

2019 ANNUAL REPORT



**BUREAU OF
FISHERIES
AND AQUATIC
RESOURCES -
CARAGA**



**13
BFAR**

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IN A WORLD OF TECHNOLOGY, PEOPLE MAKE THE DIFFERENCE

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REGIONAL DIRECTOR'S STATEMENT

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Signature

VISA TAN-DIMERIN, CESO V
REGIONAL DIRECTOR



ASST. REGIONAL DIRECTOR'S STATEMENT

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EDGARDO P. BALAMBAO
ASST. REGIONAL DIRECTOR

WHERE WE ARE NOW

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FISHERIES DEVELOPMENT PROGRAM

CAPTURE FISHERIES

Majority of the fisheries production in Caraga Region stem from the municipal fisheries sector, which comprises 66% of the output in 2019. This makes the region highly dependent to municipal fisheries for fish supply.

Therefore, it is important that BFAR implement programs and projects that are beneficial to the small fishermen of the region, and at the same time promote the sustainable exploitation of the fishery resources.

FRP BOATS DISTRIBUTION

The Bureau of Fisheries and Aquatic Resources-Caraga, through its regular program, has equipped inland and coastal municipal fishermen with 65 units of 22-footer motorized, and 14 units non-motorized fiberglass reinforced plastic (FRP) boats. These boats are made of fiberglass materials, making it more durable and resistant to corrosion and harsh marine environment than traditional wooden boats. The boats are also designed to be disaster-resilient to ensure safety of life at sea of the fishermen.

Through the FB Pagbabago Livelihood Development Program, another 10 units of 25-footer and 54 units of 20-footer motorized FRP boats were distributed in the Province of Dinagat Islands, Surigao del Norte and Surigao del Sur. Done under the *Bangka Ko, Gawa Ko* scheme, the program provides livelihood assistance and encourages skills development through cooperation among the beneficiaries.



FISHING GEARS AND PARAPHERNALIA DISTRIBUTION

In 2019, a total of 4,643 units of environment-friendly fishing gears and paraphernalia were distributed to 1,026 fishermen throughout Caraga Region. The gears were composed of 1,038 units of gill nets, 2,000 units hooks and lines, 305 units fish pots, 1,000 units squid jiggers, and 300 units spear fishing gadgets.

The project is aimed to provide livelihood intervention to capture fishers, and promote responsible resource utilization. By providing them with selective and easy to operate gears, the Bureau meant to decrease illegal fishing activities in municipal waters, particularly on the use of explosives and poisonous substances.



AQUACULTURE

The aquaculture sector comprises 22% of the total fisheries production of Caraga Region in 2019. It supplies marketable sizes of high value commodities such as milkfish, prawns, shrimps, crabs and seaweed. It is important, therefore, to provide the sector with interventions to push its growth; and by doing so, reduce the fishing pressure in the wild.

FINGERLINGS/SEEDSTOCK PRODUCTION AND DISTRIBUTION

To support aquaculture development, the BFAR Caraga operates three Technology Outreach Stations and one multi-species hatchery, strategically located in different parts of the region. The Stations produce quality fingerlings to support fish farming activities of fisherfolk organizations, LGUs and private individuals.

In 2019, the Kitcharao Technology Outreach Station in Brgy. Anibongan, Kitcharao, Agusan del Norte produced a total of 5.484 million tilapia fingerlings. The 4.878 million (89%) of the tilapia fingerlings produced were distributed to 993 fishfarmers throughout the region. In addition, the Kitcharao Station also produced 2.598 million pieces of carp fingerlings.

A total of 1.921 million fingerlings were distributed to 31 fish farmers and dispersed in lakes, dams, and reservoirs for development purposes under the *Balik Sigla sa Ilog at Lawa Program*.

The Placer Technology Outreach Station and Masao Technology Outreach Station produced a total of 2,000,000 milkfish fingerlings in 2019.

BROODSTOCK DEVELOPMENT AND MAINTENANCE

The Cortes Multi-Species Hatchery in Cortes, Surigao del Sur developed 50 milkfish broodstock to increase production of milkfish fingerlings in the region.

The Kitcharao Station also developed and maintained a total of 21,400 tilapia and 800 carp breeders. The Station serves as the freshwater hatchery of BFAR – breeding and producing quality Nile and saline tilapia and common carp species.

SEAWEED DEVELOPMENT PROGRAM

The Seaweed Development Program is one of the priority programs of BFAR, which focuses on the enhancement and management of the seaweed resources of the country.

The regional Bureau operates three seaweed nurseries – one in the Province of Dinagat Islands and two in Surigao del Sur. Tasked to produce quality seaweed propagules, the nurseries accumulated an output of 33,200 kilograms seaweed propagules distributed to the fisherfolk in seaweed-growing provinces. Another 20,000 kilograms of seaweed propagules were also procured and distributed to seaweed farmers in the region.

There were also 82 units of seaweed farm implements distributed to fisherfolk associations in the provinces of Dinagat Islands and Surigao del Norte. The farm implements are composed of new lines and buoys to be used for seaweed culture activities of the fisherfolk.

LEGISLATED HATCHERIES ESTABLISHMENT

Efforts to pursue the establishment of legislated hatcheries in Caraga Region were conducted. The legislated Multi-Species Hatcheries will be utilized for research, breeding and production of freshwater and marine species to address the demand for fingerlings and seedstock in the region.

There are eight legislated hatcheries in Caraga Region:

- (1) The Multi-Species Marine Hatchery in Brgy. Palo Alto, Lingig, Surigao del Sur (Republic Act No. 10787) is undergoing the Phase II of its construction
- (2) The Multi-Species Marine Hatchery in Del Carmen, Surigao del Norte (RA No. 10825), which is in Phase I & II of construction has been awarded to contractor
- (3) The Multi-Species Freshwater Hatchery in Jabonga, Agusan del Norte (RA No. 10813) has also been awarded to contractor
- (4) The Multi-Species Marine Hatchery in Surigao City (RA No. 10825) where preparation of detailed feasibility study is ongoing
- (5) The Multi-Species Marine Hatchery in Hinatuan, Surigao del Sur (RA No. 10944) is undergoing lot acquisition process through the Local Government Unit (LGU)
- (6) The Multi-Species Marine Hatchery in Nasipit, Agusan del Norte (RA No. 10858) is continuing its sampling and monitoring of water quality along the potential area
- (7) Multi-Species Marine Hatcheries in Barobo, Surigao del Sur (RA No. 10941)
- (8) Bislig City (RA No. 10937) is undergoing site selection process.

Preliminary works were also conducted for the proposed House Bill No. 5499 – the establishment of Multi-Species Hatchery in Basilisa, Province of Dinagat Islands.

Pre-feasibility assessments were initially conducted by BFAR Regional Office Team with the LGU concerned.

NATIONAL SHRIMP PRODUCTION PROGRAM

The **National Shrimp Production Program**, also known as *Hipon langat ang ProduksyON* (HIPON), continues its mandate to conduct shrimp farms inventory and registration in the region.

Registered shrimp farms will be linked to accredited shrimp hatcheries to ensure healthy stocks, and can avail technical assistance such as disease surveillance and monitoring, technology updates and guides on Good Aquaculture Practice (GAqP) from BFAR.

In 2019, there were 60 shrimp farms registered, and 21 grow-out farms/hatcheries were regularly monitored.



FISHERIES POST-HARVEST

The fisheries post-harvest sector compliments BFAR's target to increase productivity and income with the reduction of post-harvest losses through processing and value-adding of fish.

To support the fisheries post-harvest sector of the Region, 25 units of post-harvest equipment were provided to various fisherfolk associations across the region. These equipment include:

- four units of elevated solar dryers
- seven seaweed dryers
- five vacuum packers
- two chest freezers
- seven plastic sealers

Coupled with training and technical assistance rendered by the Bureau, the equipment will be utilized by the recipients in drying, freezing and packaging value-added fish and fishery products.



Distribution of Elevated Fish Solar Dryer of LGU-Kitcharao, Agusan Del Norte.

Seaweed dryer in Tandag City.



MARKET DEVELOPMENT

BFAR Caraga, via the regional Fisheries Post-Harvest and Marketing Section (FPHMS), strives to promote seafood and seafood-based products of the region's fisheries stakeholders on a larger market scene through the participation to agri-aqua trade fairs and exhibits.

In 2019, the regional Bureau participated in several Agri-Aqua Trade Fairs/Exhibits throughout the country.

- Mindanao Trade Expo during the *Araw ng Dabaw*
March 12-16, 2019 | Abreeza Mall, Davao City
- Agri-aqua Trade Fair at *Araw ng Agusan del Norte*
June 12-16, 2019 | Capitol Gym, Butuan City
- 13th Manila Food and Beverages Expo
June 12-16, 2019 | World Trade Center, Pasay City
- 6th Regional Technology Forum and Product Exhibition
August 8-9, 2019 | Almont Inland Resort, Butuan City
- 15th Technology Forum and Product Exhibition
August 14-16, 2019 | Quezon City
- Pre-forum Tours and Organic Trade Fair
July 25-26, 2019 | Bislig City
- Agribusiness Support for Promotion and Investment Regional Enterprises (ASPIRE) Exposition
July 26-28, 2019 | Robinson's Mall, Butuan City
- Agri-fishery Tourism and Industry Forum Trade Fair
September 27- October 1, 2019 | Province of Dinagat Islands

Some of the products showcased in these expositions include bottled tuna flakes/chunks in Corn Oil, Dried Espada, and Dayok by MAFISCO (Mangagoy Fisherfolk Cooperative) of Bislig City, bottled sardines and bangus varieties by JIDA Aqua Resources of Butuan City, Seaweed Strips and Cubes by Annabel's Seaweed Strips of Santiago and dried goby of San Roque, Kitcharao in Agusan del Norte, Salted Oyster and Salted Litub from Bayabas, Surigao del Sur and the Province of Dinagat Islands, Tilapia Fillet (from San Roque RIC/Women Cluster I Workers Association), and Fresh and Frozen Products by Chen Marine Products of Jabonga, Agusan del Norte.



SPECIAL AREA FOR AGRICULTURAL DEVELOPMENT PROGRAM

The **Special Area for Agricultural Development (SAAD) Program** is a three-year intervention, which aims to reduce poverty in areas prioritized due to high poverty incidence.

The rural areas of Agusan del Sur and Surigao del Sur, which are the poorest provinces in Caraga Region, were identified as the target areas for the program.

BFAR Caraga started the first year of implementation of the SAAD Program for fishery in 2019. Capture fisheries and aquaculture livelihood projects and technical training were given to the beneficiaries.

Under the capture fisheries livelihood package, the municipalities of Loreto, La Paz, Talacogon and Bunawan in Agusan del Sur received 120 units of 17-footer non-motorized fiberglass reinforced plastic (FRP) boats and fishing gears (gill nets and hook and line).

The municipalities of San Agustin, Bayabas and Lanuza in Surigao del Sur also received 36 units of 27-footer motorized FRP boats and fishing gears.

These livelihood projects were coupled with 7 cluster training on the hands-on fabrication of FRP boats to develop the skills of the beneficiaries on boat-making, repair and maintenance.

In terms of aquaculture, a total of 33 livelihood projects composed of the culture of seaweed, shellfish, lobster, milkfish and tilapia, and crab fattening were given to the two provinces. These were also coupled with hands-on training on the application of the respective technologies provided to the beneficiaries.

There were a total of 239 households and 40 fisherfolk beneficiaries of the SAAD Program.

SPECIAL AREA FOR AGRICULTURAL DEVELOPMENT PROGRAM



Turn-over of SAAD aquaculture livelihood projects in the municipality of San Miguel, Surigao del Sur.



Seaweed culture project in Lianga and San Agustin in Surigao del Sur under the SAAD Program for fishery



Hands-on training on fiberglass reinforced plastic (FRP) boat fabrication under the SAAD Program in La Paz, Loreto and Talacogon, Agusan del Sur.



FISHERIES REGULATORY AND LAW ENFORCEMENT PROGRAM

MONITORING, CONTROL and SURVEILLANCE

REGULATIONS and ENFORCEMENT ACTIVITIES

A series of land-based and sea-based enforcement operations were conducted by the Fisheries Resource Protection Group (FRPG) of BFAR Caraga in collaboration with the Local Government Units, the Philippine Coast Guard (PCG), the Philippine National Police (PNP), PNP-Maritime Group, the Philippine Navy and BFAR-MCS 3005 throughout the region.

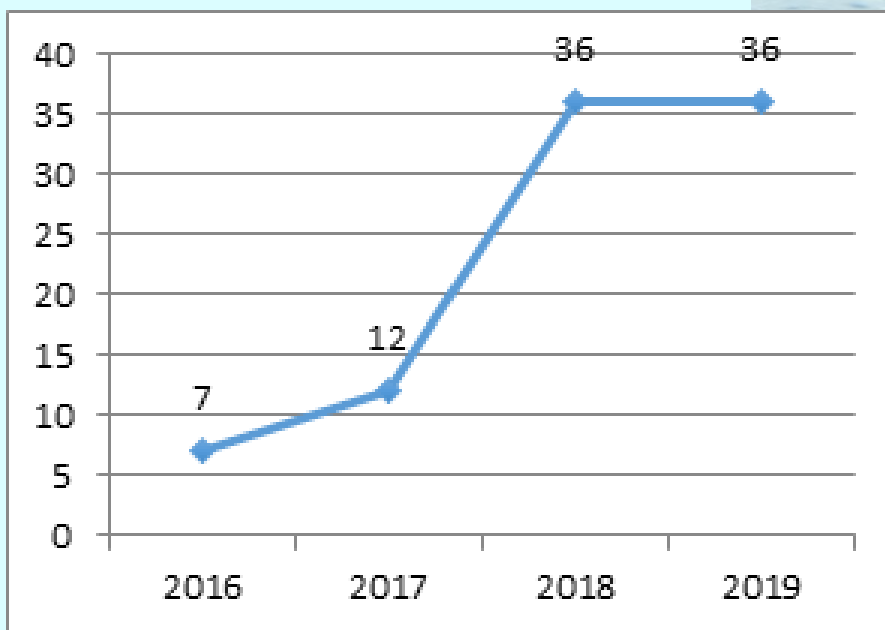
The major activity of FRPG is to conduct seaborne patrol operation in line with Republic Act No. 10654 (An Act to Prevent, Deter, and Eliminate Illegal, Unreported and Unregulated Fishing) amending RA No. 8550, and other existing National Laws, policies and guidelines established for the protection and conservation of the country's fisheries resources.

In 2019, FRPG conducted 65 seaborne patrol operations, wherein 54 municipal and commercial fishing vessels were boarded and inspected; 29 of them were non-compliant, therefore issued with a Notice of Violation and were subjected to legal process. The number of seaborne operations and apprehensions made per province are shown in the table below.

Province	No. of Operations	No. of Apprehensions
Agusan del Norte	11	8
Province of Dinagat Islands	19	5
Surigao del Norte	25	12
Surigao del Sur	10	4
Total	65	29

Also conducted by FRPG was land-based operations such as landing and market denials, and mobile checkpoints in 2019. There were five landing denial, 10 market denial operations and 13 mobile checkpoints conducted to ensure that no endangered species were sold and all fishery products sold were not caught through the use of explosives, noxious or poisonous substances, and other illegal means of fishing.

A total of 36 apprehensions were made in 2019, including 29 from seaborne patrol, three from market denial and four from landing denial operations. This total is the same number recorded in 2018, but is higher than the later years, and connotes the strengthened cooperation of the Bureau, the law enforcement agencies, and the local government units.

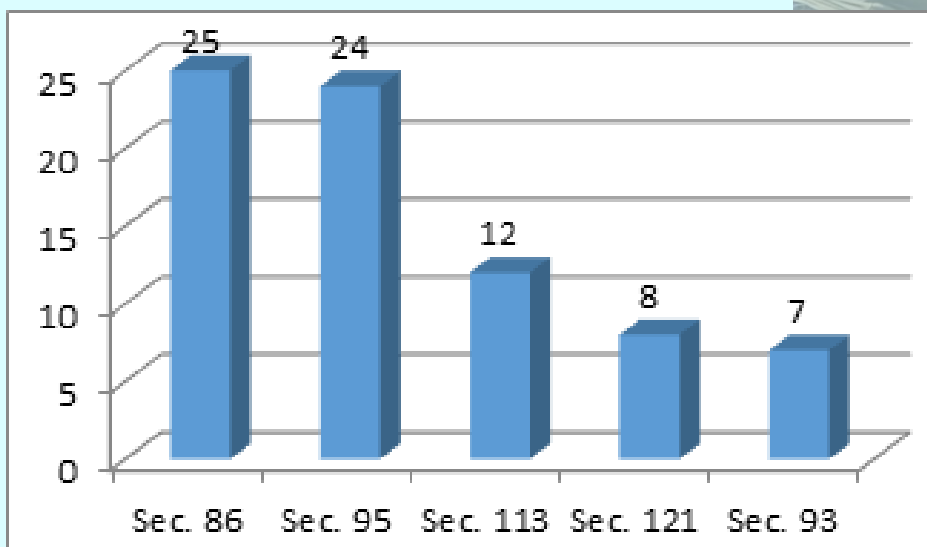


Number of apprehensions made by the FRPG from 2016 to 2019.

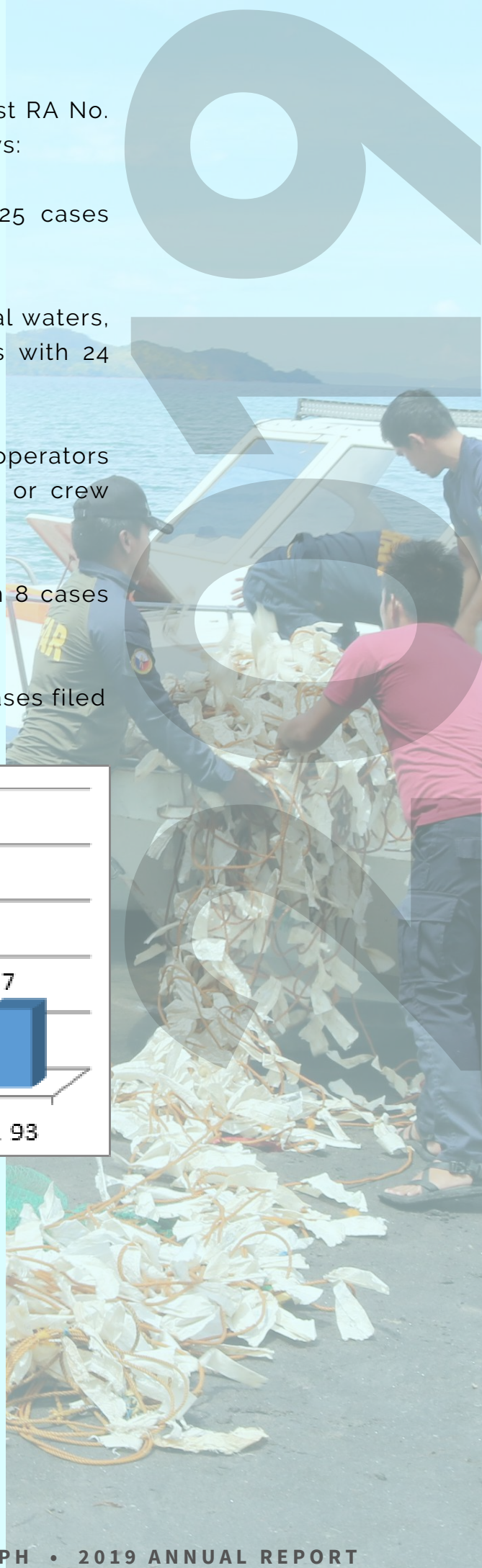
There were 90 administrative and nine (9) criminal cases filed against the violators in 2019. The total administrative fine collected amounted to Php501,004.73.

The five common violations committed against RA No. 10654 in Caraga Region in 2019 were as follows:

- (1) Section 86 – Unauthorized fishing with 25 cases filed
- (2) Section 95 – Use of active gear in municipal waters, bays and other Fisheries Management Areas with 24 cases filed
- (3) Section 113 – Commercial fishing vessel operators employing unlicensed fisherfolk, fishworkers or crew with 12 cases filed
- (4) Section 121 – Use of unlicensed gear with 8 cases filed
- (5) Section 93 – Use of fine mesh net with 7 cases filed



Five common violations in Caraga Region in 2019.



BIOTOXIN/HARMFUL ALGAL BLOOM MONITORING

Harmful algal bloom (HAB) is a term used to describe events associated with the blooms of toxic and non-toxic algae, which may be dangerous to the environment and human due to the toxin they contain.

Therefore BFAR, through the Regional Fisheries Laboratory, was mandated to regularly conduct monitoring and management of HAB to safeguard the public against the marine toxins present in shellfish, particularly in the areas of Lianga, Hinatuan and Bislig Bays, where occurrence of HAB had been previously recorded.

Weekly monitoring was conducted in the municipalities of San Agustin, Lianga, Barobo, Hinatuan, and Bislig.

A total of 418 sea water and 286 shellfish samples were collected from established sampling area per municipality, and analyzed for plankton count at the laboratory and Enzyme-Linked Immunosorbent Assay (ELISA) at the Aquatic Toxicology Laboratory (ATL) of BFAR National Fisheries Laboratory Divisionc (NFLD) in Quezon City.



A sample of shellfish meat (Black Lip) prepared by acid extraction. The sample was sent to the BFAR National Fisheries Laboratory Division for confirmatory tests (MBA or RBA).

Results of the analyses were issued by BFAR Fisheries Resource Management Division for information dissemination to all BFAR Regional Fisheries Laboratories through the Shellfish Bulletins, which were accessible online through bfar.gov.ph/redtide.

In 2019, the laboratory transmitted 22 Shellfish Bulletins to Local Government Units, Non-Government Organizations, Radio Stations, and other partner Government Agencies (DENR, DOH, PIA, etc.).

QUALITY CONTROL and INSPECTION

One of the government's thrust is to ensure food security, which means that food is available in sufficient quantity, quality, and is safe for human consumption.

To support this goal, BFAR is mandated to conduct inspection of fisheries facilities, and monitor aquaculture farms to ensure that they comply with good aquaculture practices.

INSPECTION OF FISHERIES FACILITIES

The Fisheries Inspection Unit (FIU) of BFAR takes charge of ensuring compliance to food safety, bio-security, sanitary and phytosanitary requirement, and other relevant national laws and regulations and international agreements for import and export of fish and fishery/aquatic products with the implementation of Hazard Analysis Critical Control Point (HACCP) System, Good Manufacturing Practices (GMP) and Sanitation Standard Operating Procedures (SSOP) on every fishery establishments.

In 2019, FIU conducted 7 system audits to Fisheries Processing Plants and Buying Stations, namely:

- 1) Cabadbaran Aquatech Resources Corporation
- 2) HJR-International Corporation
- 3) Chen Marine Products
- 4) Central Seafoods Incorporated
- 5) Charliemar Marine Products
- 6) CB Marine Product
- 7) Agri-Aquatic Care Enterprises

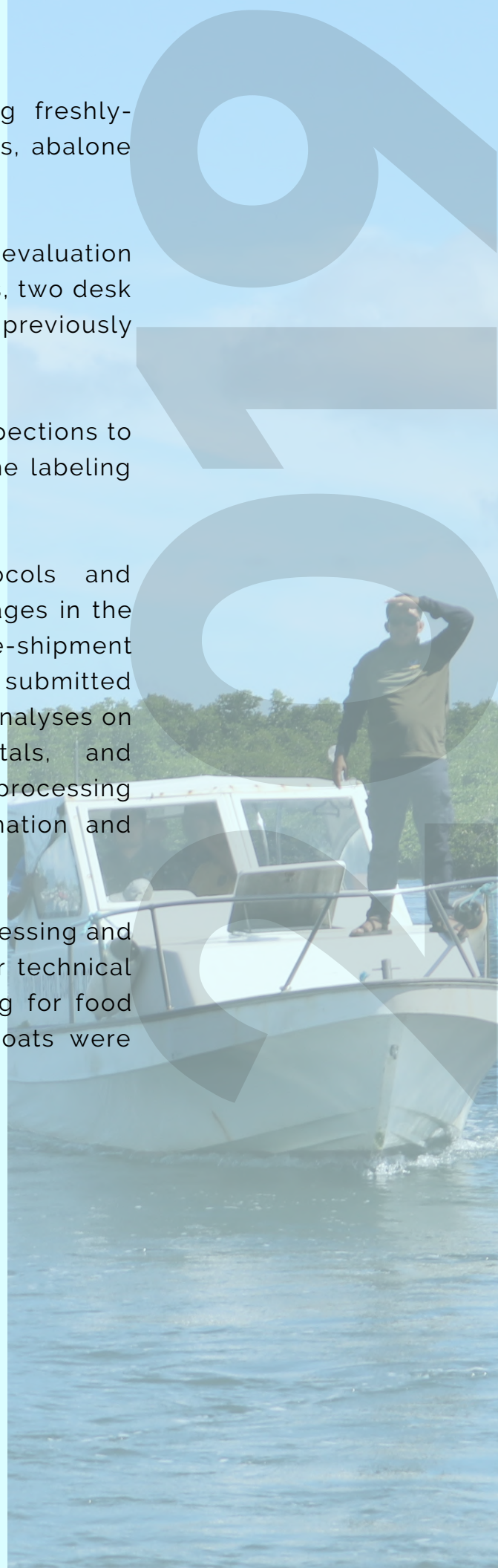
These establishments engage in processing freshly-frozen/chilled cephalopods, shrimps, lobsters, abalone meat and grilled eel products.

FIU also conducted plant monitoring and evaluation activities, which include two pre-assessments, two desk reviews and 11 compliance audits to the previously mentioned establishments.

Moreover, FIU conducted 6 pre-shipment inspections to verify compliance of outgoing products to the labeling requirements of importing countries.

Adhering to stringent bio-security protocols and ensuring the safety of the products at all stages in the production chain during these pre-shipment inspections, samples were also collected and submitted to National Fisheries Laboratory Division for analyses on chloramphenicol, nitrofurans, heavy metals, and antibiotics. Results were furnished to the processing plants and buying stations for their information and verification.

In order to develop and improve the pre-processing and processing establishments in the region, four technical assistance were given, 8 food safety training for food handlers were conducted, and 68 fishing boats were inspected for traceability purposes.



NATIONAL ANTIBIOTIC RESIDUE MONITORING AND CONTROL PROGRAM

The National Antibiotic Residue Monitoring and Control Program (NARMCP) of BFAR was developed to implement surveillance strategies of substances that promote Antimicrobial Resistance (AMR) and health toxicity to humans. It covers all aquaculture farms in the country that culture tilapia, milkfish and shrimp, and is aimed at detecting illegal treatments (particularly prohibited/banned antibiotics), and controlling compliance with the maximum residue limits for the residue of veterinary drugs and other substances used in aquaculture.

To comply with NARMCP, the Regional Fisheries Laboratory conducted inspection related to farm hygiene, on-site disease surveillance and residue monitoring, and sample collection for residue analysis.

A total of 32 samples were collected from various aquaculture farms. Of the total, 41% are milkfish (13 samples), 31.8% are shrimp (10 samples), 21.8% are tilapia (7 samples), and 3.13% are lobster and crab (1 sample each).

The gathered samples were subcontracted to the National Fisheries Laboratory Division for the analysis of banned antibiotics: Chloramphenicol and Nitrofurans metabolites.

The action limit for these parameters is Negative Detection, which was evident on the results of residue analysis from all the collected samples.



On-site analyses conducted by the Regional Fish Health Laboratory to analyze cause of mortality of fish (up) and lobster (right).



MOLECULAR DIAGNOSTICS, PHYSICO-CHEMICAL ANALYSIS, QUANTITATIVE BACTERIOLOGY, SHRIMP FRY QUALITY ASSESSMENT, PARASITOLOGY, AND PLANKTON COUNT

The fish health unit is a conglomerate of various physical, molecular and biological tests that help correlate aquatic animal diseases relative to production, biosecurity, health, certification, trade, fish mortality investigations, and water quality to the health status of fishes.

Fish-kills and aquaculture monitoring are responded by field visits that are conducted vis-à-vis in aquaculture areas in the region. Sample collection of fish and water are then subjected for qualitative and quantitative tests such as Molecular Diagnostics via Polymerase Chain Reaction, Physico-chemical analysis, Quantitative Bacteriology, Shrimp Fry Quality Assessment, Parasitology, and Plankton Count.

In 2019, a total of 1,954 of analyses were accomplished by RFL. The figure below is an integration of all tests conducted for the Fish Health Unit

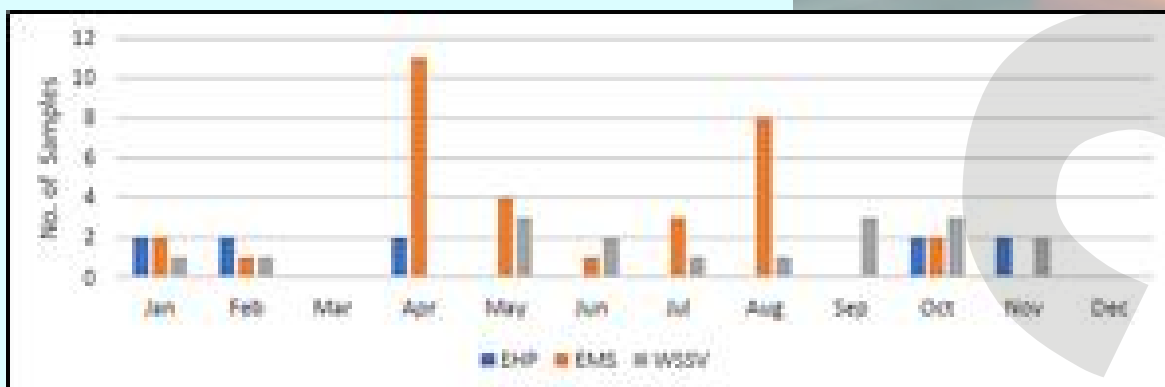
Test	Method	Sample
Molecular diagnostics	Conventional PCR	Crustacean
Physico-chemical analysis	Colorimetry and titration	Water
Parasitological examination	Wet-mount microscopy	Fish gills and skin
Quantitative bacteriology	Serial dilution	Water and shrimp
Shrimp fry quality assessment	Microscopy	Shrimp fry
Plankton count	Microscopy	Water

Molecular diagnostics refers to the detection of genomic variants, aiming to facilitate detection, diagnosis, sub-classification, prognosis and monitoring response to therapy (Patrinos, 2017).

In the RFL, Polymerase Chain Reaction is used as a technique where DNA is amplified into millions of copies to detect diseases in crustacean samples.

Shrimp and shrimp fry samples submitted were analyzed through Conventional Polymerase Chain Reaction Method using IQPlus System for White Spot Syndrome Virus (WSSV); and POCKIT™ Micro Nucleic Acid Analyzer for Acute Hepatopancreatic Necrosis Disease/Early Mortality Syndrome (AHPND/EMS), and Enterocytozoon hepatopenaei, among others.

A total of 46 samples were tested with 17 and 2 of the population positive with WSSV and EHP, respectively.



Occurrence of White Spot Syndrome Virus (WSSV), Acute Hepatopancreatic Necrosis Disease/Early Mortality Syndrome (AHPND/EMS), and Enterocytozoon hepatopenaei (EHP) based on the 46 samples tested.

QUARANTINE, REGISTRATION and LICENSING

FISHERIES QUARANTINE SERVICES

The Fisheries Quarantine Unit (FQU) of BFAR is the competent authority that formulates updates, and strictly implements policies, guidelines and protocols concerning fisheries quarantine measures to ensure safe movement or trade of fish and aquatic products.

FQU facilitates the inspection of all incoming and outgoing fisheries products in seaports and airports in the region, namely Bancasi, Surigao City and Sayak Airports, and Nasipit, Surigao City and Lipata Seaports.

A total of 1,340 inspections of incoming fishery products were conducted in 2019, while 11,079 inspections were conducted and 11,055 clearances were issued for the domestic transport of aquatic wildlife, including live, fresh, chilled, frozen fish and aquatic products outside Caraga Region.

In addition, FQU monitors and inspect the movement of fishery products traversing Caraga Region. There were 1,821 inspections of incoming and outgoing fish carriers and fish cars conducted in 2019.

There were also 398 boarding formalities conducted for incoming and outgoing foreign marine vessels.

LEASING AND LICENSING

BFAR Caraga Leasing and Licensing Section has two major functions: oversee the Fishpond Lease Agreements, and issue commercial fishing vessels, gears and fishworker license in the region.

The leasing of public lands for fishpond and mangrove-friendly aquaculture to quality individuals and association/cooperatives through the 25-year Fishpond Lease Agreement (FLA) is provided by Fisheries Administrative Order (FAO) No. 197-1, Series of 2012.

In Caraga, 40 fishpond areas are under FLA, majority of which are in Agusan del Norte, Surigao del Norte and Surigao del Sur. A total amount of Php 996,795.00 was collected as rental fees from the FLA areas in 2019.

Thirteen FLAs were recommended for renewal of the 25-year lease to BFAR Central Office after the conduct of thorough inspection and verification. There were also 39 FLA Annual Reports evaluated, verified and submitted to BFAR-CO.

Meanwhile, the licensing of commercial fishing vessels, gears and fishworkers was covered by FAO No. 198-1, Series of 2018. A total of 13 commercial fishing gear licenses and 425 fisherman's licenses were issued in 2019. There were also 57 Certificate of Clearance issued. An amount of Php 87,190.00 was collected as fees for the new and renewal application of commercial fishing gear license, fisherman's license and Certificate of Clearance issued.

COASTAL and INLAND FISHERIES RESOURCE MANAGEMENT

FISH SANCTUARY OR MARINE PROTECTED AREA (MPA) MONITORING

The monitoring and assessment of fish sanctuaries and marine protected areas (MPAs) are crucial activities for the protection and conservation of the fishery resources.

Through the Coastal Resources Management (CRM) Section, 15 sanctuaries were monitored and 8 fish sanctuaries were rehabilitated through the provision of plastic float cushion with solar warning lamp and mooring system.

ARTIFICIAL REEF DEPLOYMENT

Artificial reef (AR) modules are concrete structures placed in barren marine areas to mimic natural coral reefs, and serve as a habitat for aquatic flora and fauna.

In 2019, there were 120 units of artificial reef modules deployed, 60 of which were at Poblacion Fish Sanctuary in Carmen, Agusan del Norte, and another 60 units were in Sacol Fish Sanctuary, Buenavista, Agusan del Norte.

MANGROVE REHABILITATION

The mangrove rehabilitation project is aimed to regenerate mangrove ecosystems in areas where they had previously existed. Five eligible fisherfolk associations from the four provinces of Caraga Region were involved in the implementation of the project.

The La Union Mangrove Fisherfolk Association Inc. in Cabadbaran, Agusan del Norte rehabilitated 20 hectares of non-productive fishpond area with 67,000 propagules.

The Brgy. Alambique Fisherfolk Association in Gigaquit, Surigao del Norte also planted a 5-hectare area with 19,000 mangroves.

The Imelda Women's Eggs Production Association in Tubajon and the Quarry Rice Traders Association in Libjo of the Province of Dinagat Islands each replanted 16,500 mangroves in their respective 5-hectare areas.

Finally, the Nursiha Enforcement Team Organization in Lanuza, Surigao del Sur rehabilitated 10 hectares with 33,000 propagules.



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Mangrove rehabilitation project in Brgy. Imelda, Tubajon, Province of Dinagat Islands.

ECOSYSTEM APPROACH TO FISHERIES MANAGEMENT (EAFM)

An **Ecosystem Approach to Fisheries Management (EAFM)** for LGUs surrounding the Lake Mainit Orientation and Planning Workshop in Sta. Monica, Siargao Island was initiated by the CRM Section. This was participated by the member municipalities of Lake Mainit Development Alliance (LMDA) such as Jabonga, Kitcharao and Santiago of the Province of Agusan del Norte, and Mainit and Alegria of the Province of Surigao del Norte.

The three-day workshop was in line with the preparation for drafting the sustainable management strategy to be implemented lake-wide in response to the decreasing catch of pijanga (tank goby) in Lake Mainit, as well as the conservation and management of other aquatic resources in the area.

EAFM Orientation and Planning Workshop for Lake Mainit LGUs



FISHERIES MANAGEMENT AREAS (FMAS)

The regional Bureau conducted series of orientations as part of the implementation of Fisheries Administrative Order No. 263 entitled “Establishment of **Fishery Management Areas (FMAs)** for the Conservation and Management of Fisheries” to various key stakeholders in the region.

FMA refers to bodies of water in the Philippines delineated based on approximate stocks and their boundaries, range, distribution, and other considerations for the purpose of fisheries management or governance that is science-based, participatory and transparent, applying the ecosystem approach to fisheries management.

Caraga Region is a member of three FMAs, namely FMA 2, 8 and 9, which are led by the BFAR Regional Office XI, VIII and X, respectively.



At the regional level, the regional Bureau held a series of orientation on FMA for the different stakeholders of the region.

The multisectoral orientation were held in Butuan City for FMA 9, Surigao City for FMA 8, and San Agustin, Surigao del Sur for FMA 2, on August 28 and 29 and October 21-22, respectively.

Selection of Technical Working Groups and Sectoral Representatives for FMA 8, 9 and 2 were also made during the activities.



FMA 8 key stakeholders from the provinces of Dinagat Islands, Surigao del Norte and Surigao del Sur (top photo), FMA 9 key stakeholders from Butuan Bay in Agusan del Norte (middle photo), and inception meeting for the establishment of FMA 2 in Davao City (right photo)

ANNUAL FISH CONSERVATION WEEK CELEBRATION

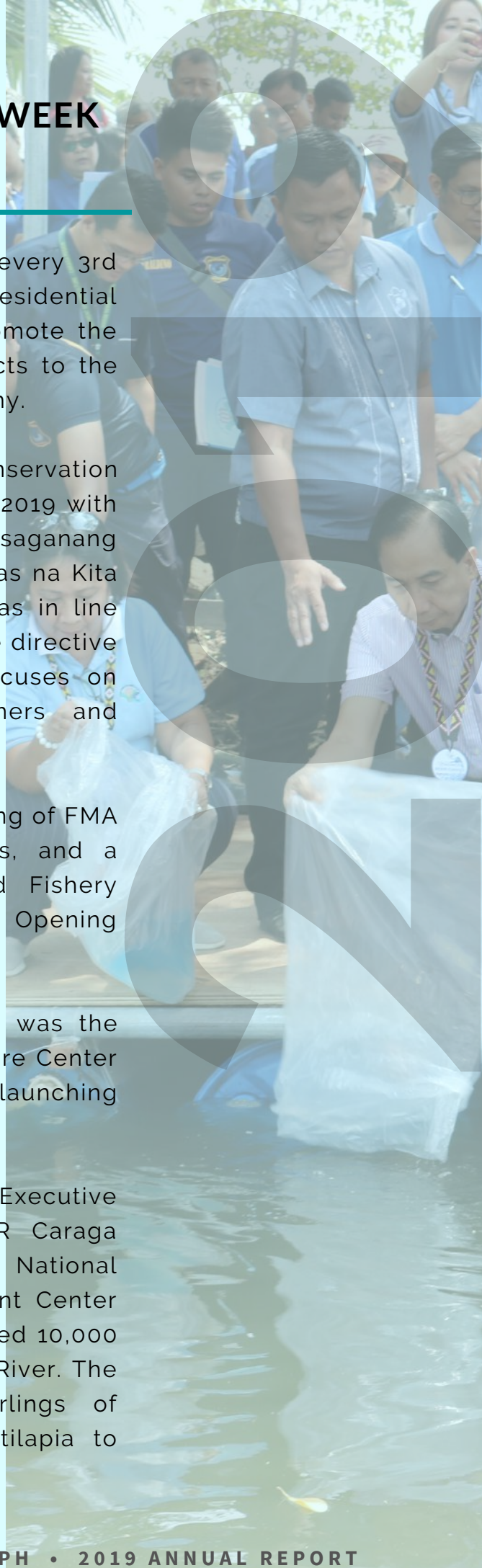
The **Fish Conservation Week** is celebrated every 3rd week of September, pursuant to Presidential Proclamation No. 316, series of 2017, to promote the importance of fish and other aquatic products to the people's well-being and the country's economy.

Since its inception in 1963, the 56th Fish Conservation Week was celebrated last September 16-20, 2019 with the theme, "Itaguyod ang Malinis at Masaganang Karagatan tungo sa Masaganang Ani at Mataas na Kita sa Industriya ng Pangisdaan." The theme was in line with the new thinking in agriculture under the directive of DA Secretary, William D. Dar, which focuses on productivity and prosperity of the farmers and fisherfolk of the country.

Highlighted in the activity were the Oath Taking of FMA 8 Regional Board Representative Members, and a dialogue with Municipal Agriculturists and Fishery Technicians during the FishCon Week Opening Program held in Butuan City.

Another highlight of the week-long activity was the visit of Secretary Dar at the Masao Aquaculture Center in Butuan City on September 17, 2019 for the launching of fishery projects.

Secretary Dar, together with DA Regional Executive Director Abel James I. Monteagudo, BFAR Caraga Regional Director Visa Tan-Dimerin and National Integrated Fisheries Technology Development Center (NIFTDC) Chief Dr. Westly R. Rosario, dispersed 10,000 giant freshwater prawn (ulang) in the Masao River. The Secretary also handed-over 9,500 fingerlings of breeder quality Molobicus and 3,100 red tilapia to individual fish farmers in the region.



During this visit, the Secretary also turned over P40M worth of environment-friendly fishing gears and input assistance of its regular and Fisheries Coastal Resources and Livelihood (FishCORAL) projects to the fisherfolk in a simple ceremony held at Masao Aquaculture Center.

Fishing gears and paraphernalia distributed include gill nets, hook and line, fish pots, squid jiggers and spear fishing gadgets.

Livelihood projects such as milkfish culture in HDPE fish cages, mangrove crab in pond, aquasilviculture, fry nurseries and bottled sardines were also awarded under the FishCORAL Project.



Various fisheries activities were also spearheaded by the Provincial Fishery Offices throughout the region. Among these were coastal clean-up and mangrove planting activities.



On the closing program of the 56th Fish Conservation Week Celebration, BFAR Caraga gave recognition to regional Malinis at Masaganang Karagatan (MMK) winners for 2019.

The municipalities of Cagwait in Surigao del Sur and Del Carmen in Surigao del Norte were the first and second placer, respectively.

Cagwait will represent Caraga region in the fourth season of MMK 2019 National Search for Outstanding Coastal Community.

MMK 2019 1st and 2nd Placer in Caraga – the municipality of Cagwait (top photo) and Del Carmen (bottom photo).



MALINIS AT MASAGANANG KARAGATAN (MMK): NATIONAL SEARCH FOR OUTSTANDING COASTAL COMMUNITY

The **Malinis at Masaganang Karagatan (MMK)** Program of BFAR aims to recognize the exemplary initiatives and contributions of coastal municipalities and cities to sustainable fisheries management.

As a National Search, MMK has four general criteria:

- (1) absence of illegal fishing and observance of fishing closed season
- (2) establishment of protected marine sanctuary
- (3) clean coastal waters without domestic and industrial wastes
- (4) effective mangrove protection and rehabilitation program

Being the MMK regional winner in 2018, the Municipality of Gigaquit in Surigao del Norte was awarded second runner-up out of 14 contenders in the third season of Malinis at Masaganang Karagatan (MMK) 2018: National Search for Outstanding Coastal Community awarding held last July 19, 2019 in Siquijor Island.

Macrohon in Southern Leyte and Alaminos in Pangasinan named the Grand Winner and the First Runner-up, respectively. Gigaquit took home 10 million worth of agri-fishery livelihood assistance.

For the fourth season of MMK, three municipalities in the region were evaluated by the Regional Technical Search Committee, namely Del Carmen in Surigao del Norte, Cagwait in Surigao del Sur, and San Jose in the Province of Dinagat Islands.

The Municipality of Cagwait won as the Regional Winner for MMK in 2019 and will be representing the region at the MMK 2019 National Search for Outstanding Coastal Community, while the Municipality of Del Carmen came out as second place. The winners took home livelihood projects worth P2 million and P1 million, respectively.



BALIK SIGLA SA ILOG AT LAWA (BASIL) PROGRAM

Advocating for productive fishery resources and poverty alleviation among fisherfolk living in far-flung areas, the regional Bureau implements the **Balik Sigla sa Ilog at Lawa (BASIL)** Program, a program under the National Inland Fisheries Enhancement Program (NIFEP).

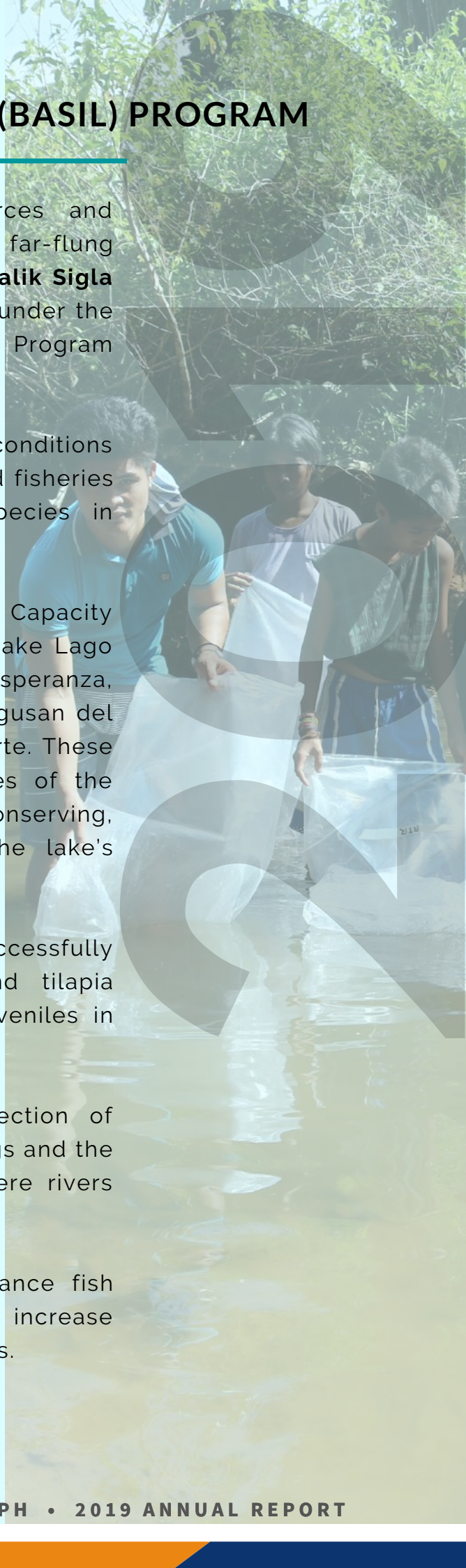
BASIL aims to rehabilitate/restore physical conditions of minor lakes and reservoirs, enhance inland fisheries production, and repopulate indigenous species in support to biodiversity conservation.

In 2019, BASIL Program conducted four Capacity Building on Lake Management activities at Lake Lago in San Miguel, Surigao del Sur; Lake Oro in Esperanza, Agusan del Sur, Lake Katipunan in Loreto, Agusan del Sur; and Lake Silop in Mainit, Surigao del Norte. These training were aimed to enhance capabilities of the lakeside communities in managing, conserving, protecting and sustainably utilizing the the lake's fishery and aquatic resources.

Throughout the year, the program also successfully dispersed 4.6 million pieces of carp and tilapia fingerlings, as well as freshwater prawn juveniles in various rivers and lakes in the region.

The mode of dispersal included the selection of strategic locations for the release of fingerlings and the stocking of fingerlings in municipalities where rivers traverse.

This initiative aimed to repopulate or enhance fish stock in order to facilitate biodiversity, and increase fisheries production in barren freshwater areas.





FISHERIES EXTENSION PROGRAM

TRAINING and TECHNICAL ASSISTANCE

The **Fisheries Extension Program** aims to assist the fisherfolk improve their fishing, fish farming and post-harvest methods by educating them on new technologies that increase production efficiency and income.

The **Regional Fisheries Training and Fisherfolk Coordination Division (RFTFCD)**, with technical experts from the **Fisheries Production and Support Services Division (FPSSD)**, the **Fisheries Regulatory and Enforcement Division (FMRED)**, and the **Provincial Fisheries Offices (PFOs)**, were able to conduct a total of 87 technical training with 4,944 fisherfolk trained throughout the region.

Thirty-six aquaculture training were conducted, imparting technical knowledge and skills to 2,114 fish farmers, particularly on the cost-effective and eco-friendly technologies on the production and management of high-value commodities such as crabs, milkfish, oyster, abalone, seaweed and lobsters.

Fish processing and value-adding training by the Training Division and Post-harvest Section.



Twenty-one training on fish handling, processing and value-adding were conducted for 21 fisherfolk women's associations who can now apply the skills they've learned to generate additional income for their families.

Moreover, 16 regulatory training focused on the deputation of 1,195 fish wardens or "bantay dagat" throughout the region were conducted.

The **Deputy Fish Warden Training** were conducted to develop the capability of local fisherfolk associations on law enforcement as implementer of fishing rules and regulations in their communities.



Sixteen municipal training were also conducted to 459 fisherfolk and stakeholders throughout the region. One of these include the **Fish Examiner Capability Building Training** for BFAR 13 technical fish examiners, and **Agricultural Technicians for Fisheries** from the Local Government Units (LGUs).

Meanwhile, a total of 5,437 technical assistance in the fields of aquaculture, capture fisheries (municipal and commercial), post-harvest, marketing and credit facilitation were rendered by the Bureau for the entire year.

ESTABLISHMENT of TECHNOLOGY DEMONSTRATION

Technology demonstration (techno-demo) is another set of tool to impart technical knowledge and skills to the fisherfolk. Only, it is more on applying the techniques and principles learned during training in real-life situations.

One of the roles of the Bureau is to demonstrate new and/or updates on fisheries technologies to its clients in order to improve the practices they use in fish farming, hence increasing productivity and income.

The **Technology Outreach Stations** and the **Provincial Fishery Offices** led the establishment of 21 aquaculture techno-demo projects in strategic areas in the region.

One unit integrated farming techno-demo was established in Kitcharao Technology Outreach Station, 10 pond culture techno-demo was established in Agusan del Norte, Agusan del Sur, Kitcharao, Placer and Masao Stations, one fish cage techno-demo was established in Jabonga, Agusan del Norte, and two shellfish culture techno-demo were established in Placer Station and Cortes in Surigao del Sur.

Another two aquasilviculture techno-demo focused on crab nursery were established in Agusan del Norte.

Harvest of the Red Tilapia Culture in Pond Technology Demonstration in Prosperidad, Agusan del Sur.



INFORMATION, EDUCATION and COMMUNICATION ACTIVITIES

BFAR Caraga continued its quest in intensifying information, education and communication (IEC) campaign on the mandates, programs and projects of BFAR through different media such as print, radio, audio-visual presentations (AVPs), social media and events through the Fisheries Information Unit of the Bureau.

In 2019, radio plugs/advertisement were initiated to disseminate to the public the information on Red Tide Alerts, and to broadcast one of the banner programs of the BFAR – the Malinis at Masaganang Karagatan (MMK) Program, which was aired from July to December 2019 at Radyo Pilipinas Network (Surigao).

The Bureau also participated in joint Information Caravan with other government agencies,



Information caravan by the Regional Fisheries Information Section.



documented major events such as Secretary William D. Dar's Visit in Caraga, the month-long activity of the Regional Fisherfolk Director, as well as the production of audio-visual presentations (AVPs) for the MMK 2018 Awardee, which was in partnership with Mag-Agri Tayo and BFAR Central Office, held at Gigaquit, Surigao del Norte.

About 19 press releases were published in the official web (<https://caraga.bfar.da.gov.ph/>) and Facebook page (<https://www.facebook.com/bfar13info/>) of the regional Bureau for the public's information.

A total of 10,759 units of IEC materials such as Bukana Newsletters, posters, brochures and techno-guides on aquaculture were distributed to 2,216 recipients throughout the region.



Production of audio-visual material (top) and radio plug (upper right).

Printed copies of Bukana Newsletters (right).



STRENGTHENING PARTNERSHIP with STAKEHOLDERS

FARMC STRENGTHENING

The Regional Fisherfolk Coordination Section is the frontliner when it comes to strengthening Fisheries and Aquatic Resources Management Councils (FARMCs) of the partner Local Government Units and their involvement to the management, development, protection and conservation of the fishery resources.

In 2019, there were 81 FARMC strengthening and revitalization seminars conducted by the Bureau to a total of 911 FARMC members throughout the region.

The activity aims to reinforce the capabilities of FARMCs in barangays, municipalities and cities for their continued contribution to fisheries and aquatic resources management in municipal waters.



TOP PHOTO: Provincial fisherfolk representatives convene to elect their Regional Fisherfolk Representative



RIGHT PHOTO: FARMC and Provincial Fisherfolk Sectoral Council of Leaders Conference and Reorganization

FISHERFOLK MONTH CELEBRATION

BFAR Caraga celebrated the Farmers and Fisherfolk Month with the theme “Magsasaka’t Mangingisdang Pilipino, Saludo Ang Buong Bansa Sa Sipag, Tibay At Lakas Niyo” throughout the month of May 2019.

The celebration was in line with the Presidential Proclamation No. 33, series of 1989, which gives due recognition to the farmers and fisherfolk, and their contribution to the economy and the development of the nation.

Highlighted during the opening ceremony last May 2, 2019 was the installation of Mr. Robustiano S. Patayon, Jr. as the Regional Fisherfolk Director (RFD).

RFD Patayon from Loreto, Province of Dinagat Islands not only took charge of the Office of the Regional Director for the whole month of May, but also performed routine functions of the RD, such as spearheading the BFAR Regional Management Committee Meeting.

The Fisherfolk Directors Program is anchored in the Department of Agriculture Special Order No. 88, series of 2005, dubbed as “Mangingisdang Direktor para sa Mas Matatag na Balikatan,” where fisherfolk leaders elected by their fellow fisherfolk shall act as BFAR Director at the national and regional levels for the month of May to highlight the Farmers and Fisherfolk Month Celebration.

RFD Patayon and National Fisherfolk Director Noces visit a lobster cage in Cagdianao, Province of Dinagat Islands.



FISHERIES SCHOLARSHIP PROGRAM

BFAR, through the Fisheries Scholarship Program, is providing a full college scholarship to qualified high school students taking up Bachelor of Science in Fisheries.

The program has two components: the **Fisheries Industry Leaders Grant (FILG)** for high school graduates who belong to the Top 10 of their graduating class, and the **Fisherfolk Children Educational Grant (FCEG)** for those whose parents are registered fisherfolk.

In 2019, 45 students from Caraga Region were provided with Fisheries Scholarship, six were under FILG, while 39 were under FCEG.

The Fisheries Scholarship Qualifying Examination was facilitated last December 7, 2019 at the Agusan National High School, Butuan City.

Qualified students who will pass the examination will be the next batch of scholars to study the fisheries course by school year 2020-2021.



Students during the Fisheries Scholarship examination.



"A food-secure Philippines with prosperous farmers and fisherfolk."

 Km. 4, Bgy Luna, Surigao City