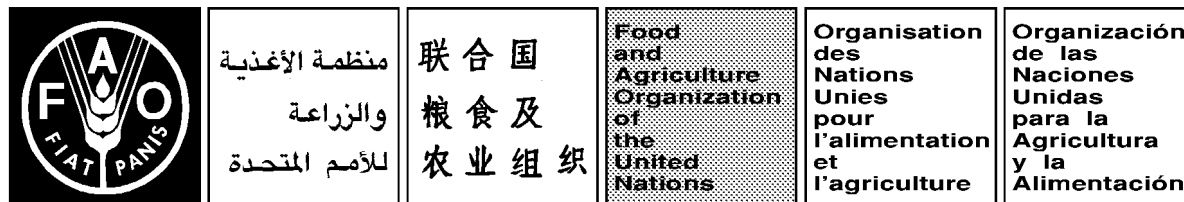


November 2018



Western Central Atlantic Fishery Commission (WECAFC)
Ninth Session of the Scientific Advisory Group
Bridgetown, Barbados, 19 - 20 November 2018
Progress and Update on: Fisheries Data and Statistics in the WECAFC region, WECAFC-FIRMS Collaboration, Future Plans and Needs

Table of Contents

<i>Executive summary</i>	1
<i>Introduction and Background</i>	2
<i>Update of WECAFC-FIRMS collaboration 2017-2018</i>	3
Support to Stock assessment	5
WECAFC Phase 3	5
Actions requested from the SAG	7

Executive summary

This document presents an update of the activities on data and statistics taking place under the WECAFC-FIRMS partnership, coordinated by the governing Task Force. Results from ongoing activities achieved under the phase 2 EU funded project are presented, many of which are being expanded on in the phase 3 project, the latter begun in synergy with other regional projects (e.g., CLME+). The WECAFC Data and Statistics Working Group (FDS-WG), endorsed by WECAFC 16 constitutes a cornerstone of the WECAFC-FIRMS Phase 2 project, in addition to endorsement of a 1st draft of the Regional Data Collection Reference Framework and the development of a functional pilot WECAFC Regional Database. One important driving objective is the development of an Enabling Decision Support System (DSS) Framework for regional fishery authorities (WECAFC, CRFM, OSPESCA, and CLME+).

The SAG is expected to acknowledge the results and on-going efforts of the WECAFC-FIRMS project. In particular, the SAG is invited to examine key draft outputs of the first meeting of the Fishery Data and Statistics Working Group (FDS-WG, May 2018, Barbados), to note the participative process and timing for their further elaboration, to provide its own comments and to formulate recommendations towards their adoption by the WECAFC Commission 17, on the occasion of a virtual meeting to be convened in March 2019.

The SAG is expected to recognize the project as a collaborative platform for collation and sharing of scientific information, leveraging ongoing regional projects, and prioritizing national data needs, to continue to promote participation in the FDS-WG, to promote provision of national data and statistic to

the RDB according to DCRF framework and to recognize the important role of WECAFC, CRFM, and OSPESCA to support and to validate national inventories and their publishing through FIRMS as part of the global monitoring framework requested under SDG14.4.1

Introduction and Background

The FIRMS) (<http://firms.fao.org>) has as primary goal to facilitate access to high-quality information on the status and trends of global marine fishery resources, fisheries and their management. The overarching aim of the FIRMS partnership is to provide decision-makers with sufficient and reliable information to develop effective fisheries policies in accordance with the Code of Conduct for Responsible Fisheries. FAO provides the secretariat for the FIRMS partnership.

The WECAFC-FIRMS partnership developed at the [WECAFC-FIRMS Workshop on Marine Resources and Fisheries Inventories](#) (November 2013,) and endorsed by WECAFC 15 provides access to access to high-quality information on the status and trends of global marine fishery resources, fisheries and their management. The lack of basic information on fishery data and statistics to support decision making were noted as chief impediments to strong and effective management of marine resources in the region ([WECAFC 14](#), [WECAFC 15](#)).

The development of the partnership provided a viable mechanism through which existing data limitations and gaps could be reduced. Through the partnership focal points have been designated representing the region (Ms. Nancie Cummings) and CRFM and OSPESCA sub regions (Mrs. June Masters and Mrs. Jeannette Mateo).

As noted in WECAFC/SAG/VIII/2017/8, the “Partnership”, established on request of the WECAFC members with direct involvement of the FIRMS Secretariat, facilitates a variety of significant improvements in the region focusing on fisheries including:

- a. Development of and advancing Fisheries Inventories and Marine Resources Summaries in the region for key fisheries and marine resources.
- b. Promotion of the development of a functional pilot database (RDB) through the “Partnership” targeting five shared regional stocks (Spiny lobster, Queen conch, Flying fish, Billfish, Shrimp and Groundfish).
- c. Support of regional governance through a collaborative task force bringing a set of complementary skills and knowledge of all Caribbean Fisheries issues.
- d. Establishment and promotion of partnerships with other important regional initiatives (e.g., CLME+ project Strategic Action Plan – SAP and the recreational billfish project) thus leveraging resources and building transparency.

[WECAFC/SAG/VII/2015/7](#) summarized the primary aims of the partnership and early achievements. Early activities focused on: strengthening national data collection through completion of inventories of stocks and fisheries in support of the three FMPs published in FIRMS (spiny lobster, flying fish, and Queen conch), the development of a prototype Regional Data Base (RDB), and developing a Plan for identifying needs and building capacity and strengthening of selected national data collection systems.

[WECAFC/SAG/VIII/2017/8](#) provided an update on activities undertaken in 2016 and 2017. Noteworthy activities during that period included updating and developing new inventories, building national capacities through a fisheries information system, further identifying national data and statistics needs through country site visits, developing primary components informing a prototype decision support

system including: minimum data needs, data collection reference framework, logbook guidelines, and data sharing policies and best practices. Additionally, the FIRMS website was translated into Spanish further enhancing the availability of high quality scientific information throughout Latin American countries. Members of WECAFC and OSPESCA and stock assessment capacity was developed under the BlueBRIDGE project through collaborations with the task force.

Update of WECAFC-FIRMS collaboration 2017-2018

WECAFC-FIRMS phase 2

The EU-DG MARE funded project WECAFC-FIRMS phase 1 (full title “WECAFC Regional Database - Strengthening national data collection and regional data sharing through FIRMS to support priority regional fishery management plans in the WECAFC area”) provided funding to continue a number of activities initiated under Phase 1 and to implement new activities and those achievements which are hereby reported.

The 1st meeting of the WECAFC Fisheries Data and Statistics Working Group (FDS WG), endorsed by WECAFC 16 was convened (May 2018). The aim of the FDS-WG is to strengthen collaboration on fisheries data and statistics matters among the three regional fisheries bodies. The main outputs of the 1st meeting of the WG available at <http://www.fao.org/fi/static-media/MeetingDocuments/WECAFC/FDSWG/2018/default.htm>) **were:**

- Draft of a **Data Collection Reference Framework document (DCRF)** further developed from Phase 1 activities was validated by the working group as relates overall organization and structure and required data types. The FDS WG identified three main follow up areas for further consideration before finalizing the DCRF including:
 - species prioritization,
 - area/sub-area delineations,
 - mappings of national vessel categories to agreed regional Fleet segment categories
- Draft **Regional Logbook Guidelines** was developed enabling a modular approach to data collection structured around two groups: 1) core data considered mandatory and providing the minimum inputs required for basic fishery monitoring and 2) detailed data providing more complex information for stock assessment
- **Intersessional Work plan** was developed with priorities and timeframes identified as follows:
 - Collation/Identification of priority species (to be validated by species WGs, national authorities, SAG)
 - Logbook guidelines pilots
 - Identified priority projects in support of national statistical systems
 - Encourage harmonized regional/national standards for all RDB components
 - Recognize pilot testing need on RDB functionality
 - Recognize capacity training need in data collection to ensure Draft recommendations of DCRF are carried out
 - Recognize need for operational technology to ensure timely national catch summaries
 - Align areas of data collection to species priorities
 - Map national fleets to agreed standards (e.g., FAO, CWP, IUU WG)

Work continued towards developing a functioning prototype regional data base (RDB) which would be informed through inventories, collections of basic fishery catch and effort and Socio-economic data and statistical indicators. All these efforts are closely coordinated towards building standards based, modular and interconnected modules including vessel registry, logbook, artisanal statistics, landing sales, etc., required for a fully functional database.

The main related activities included:

- Mobilization of resources and/or implementation for building national capacities regarding data collection and fisheries information systems:
 - i. A new version of FiSMIS is being developed for Trinidad & Tobago under FAO/JPN228 support
 - ii. Rebyc-LAC in Suriname (evaluation of needs)
 - iii. CLME+ tentatively in Guyana
 - iv. CC4Fish in St Lucia and Grenada and two other countries (ICCAT reporting needs)
 - v. WECAFC-FIRMS 3 with two additional countries under consideration
- Maturing Tooling and RDB data access and sharing policies discussions took place at several working group meetings (e.g. CLME+ Shrimp & Groundfish Data Preparatory Workshop, October 2018; FDS-WG May 2018).
- Maturing RDB operational functionality for data access and sharing (Prototype testing planned) was developed. The underlying software for the RDB was developed in collaboration and with the financial support of the EU H2020 BlueBRIDGE project. The system is hosted in the iMarine infrastructure (<https://i-marine.d4science.org/>) which implemented strict data access policies for its users. The RDB is made of two components: an on-line system for the Regional Data Manager to manage the data call according to the DRCF and the Commission recommendations and an on-line/offline plug-in for Excel to create an Excel table corresponding to the data call with validation services to ensure that the metadata (table structure, classifications) are correctly used.
- Publishing stocks status inventories (e.g., as presented by Mendoza at [WECAFC/SAG/VII/2015/3](#) and [WECAFC/SAG/IX/2018/3](#))
- The task force provided input for the recreational billfish project
 - vi. Participants adopted logbook guidelines
 - vii. Developed pilot e-logbooks for reporting to ICCAT via SmartForms
- The task force, through the FDS-WG engaged in collaborative support to the data call (WECAFC, FI 26/4) for tuna and tuna like species initiated by the ICCAT Tuna RFMO in ICCAT CIRCULAR #0732 / 2018.

Dissemination of information on the WECAFC-FIRMS Partnership and the RDB phase 2 project was made available to a variety of audiences via:

- The iMarine Gateway: the data e-infrastructure presented in [WECAFC/SAG/VII/2015/7](#) continued to be used by the Task force to collate and disseminate multiple products from the FIRMS Phase I project, to document task force e-calls, and to archive the DCRF and logbook guidelines proposal (<https://goo.gl/MHUfdr2>)
- The CRFM news net (<http://www.crfm.int/>) also provided alerts of FIRMS Task force activities CRFM members were involved in

The FAO CLME+ sub-project on Shrimp and Groundfish was kicked-off at the end of 2017 (November), with expectations to extend the spectrum of WECAFC-FIRMS activities to these resources. Synergies were sought among CLME+ field projects to increase the impact of WECAFC-FIRMS. Specifically, opportunities to update inventories and provide input into informing stock assessment inputs were provided at the October 2018 CLME+ Shrimp and Groundfish Data Preparation meeting.

Support to Stock Assessment

The continued need to provide capacity building support to the region was noted at the 7th and 8th SAGs (**WECAFC/SAG/VII/2015/7 and WECAFC/SAG/VII/8**) emphasizing the functionality of the EU Horizon 2020 framework BlueBRIDGE project to strengthen regional capacity in multiple ways.

FAO's Fisheries and Aquaculture Department remains engaged in the iMarine platform, a data infrastructure in support to Ecosystem Approach to Fisheries (EAF) (EAF) and conservation of living marine resources. The BlueBRIDGE project funded under the EU Horizon2020 strengthens the capacities of iMarine, which will benefit WECAFC and its regional partners by offering a platform able to support capacity building for stock assessment.

BlueBRIDGE is working to produce and deliver Virtual Research Environments³ (VREs) for Regional databases in support to stock assessment and fisheries management, as well as capacity building to support the uptake of such facilities by user. During 2017, through the Partnership, achievements were made in multiple areas through synergistic collaborations within the WECAFC-FIRMS partnership and WECAFC region:

- a) Review of and report on the potential for use within a VRE environment of a frequently used data limited stock assessment model (CMSY model) resulting in significant improvement in performance of the current CMSY model took place during 2017
- b) Preliminary interface developed for importing data into the VRE in 2017
- c) Algorithms developed for enhancing the reproducibility of stock assessment results within the VRE environment

The BlueBRIDGE project officially ended in March 2018 however the need for continued capacity in this area is recognized.

Short term plans for continued stock assessment capacity include:

¹ The access to this folder requires creation of an account in the iMarine infrastructure

² The access to this folder requires creation of an account in the iMarine infrastructure

³ Virtual Research Environments are cloud-based workspaces offering data services for a dedicated user community

- a. Produce functioning import templates for migrating minimum data into VRE by national data managers
- b. Deliver test training sessions using the above VREs
- c. Identify additional opportunities and resources for further contributions to stock assessment needs under a VRE environment

More information on BlueBRIDGE at <http://www.bluebridge-vres.eu/>

WECAFC-FIRMS phase 3 project (2019-2020)

EU DG-MARE agreed to fund a third phase for WECAFC-FIRMS, which will orient mainly towards supporting WECAFC members and the transversal Fisheries Data and Statistics Working Group partners in the implementation of the recommendations of the first meeting (May 2018) and organization of the second FDS WG meeting. The main activities will concentrate around:

- a. Consolidation of the DCRF with list of priority species and the WECAFC / FAO Sub-Areas delineation with the support of the WECAFC Members and the coordination of the FDS WG convener;
- b. Consolidation of the Data sharing and access strategy and policy, including streamlining principle between national, regional and global
- a. Development of practice section for implementation of the logbook guidelines: this could be in the form of Case studies or Pilot projects;
- c. Support to National fisheries statistics systems to upload data in the RDB (Reinforcement of local capacities and system): at least one pilot country to be supported.
- d. Continued development of new inventories and updating old inventories, with their publishing as fact sheets on the FIRMS website
- e. Convene the 2nd meeting of the transversal Fisheries Data and Statistics Working Group (FDS WG) with the possible following organizations: Western Central Atlantic Fishery Commission (WECAFC), Caribbean Regional Fisheries Mechanism (CRFM), Organización del Sector Pesquero y Acuícola del Istmo Centroamericano (OSPESCA), Institut Français de Recherche pour l'Exploitation de la Mer IFREMER and Caribbean Fishery Management Council (CFMC)

Workplan of the WECAFC FDS-Working Group

A work plan was developed to identify and prioritize activities and timing for the intersessional period 2018-2019 (WECAFC/SAG/IX/2018/Inf.12)

Actions requested from the SAG

- a. The **SAG is invited** to examine key outputs of the first meeting of the Fishery Data and Statistics Working Group (FDS-WG, May 2018, Barbados), namely the finalized **Terms of Reference of the WG** ([WECAFC/SAG/IX/2018/Inf.11](http://www.icea.int/Portals/0/SAG/IX/2018/Inf.11)), the [draft Data Collection Reference Framework \(DCRF\)](#), the [draft Data Access and Sharing Policy](#), and the [Regional Logbook guidelines](#), and the [pilot Regional Database](#); the SAG is further invited to note the participative process and timing for the further elaboration of the DCRF and to provide its own comments on the DCRF; the SAG is also invited to formulate recommendations towards their adoption by the WECAFC Commission 17, on the occasion of a virtual meeting to be convened in March 2019

- b. **The SAG continue to support and promote** the WECAFC-FIRMS partnership as a collaboration platform for:
 - Collating and sharing scientific information throughout the region
 - Leveraging of ongoing regional projects (CLME+, recreational billfish project, CC4FISH)
 - Identification and prioritization of data needs
- c. SAG **members contribute** to the finalization of the WECAFC-FIRMS enabled RDB through promoting:
 - Participation in the WECAFC-CRF-OSPESCA Fishery Data and Statistics Working Group (FDS-WG)
 - Provision of national data and statistics to the RDB according to the draft data collection framework (DCRF)
 - Developing/updating national inventories of fisheries and resources
- d. **The SAG recognize** the role of WECAFC, CRFM, and OSPESCA to support and validate national inventories and their publishing through FIRMS as part of the global reporting framework requested under SDG14.4.1

Appendix 1: Fisheries reports published in FIRMS for the region (n=25)

1. Bahamas - Lobster fishery: 2016
2. Bahamas - Nassau Grouper fishery: 2016
3. Bahamas - Queen Conch fishery: 2016
4. Belize - Lobster fishery - 2017
5. Belize - Queen conch fishery - 2017
6. Jamaica - Artisanal spiny lobster - Island shelf and proximal banks: 2016
7. Jamaica - Industrial spiny lobster - Offshore banks: 2016
8. Jamaica - Queen conch fishery: 2016
9. Saint Kitts and Nevis - Oceanic pelagic fishery: 2016
10. Saint Kitts and Nevis - Queen conch fishery: 2016
11. Saint Kitts and Nevis - Spiny lobster fishery: 2016
12. Saint Lucia - Flyingfish fishery: 2016
13. Saint Lucia - Large pelagic fishery: 2016
14. Saint Lucia - Lobster fishery: 2016
15. Saint Lucia - Queen conch fishery: 2016
16. Saint Lucia - Sea urchin fishery: 2016
17. Saint Lucia - Shark fishery: 2016
18. Saint Lucia - Whelk fishery: 2016
19. Saint Vincent and the Grenadines - Large pelagics fishery: 2016
20. Saint Vincent and the Grenadines - Lobster fishery: 2016
21. Saint Vincent and the Grenadines - Queen conch fishery: 2016
22. Trinidad and Tobago - Dolphinfin fishery - Tobago: 2016
23. Trinidad and Tobago - Gillnet and line flyingfish and associated pelagics fishery - Tobago: 2016
24. Turks and Caicos Islands - Lobster fishery: 2016
25. Turks and Caicos Islands - Queen conch fishery: 2016

Appendix 2. Fisheries reports in progress in FIRMS for the region (n=19)

(From Shrimp & Groundfish Working Group May 2018, and Data preparation workshop Oct 2018)

French Guiana

Bottom trawl shrimp fishery
Coastal fish small scale fishery
Handlines red snapper fishery

Guyana

Artisanal finfish fishery
Artisanal shrimp fishery
Industrial prawn fishery
Industrial finfish and seabob fishery
Semi industrial snapper fishery

Suriname

Artisanal gillnet groundfish fishery
Bottom longline groundfish fishery
Bottom trawl seabob fishery
Bottom trawl shrimp fishery
Demersal trawl finfish fishery

Trinidad and Tobago

Artisanal multigear groundfish fishery
Artisanal trawl shrimp fishery
Dolphinfish fishery - Tobago
Double rigged trawl shrimp fishery
Gillnet and line flyingfish and associated pelagics fishery - Tobago
Single net trawl shrimp fishery

Brazil and Venezuela, inventories in progress

Appendix 3. Stocks reports Published in FIRMS for the region (to be updated, n=50)

Yellowmouth grouper - Continental slope of French Guiana to Northeastern Venezuela
Yellowedge grouper - Continental slope of French Guiana to Northeastern Venezuela
Blacktip shark - Coastal areas of Trinidad and Tobago
Smalltail shark - Coastal areas of Trinidad and Tobago
Caribbean sharpnose shark - Coastal areas of Trinidad and Tobago
Smalleye hammerhead - Coast of French Guiana to the Orinoco delta
White shrimp - North Coast of Trinidad
Brown shrimp - North Coast of Trinidad
Scalloped hammerhead - Coast of French Guiana to the Orinoco delta
Smalleye smoothhound - Coastal areas of Trinidad and Tobago
Brazillian sharpnose shark - Coastal areas of Trinidad and Tobago
Caribbean sharpnose shark - Coast of French Guiana to the Orinoco delta
Brazillian shrapnose shark - Coast of French Guiana to the Orinoco delta
Smalleye smoothhound - Coast of French Guiana to the Orinoco delta
Smalltail shark - Coast of French Guiana to the Orinoco delta
Blacktip shark - Coast of French Guiana to the Orinoco delta
Smalleye hammerhead - Coastal areas of Trinidad and Tobago
Scalloped hammerhead - Coastal areas of Trinidad and Tobago
Caribbean spiny lobster - Los Testigos and La Blanquilla islands, Margarita island
Vermilion snapper - Continental slope of French Guiana to Northeastern Venezuela
Southern red snapper - Continental slope of French Guiana to Northeastern Venezuela
Brown shrimp - Coast of French Guiana to the Orinoco delta
Seabob - Coast of French Guiana to the Orinoco delta
King weakfish - Coast of French Guiana to the Orinoco delta
Smalleye croaker - Coast of French Guiana to the Orinoco delta
Green weakfish - Coast of French Guiana to the Orinoco delta
King mackerel - Inshore and offshore areas of Trinidad and Tobago
Serra spanish mackerel - Coastal areas of Trinidad
Fourwing flyingfish - West Coast of Tobago between Charlotteville to Pigeon Point
Caribbean sharpnose shark - Gulf of Paria to Orinoco Delta
Smalleye smoothhound - Gulf of Paria to Orinoco Delta
Smalleye hammerhead - Gulf of Paria to Orinoco Delta
Jamaica weakfish - Gulf of Paria to Orinoco Delta
Whitemouth croaker - Gulf of Paria to Orinoco Delta
White shrimp - Gulf of Paria to Orinoco Delta
Pink shrimp - Gulf of Paria to Orinoco Delta
Brown shrimp - Gulf of Paria to Orinoco Delta
Queen conch - Antigua
Sea urchins - Barbados
Sea urchins - Grenada
Oceanic pelagic fishes - Antigua and Barbuda
Spiny lobster - Antigua
Deep slope groundfishes - Antigua and Barbuda
Coastal groundfishes - Antigua and Barbuda
Fourwing flyingfish - Eastern Caribbean
Queen conch - Saint Lucia

Caribbean spiny lobster - Jamaica shelf and offshore Pedro, Formigas y Morant banks
Queen conch - Turks and Caicos
Caribbean spiny lobster - Belize
Queen conch – Belize