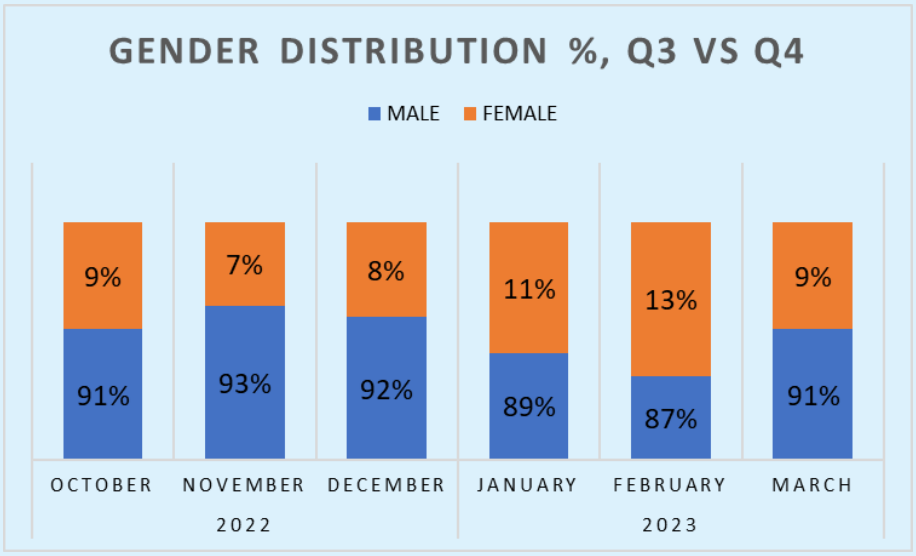


Figure 12 Gender distribution of licensed fishers by %, Q3 vs Q4

Photo courtesy: Anginette Murray
Data Collection Officers in the field.

Photo courtesy: NFA
Data Collection Officers participating in a training event.

Estimated Production and Value

The data collection system for the artisanal fisheries is based on landings at individual beaches, with the average number of days fished per month being twenty days. The artisanal fish production is diverse and includes finfish species (such as snappers, parrotfish, jacks, and grunts), lobster, and conch.

There was a 77% increase in broad categories of fish that were caught within the fourth quarter and this number represented over 270 species of fish, compared to 152 species identified in the 3rd quarter. The Sardines (*Sardinella* spp.), Black Jacks (*Caranx lugubris*) and Herring (*Opisthonema oglinum*) represented the largest catch as it relates to weights. The popular food fish Snapper showed high species diversity with nine different species being recorded for the quarter (Dog, Glasseye, Grey, Lane, Mutton, Red, Silk, Vermillion, Yellowtail).

The overall marine finfish production for the period January - March 2023 was 1,375.58 MT (Table 5), representing an 42% decline compared to the previous quarter value of 2,125 MT. The National Fisheries Authority has taken note of this decline and will be working to determine the root cause of this occurrence. This will be accomplished through increased data collection and surveillance of landing sites. 1,375.58 MT is equal to a value of approximately US$17 Mil or over JMD$2.6 billion (Table 5). The artisanal fishery accounted for 91% of total marine fish production by quantity. For the 15 months performance [January to March], August and October recorded the highest production levels, accounting for 21% of the 15 months total of 10,699 MT.

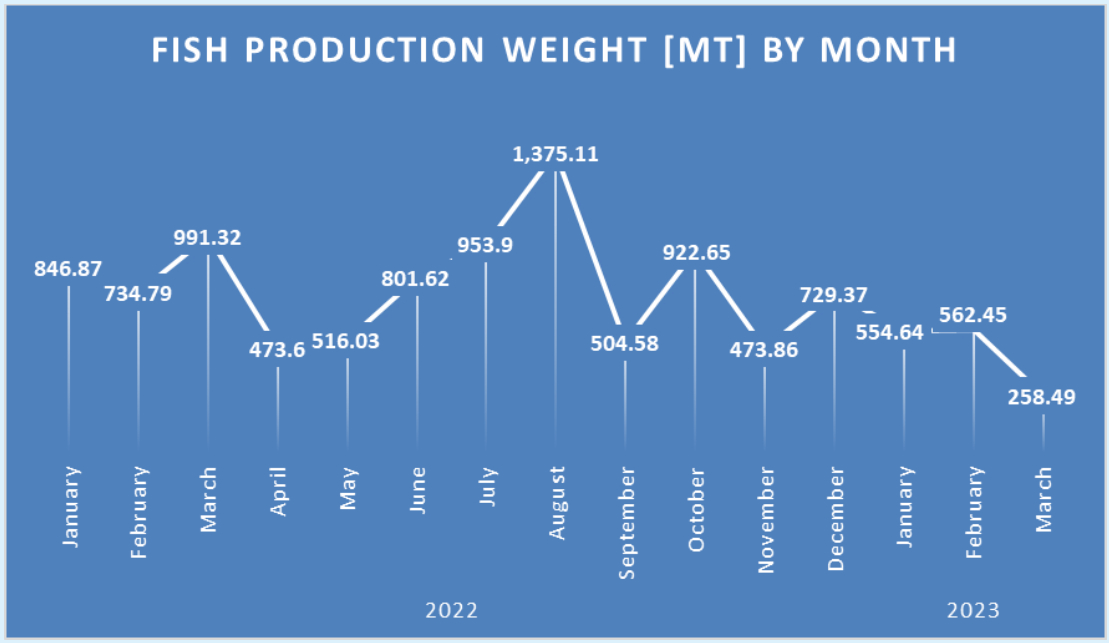


Figure 13 Fish Production Weight [MT] by month

Further examination of the artisanal fishery shows that landings from the southern shelf and the proximal banks contributed to over 60.3 percent of the total production for the period January to March 2023 (Figure 14). The Authority ties this performance to the location of our cays, as they are mostly located on the southern coast of the island. The Pedro Bank is a unique area almost three-quarters the size of mainland Jamaica, most of which is underwater. The bank is composed of sand, coral reefs, deep reefs, seagrass beds, and three coral cays known as the Pedro Cays. This environment supports marine life production. The reef, offshore and deep slope fisheries yielded the greatest productivity during this period.

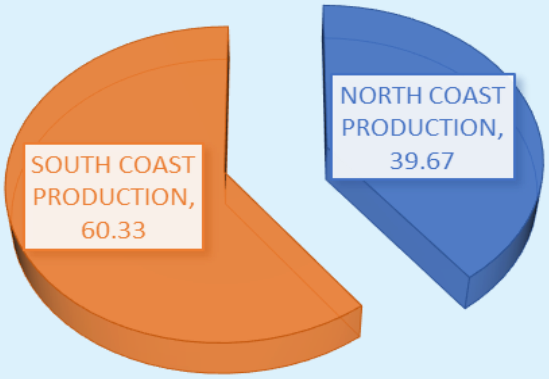


Figure 14 Marine Fish Production by coastal region, South Coast vs North Coast

Factors affecting the Industry

The capture fisheries sub-sector has been affected negatively by several factors, as reported to the Authority's Data Collection and Fisheries Extension Officers. During the reporting period, the factors reported were similar to those highlighted in Issue 1 & 2 – poor weather conditions, poor water visibility in some areas, influx of *Sargassum* particularly on the south coast and pollution in general.

1) Sargassum blooms,
2) Adverse weather conditions,
3) Pollution,
4) Ocean current patterns are changing and affecting the nutrients needed for aquatic plants that nourish young fish so that they can survive to adulthood.
5) Changing water temperatures are also causing fish to move to cooler water,

Table 3 Marine fish production (MT) trend by fishery type, April 2022 – March 2023

Fishery	Production (MT)													
	2022									2023			Total	Composition
	April	May	June	July	August	September	October	November	December	January	February	March		
Atrisanal finfish	473.6	516.03	801.62	953.9	1,375.11	504.58	922.65	473.86	729.37	554.64	562.45	258.49	**8,126.31**	93.00
Sea Cucumber						0	2.17	0.81	2.4	0	0	0	**5.38**	0.06
Industrial Conch**	50.32	110.60	65.53	34.26									**260.70**	2.98
Industrial Spiny Lobster*				0	7.17	45.98	97.94	46.69	37.19	37.18	28.03	44.98	**345.16**	3.95
Total Marine Production	**523.92**	**626.63**	**867.15**	**988.16**	**1382.28**	**550.56**	**1022.76**	**521.36**	**768.96**	**591.82**	**590.48**	**303.47**	**8,737.54**	100

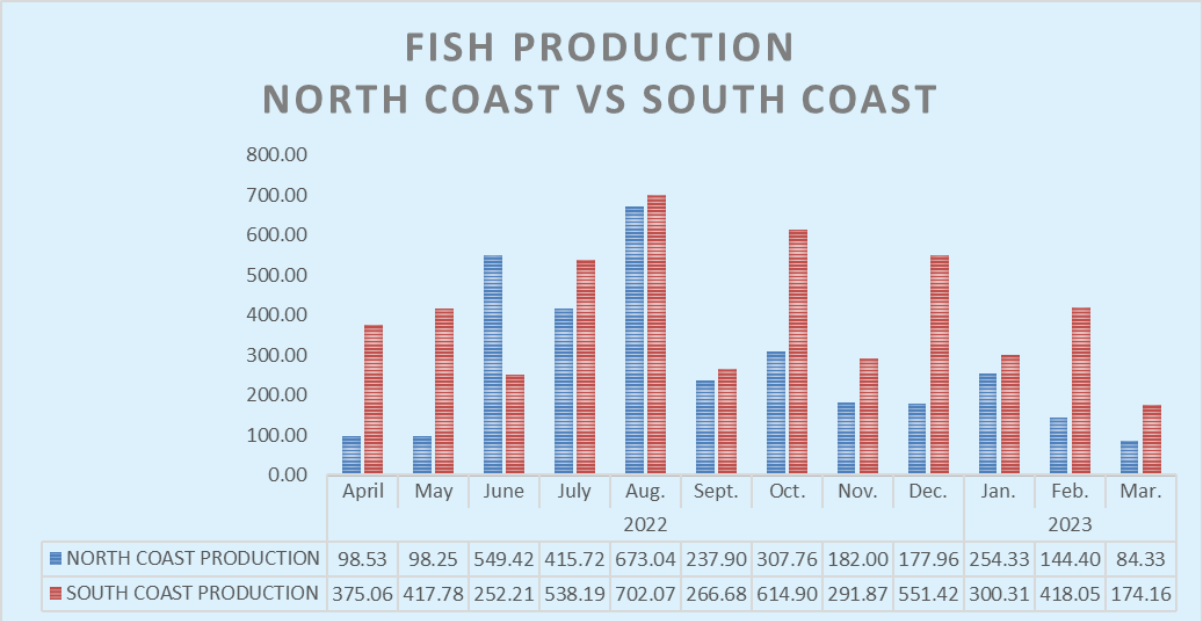
** Reported weight for whole, tail and head meat*
***Reported that not all allocated Conch quota was utilized*
Close Season

Table 4 Estimated value (USD for Marine fish production (MT) by fishery type, April 2022 – March 2023

Fishery	Estimated Value (USD)												
	April	May	June	July	August	September	October	November	December	January	February	March	Total
Atrisanal finfish	$ 5,172,454	$7,055,237	$10,095,239	$11,643,547	$14,960,602	$ 6,321,708	$16,764,642	$8,742,001	$ 9,565,791	$ 9,426,607	$9,369,399	$ 9,506,886	$ 90,321,221
Industrial Conch	$ 721,045	$1,584,869	$ 938,984	$ 490,919									$ 3,735,817
Industrial Spiny Lobster*				$ -	$ 126,350	$ 810,672	$ 1,726,682	$ 823,145	$ 655,660	$ 655,483	$ 494,169	$ 792,997	**$ 4,142,509**
Total Marine Production	**$ 5,893,499**	**$8,640,106**	**$11,034,223**	**$12,134,466**	**$15,086,952**	**$ 7,132,380**	**$18,491,324**	**$9,565,145**	**$10,221,451**	**$10,082,091**	**$9,863,568**	**$10,299,884**	**$ 98,199,546**

Table 5 Estimated Marine fish Production (MT) and Value (USD), April 2022 - March 2023

		Fish Production Estimate			Value Summary			Value Summary USD		
	Month	Weight (MT)	Qtrly Fig (MT)	Financial Quarter	Estimated Value J$	Qtrly Estimate J$	Quarter	Estimated Value USD	Qtrly Estimate USD	Financial Quarter
2022	January	846.87		4th Quarter FY 21/22	1,386,790,161.69		4th Quarter 2021	$ 8,889,110.71		4th Quarter FY 21/22
	February	734.79			1,038,336,389.74			$ 6,608,135.87		
	March	991.32	**2,572.98**		1,613,675,120.19	**$ 4,038,801,671.62**		$ 10,468,213.56	**$ 25,965,460.14**	
	April	473.6		1ST Quarter FY 22/23	803,178,698.00		1ST Quarter 2022	$ 5,172,454.24		1ST Quarter FY 22/23
	May	516.03			1,096,948,206.00			$ 7,055,236.75		
	June	801.62	**1,791.25**		1,545,480,174.50	**$ 3,445,607,078.50**		$ 10,095,239.24	**$ 22,322,930.23**	
	July	953.9		2nd Quarter FY 22/23	1,780,181,810.00		2nd Quarter 2022	$ 11,643,546.46		2nd Quarter FY 22/23
	August	1,375.11			2,280,444,600.00			$ 14,960,602.27		
	September	504.58	**2,833.59**		944,083,909.00	**$ 5,004,710,319.00**		$ 6,321,708.26	**$ 32,925,856.99**	
	October	922.65		3rd Quarter FY 22/23	1,894,050,118.00		3rd Quarter 2022	$ 12,343,109.27		3rd Quarter FY 22/23
	November	473.86			985,328,636.01			$ 6,397,407.06		
	December	729.37	**2,125.88**		1,137,359,372.24	**$ 4,016,738,126.25**		$ 7,496,930.80	**$ 26,237,447.14**	
2023	January	554.64		4th Quarter FY 22/23	1,024,590,693.00		4th Quarter 2022	$ 6,655,347.15		4th Quarter FY 22/23
	February	562.45			1,088,915,568.00			$ 7,030,250.94		
	March	258.49	**1,375.58**		497,810,828.00	**$ 2,611,317,089.00**		$ 3,261,125.63	**$ 16,946,723.72**	



	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
					2022						2023	
NORTH COAST PRODUCTION	98.53	98.25	549.42	415.72	673.04	237.90	307.76	182.00	177.96	254.33	144.40	84.33
SOUTH COAST PRODUCTION	375.06	417.78	252.21	538.19	702.07	266.68	614.90	291.87	551.42	300.31	418.05	174.16

Figure 15 Marine fish production (MT) by coastal region, April 2022 – March

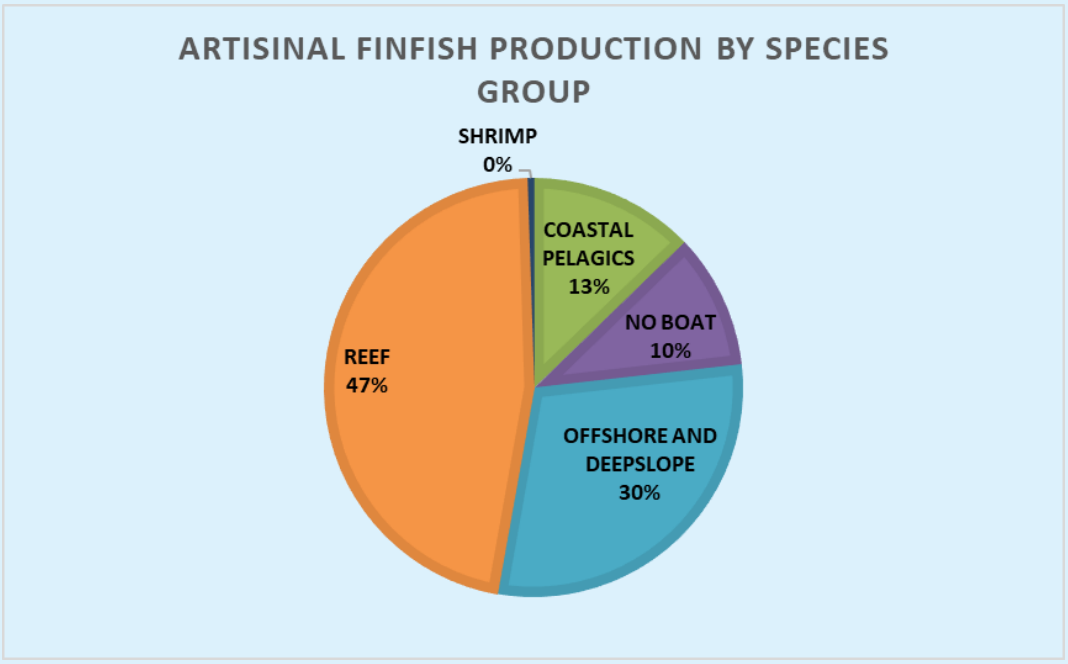


Figure 16 Artisanal finfish production by species group, January 2022 – March 2023

Aquaculture Sector

Production

Aquaculture is prevalent on the south-central plains of St. Catherine and Clarendon, as well as in the parishes of St. Elizabeth and Westmoreland where the topography and soil type are suitable for aquaculture production. The Aquaculture Division continues its drive to increase registered operators within the sector, via numerous outreach activities coupled with the issuance of printed materials to prospective interests. In the main production areas, production systems are primarily semi-intensive utilizing earthen ponds averaging 0.405 hectares (1 acre). In the minor production areas, production is mainly subsistence and small scale with ponds being less than 0.405 hectares. Presently there are over 900 earthen ponds and concrete tanks across Jamaica.

For the January to March quarter, tilapia production was recorded at 238.2 MT. This brings the total tilapia production from April 2022 to March 2023 to 933.89 MT. Overall the 4th quarter recorded a 2% increase in production against the 3rd quarter production numbers.

The Aquaculture Division of the NFA, continues to produce and supply seedstock to fish farmers to stock their ponds. The amount of seedstock (fry) produced in the fourth quarter exceeded 250,000.

Fish Farmers

At the ending of this period January – March 2023, the total number of registered fish farmers stood at 117.

Photo: Members of the NFA Aquaculture Division participating in a field Excursion activity.

Price

All tilapia produced is absorbed by the local market. Most fish farmers rely on vendors to buy and distribute their product from farm-gate to the markets. The farmer may also sell tilapia to restaurants, hotels, supermarkets, and other distributors. The size preferred by local consumers is 227–340 kg. Sale price for tilapia per quarter is shown in the table below.

Table 6 Farm gate and retail price of tilapia, 2022 - 2023

Quarter	Farm gate price	Retail price
April – June	$440- 450 per pound	$600 per pound
July – Sept	$440 per pound	$600 - $650 p/ pound
Oct - Dec	$400-$430 per pound	$600 - $650 p/ pound
Jan - Mar	$400-$450 per pound	$600 - $650 p/pound

The price of fry for the stocking of fishponds was J$4.00 each.

Photo: NFA's Krystal Facey, hands hanging scales to a Fish Farmer at a recent Aquaculture Division event.

Factors affecting the Industry

During the period January – March 2023, challenges that fish farmers faced included the following:

- ✓ The contamination in the Rio Cobre River affected the National Irrigation Commission's water supply and this resulted in fish kills. Approximately 19 farmers reported a fish kill in Hill Run while 2 farmers in Bushy Park indicated that they were also affected. Hill Run and Bushy Park are the main production areas in St. Catherine.
- ✓ Water supply continues to be limited in most areas (due to the prolong drought). Water supply is sourced through various means – surface water, wells, and irrigation systems.

National Fisheries Authority, Eat Tilapia public campaign poster. Photo courtesy: NFA

Photo Courtesy: NFA
Hon. Pernel Charles Jnr. Minister of Agriculture & Fisheries plating a quick and easy tilapia callaloo dish. TvJ Smile Jamaica; March 30, 2023.

Compliance

The Compliance Branch within the Fisheries Compliance Licensing and Statistics Division (FCLS) is tasked with the responsibility for planning and implementing fisheries and aquaculture compliance, and enforcement programmes for the Authority.

NFA's Senior Compliance Officer J'Vawnie Montgomery and Compliance Officer Trevorton Bryan; mounting one of our enforcement signs in Portland.

During the fourth quarter of the financial year (January to March 2023), over 900+ site visits were conducted to fishing beaches, marinas, restaurants, tournaments, seafood stores, rivers, fish farms, supermarkets, and wholesales. Additionally, 50+ specialized joint inspections were executed in collaboration with the Jamaica Constabulary Force and the Jamaica Defence Force. This represents a 144% increase compared to the previous quarter, and strengthens the Authority's commitment to sensitization, implementation, and enforcement. During the quarter, eight (8) persons were arrested and charged, representing a 120% increase compared to the two (2) arrests for the previous quarter. Seven (7) were Arrested for illegal possession of conch during the Conch Close Season and one (1) for illegal possession of lobster during the Lobster Close Season.

The total quantity of conch meat seized amounted to 153.92lbs with an estimated value of USD $2,204 or JMD $342,963. During this quarter, JMD $661,700 were collected in fines by the Parish Courts, representing an 88% increase compared to the previous quarter.

2019	2020	2021	2022	**2023	TOTAL
$742,000	$180,000	$1,145,000	$1,004,000	$661,700	**$3,732,700**
$1.9M (Foreign poaching by 2 Dominican Republic Vessels and their fishers)					

Table 7 Fines for Offences under The Fisheries Act, 2018 from 2019-2023

**January to March 2023

National Fisheries Authority team setting up a booth for an Outreach Events. Photo courtesy: NFA

Compliance with Licensing Requirements

Another area of compliance being tracked by the FCLS Division concerns the high incidence of individuals fishing without a licence. Another area of compliance being tracked by the FCLS Division concerns the high incidence of individuals fishing without a licence. Issue 1 and 2 of this publication highlighted that on average, only 24% of persons being licensed each year, are renewing their licence from the previous year, although there is evidence to suggest that they continued to engage in fishing activity. Importantly, fishers renewing their licence within the 1-year period is reported to be 35.2%. Fishers who renewed their licence, were renewing from the same in the previous year (i.e. Jan to Mar 2022). This shows an increase in consistency with year on year licence renewals and is also higher than the average recorded over the previous 5 year period.

Table 8 shows the rate of renewal for individual licences to fish from 2017 to 2023.

Year	Number of Individual Fisher Licences Issued	% Renewing from previous year
2017	2530	
2018	3467	19
2019	3654	26
2020	4979	24
2021	3995	25
2022	5687	20
2023**	2242	35
	Total: 26554	**Average: 24.8**

**January to March 2023

Table 8 Number of Individual Fisher Licences issued and Renewal percentage (excluding temporary permits)

PHOTO: DONALD DE LA HAYE
Chief Executive Officer at the National Fisheries Authority (NFA), Dr. Gavin Bellamy, addresses a Think Tank at the JIS's head office in Kingston on March 14. Principal Director for the Fisheries Compliance Licensing and Statistics Division of the NFA, Dr. Zahra Oliphant, also addressed the session.

The FCLS Division is responding to the trends highlighted by hosting monthly in-field licensing sessions and increasing enforcement by training and deploying more compliance officers. As reflected earlier in the report with the increase percentages.

The NFA's Licencing & Registration Unit executing one of their planned Outreach Sessions.
Photo courtesy: NFA

The NFA's Corporate Services Director Ms. Angela Patterson addresses the fisher community of Alligator Pond.
Photo courtesy: Anthony Brown, NFA.


ALLIGATOR HEAD FOUNDATION

Turtle Monitoring

The Turtle Conservation Program conducted by the Alligator Head Foundation (AHF) aims to protect sea turtles in all stages, adults, eggs, and hatchlings located within the East Portland Special Fisheries Conservation Area. The programme currently entails having a body on the beach during the periods that turtles are expected to come up and lay, identifying and securing laid nests and assisting hatchlings out of the nest and across the beach successfully. The team is currently monitoring four beaches in the East Portland area, Turtle Cove, Big Bay, Dragon Bay, and Frenchman's Cove, all of which permission was granted by the owners to access the beach and conduct our monitoring. The increased efforts of the program from 2018 to 2022 have assisted in the release of 24,210 live hatchlings and counting.

Mangroves

The mangrove restoration programme began in 2016 with the establishment of a small temporary nursery housing approximately 350 propagules. This was later expanded to its current form which can house up to 3000 propagules. The programme has also expanded to include a stronger focus on education, awareness, and protection of the mangrove environment, through the implementation of JAMIN – a mangrove education program implemented at the 10th and 11th-grade levels in 2 schools in the Portland area. This programme has impacted over 150 students and has introduced mangroves, their importance, threats, and their role as an ecosystem to the students.

Coral Restoration

The AHF coral restoration programme was started in 2014 with the installation of a line nursery. Since that time the nursery has been expanded, 2 tree nurseries have been installed and over 6000 fragments have been out planted. The program itself was also expanded in 2019 with the installation of a land-based nursery facility at the AHF offices. Through this facility, house and grow slow-growing coral and through the process of micro-fragmentation create new coral colonies which may be outplanted to the reef area. Currently, the land-based nursery has a 100% survival rate and micro-fragmented nursery-grown outplanted corals have a survival rate of 80% over a 1-year period. A further expansion of the coral program comes in the form of the Coral Carib project. This project in partnership with The Nature Conservancy called "Coral Carib: Pioneering a New Strategy" aims to conserve and restore the Caribbean coral reef ecosystems. With an investment of 6.3 million euros, this effort will be executed over a six-year period in the four target Caribbean nations of Cuba, the Dominican Republic, Haiti, and Jamaica, with extra exchanges with Belize.

Part 4
Conclusion

PART 4

Conclusion
Appendices

Conclusion

This third issue of Volume 1 the Jamaica Fisheries: Quarterly Statistics Report for the NFA, highlighted the performance of the Jamaican fisheries sector over the fourth quarter of the Financial Year 2022 – 2023.

From the data presented, the artisanal fishery continued to play a critical role in food security accounting for 91% of total fish production. Fish production overall accounted for 1,375.58MT, with the South Coast contributing to 60% of the overall fish production. The total value was estimated at US $17M. The NFA will continue its monitoring and engagement activities throughout the varied landing sites across the island. The NFA takes into consideration reports made by Fishers giving their account of the reason for low quantity catch, including sargassum blooms, poor weather, strong ocean current, damaged pots, and poor water visibility.

The National Fisheries Authority continues to be strident in the execution of its mandate. For the quarter under review Q4, January to March 2023 recorded an 8.8% increase in total number of vessel licence issued both new and renewed. There was also a 76% increase in the licensing outreach sessions for this quarter compared to the previous quarter. The continued efforts towards increasing public awareness on the importance of licence renewal resulted in a 17.8% increase. For vessel licensing operations, an increase of 9% was recorded for the average boat licences being issued per month over the quarter compared to the previous quarter monthly average. The Authority increased its collaborative efforts with the security forces and this partnership saw specialized joint inspections increasing by 144% compared to the previous quarter. Persons charged with breaches of the Fishers Act recorded a 120% increase compared to the previous quarter.

With the National Fisheries Authority increase sensitization efforts coupled with increased inspection and collaboration, the local fishers are recognizing the importance of complying with the law and are also being educated about the sector. The was also an increase in compliance with renewing one’s licence and this is an important factor in the fight against illegal unreported and unregulated (IUU) fishing.

The National Fisheries Authority will place increased focus on its data collection efforts, for both Capture Fisheries and Aquaculture. This will allow for greater statistical data output for the industry, which includes fishery pricing per parish, fishery species location, and production mapping.

Appendices

	NEW	RENEWAL	TOTAL
17-35	230	266	**496**
36-55	203	680	**883**
56 & Older	86	490	**576**

Age distribution of licensed fishers, new and renewed licences, January - March 2023.

Strata Production (MT)	2022									2023			Grand Total
Production	**April**	**May**	**June**	**July**	**Aug.**	**Sept.**	**Oct.**	**Nov.**	**Dec.**	**Jan.**	**Feb.**	**Mar.**	
NORTH COAST PRODUCTION	98.53	98.25	549.42	415.72	673.04	237.90	307.76	182.00	177.96	254.33	144.40	84.33	3,223.65
SOUTH COAST PRODUCTION	375.06	417.78	252.21	538.19	702.07	266.68	614.90	291.87	551.42	300.31	418.05	174.16	4,902.69
Grand Total	**473.60**	**516.03**	**801.63**	**953.90**	**1,375.11**	**504.58**	**922.65**	**473.87**	**729.38**	**554.64**	**562.45**	**258.49**	**8,126.33**

Artisanal fish production (MT) trend by coastal communities April 2022 – March 2023.

Estimated Production (MT)	2022									2023			Grand Total
Fishery	**April**	**May**	**June**	**July**	**August**	**September**	**October**	**November**	**December**	**January**	**February**	**March**	
COASTAL PELAGICS	48.65	46.15	71.86	159.99	220.87	77.96	106.31	39.65	121.47	54.64	66.76	27.37	1,041.68
NO BOAT	44.48	44.48	6.76	124.95	162.34	140.06	70.00	44.48	44.48	32.27	67.47	62.54	844.33
OFFSHORE AND DEEPSLOPE	38.15	61.12	517.53	382.49	515.92	46.80	229.29	91.07	101.20	280.59	108.27	32.47	2,404.89
REEF	342.16	354.91	205.32	281.81	473.18	236.18	514.00	290.82	459.42	185.97	319.47	133.30	3,796.54
SHRIMP	0.16	9.36	0.16	4.66	2.81	3.59	3.04	7.84	2.81	1.17	0.49	2.81	38.89
Grand Total	**473.60**	**516.03**	**801.63**	**953.90**	**1,375.11**	**504.58**	**922.65**	**473.87**	**729.38**	**554.64**	**562.45**	**258.49**	**8,126.33**

Artisanal fish production (MT) trend by fishery groups April 2022 – March 2023.

Average ex-vessel price	2022									2023			Avg. Price
Fishery	**April**	**May**	**June**	**July**	**August**	**September**	**October**	**November**	**December**	**January**	**February**	**March**	
REEF	800	1000	650	900	800	1000	1000	1000	800	1000	1000	1000	913
COASTAL PELAGICS	500	600	600	500	500	500	600	800	400	500	500	500	542
OFFSHORE AND DEEPSLOPE	800	1000	1000	900	800	800	1000	800	700	800	800	800	850
NO BOAT	800	1000	1000	1000	800	800	700	1000	600	800	800	800	842
SHRIMP	1000	1000	1000	1000	1000	1000	1000	900	800	1000	1000	1000	975

Average ex-vessel price for fishery group, April 2022 – March 2023.