



Food and Agriculture
Organization of the
United Nations



CLME+ Project
Caribbean & North West Shelf Large Marine Ecosystems

Shrimp and Groundfish Fisheries of the North Brazil Large Marine Ecosystem

Status of Stocks and Fisheries inventories for the NBSLME

<FIRMS Secretariat>

Rel. to agenda item: “Status of FIRMS inventories for the NBSLME”

Data Preparation Workshop

23 – 25 October 2018 Bridgetown, Barbados



Outline

About FIRMS

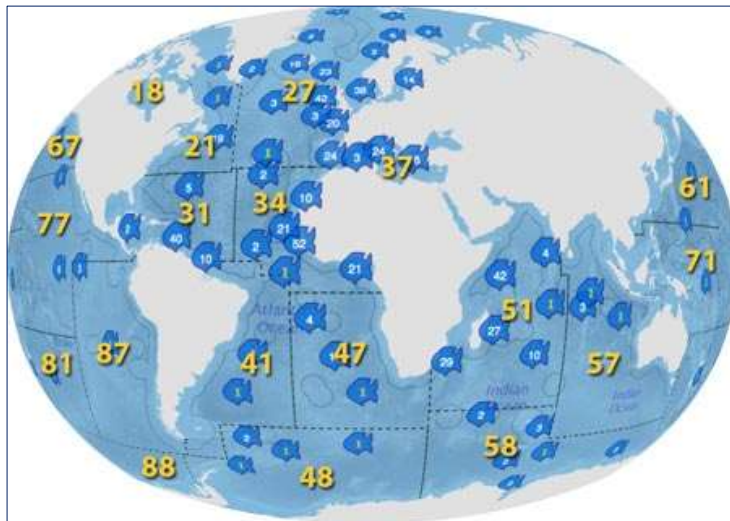
Stocks and Fisheries inventories for the WECAFC area

- Hands-on session

Outputs of the WECAFC/CRFM/IFREMER Shrimp & Groundfish Working Group (May 2018)

What's next?

About the FIRMS Partnership



CCAMLR



Food and Agriculture Organization of the United Nations



International Council for the Exploration of the Sea
Conseil International pour l'Exploration de la Mer

ICESCIEM



iotc ctoi



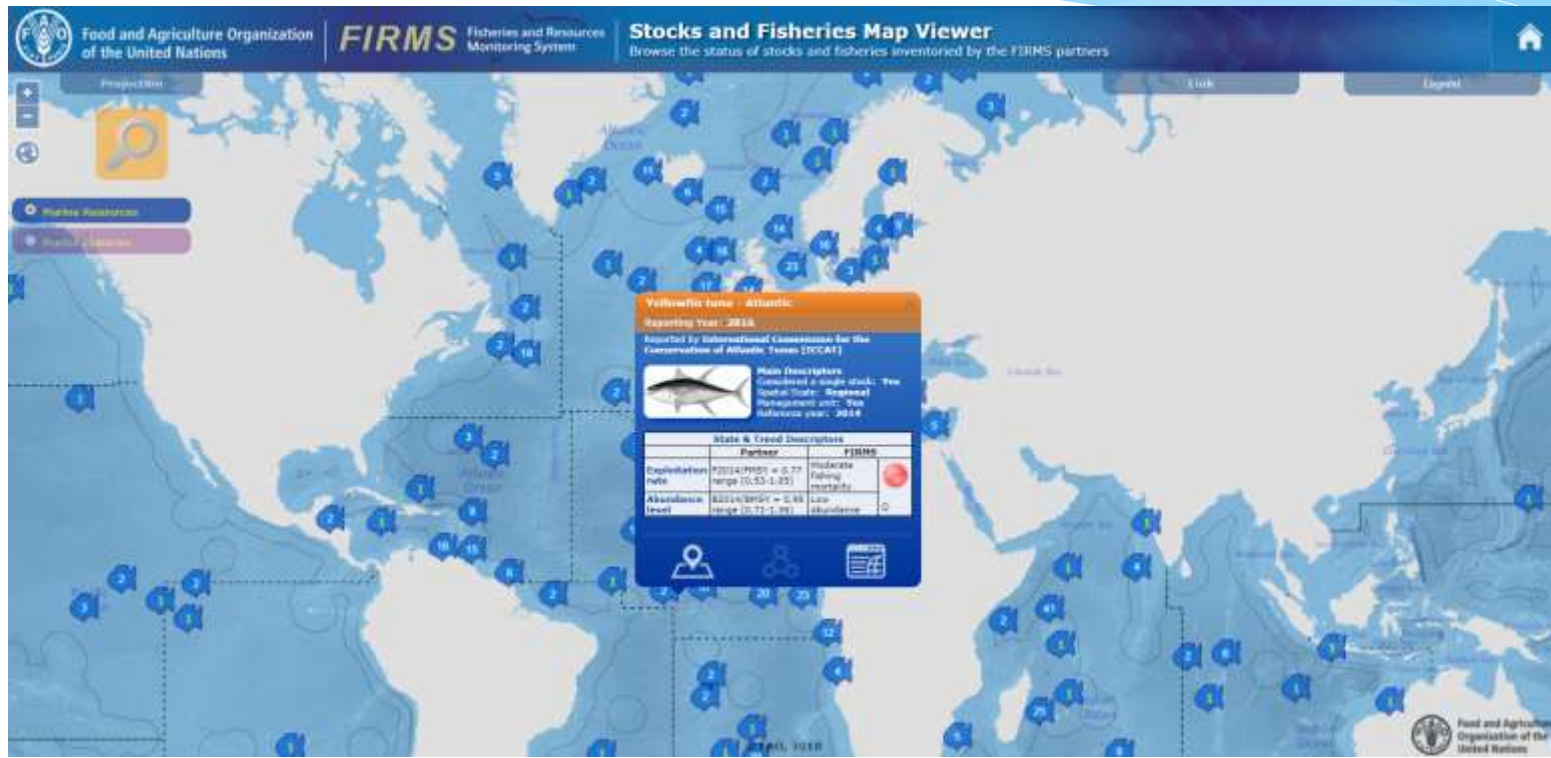
❖ FIRMS is an **information sharing partnership** to facilitate the monitoring of stocks status and fisheries among 14 intergovernmental organizations / 19 RFBs

In 2015 we celebrated "10 years of FIRMS"



About FIRMS ⁽¹⁾

- ❖ Provide access to a wide range of high-quality information on the global monitoring and management of fishery marine resources.
- ❖ Monitoring based on **inventories** of stocks and fisheries



- ❖ Each stock inventoried include information on the identification of single marine resources/stocks plus the indicators of Stock State and total catch (or landings)

<http://firms.fao.org/firms/stocks-fisheries-map-viewer>

About FIRMS ⁽²⁾

Benefits

- **Dissemination** - easy access to high quality information for the development/enhancement of fisheries policies and management plans at national and regional levels
 - Functional for **Decision Support System** or other policy frameworks
- First level **information sharing** in the Caribbean helping to structure a stepwise approach towards statistics data sharing
- Tracking history of fishery/stocks status to provide **trends perspectives**

FIRMS Products

- * Marine Resource & Fishery Inventories (Excel)
- * Standards and guidelines
- * Fact Sheets
- * Search interfaces
- * Map viewer
- * Web services



WECAFC – FIRMS Partnership

Strengthen the data collection and research process in support of fisheries management in the Caribbean

The WECAFC-FIRMS Partnership:
a collaborative framework for data sharing

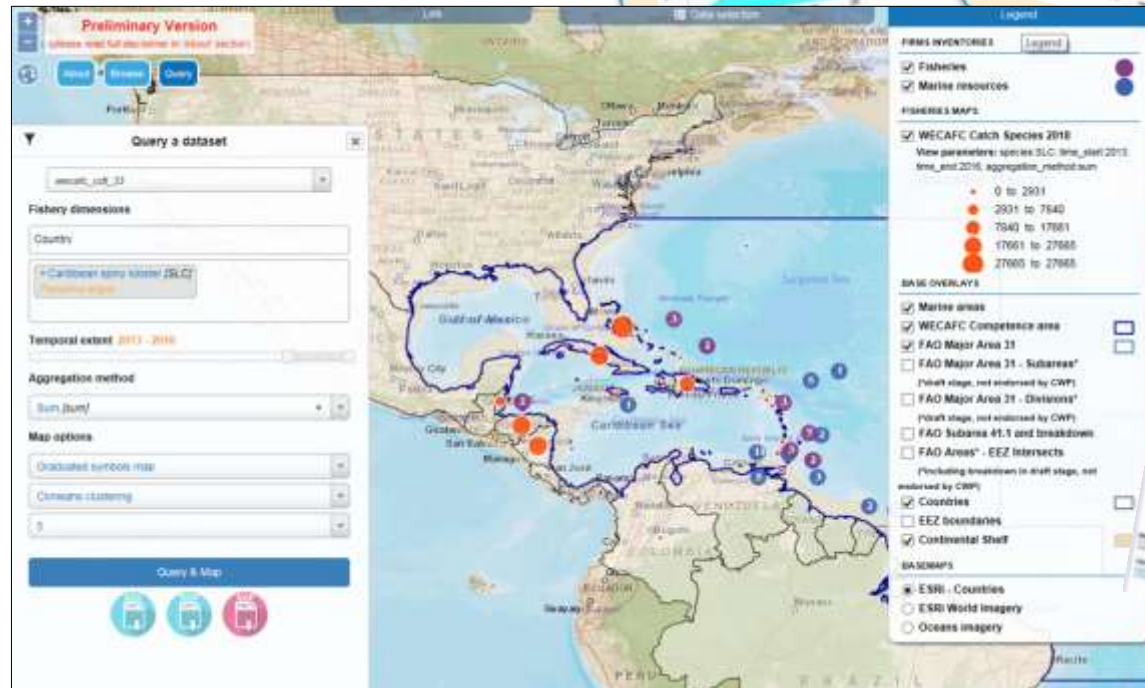
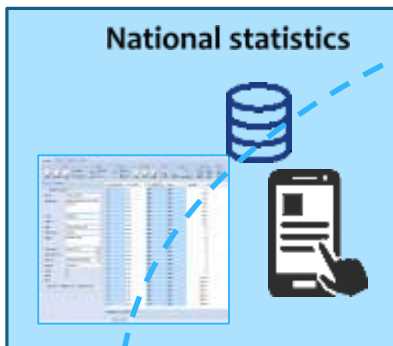


Trend tracking

Analysis, evaluation of stocks

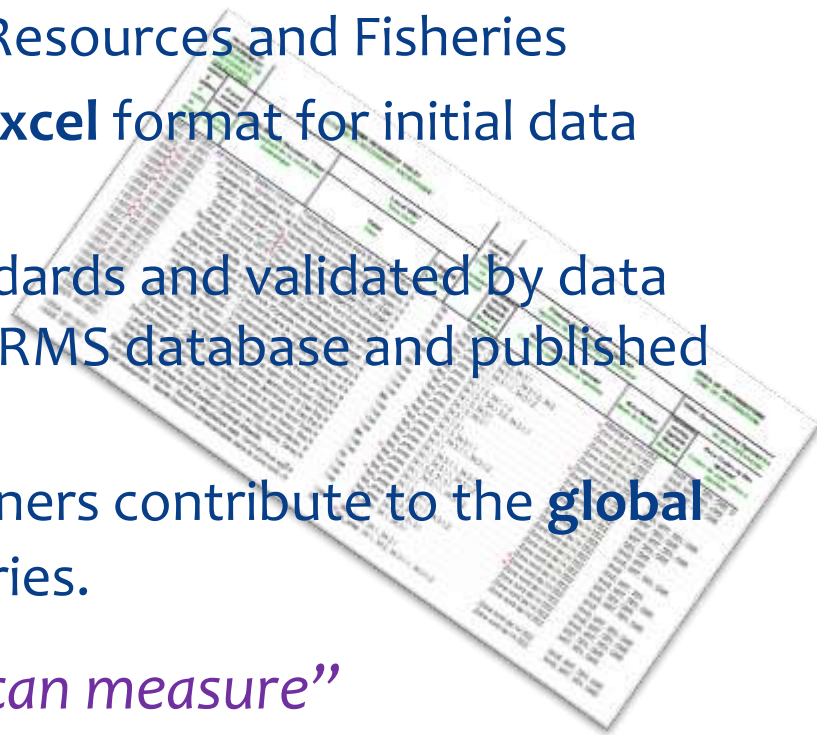
Data supply Chain

National statistics



FIRMS Marine Resource & Fishery inventories

- * Inventories constitute the **backbone** of the FIRMS knowledge base. Inventories provide the complete picture from which to **assess** current level of knowledge
- * Marine Resources and Fisheries are inventoried for **reporting purpose**
- * To capture **status and trends** of Marine Resources and Fisheries
- * The inventory is implemented using an **Excel** format for initial data input
- * Once harmonized according FIRMS standards and validated by data owners, information is stored into the FIRMS database and published as **fact sheets**
- * Through their data inputs in FIRMS, partners contribute to the **global inventory** of marine resources and fisheries.

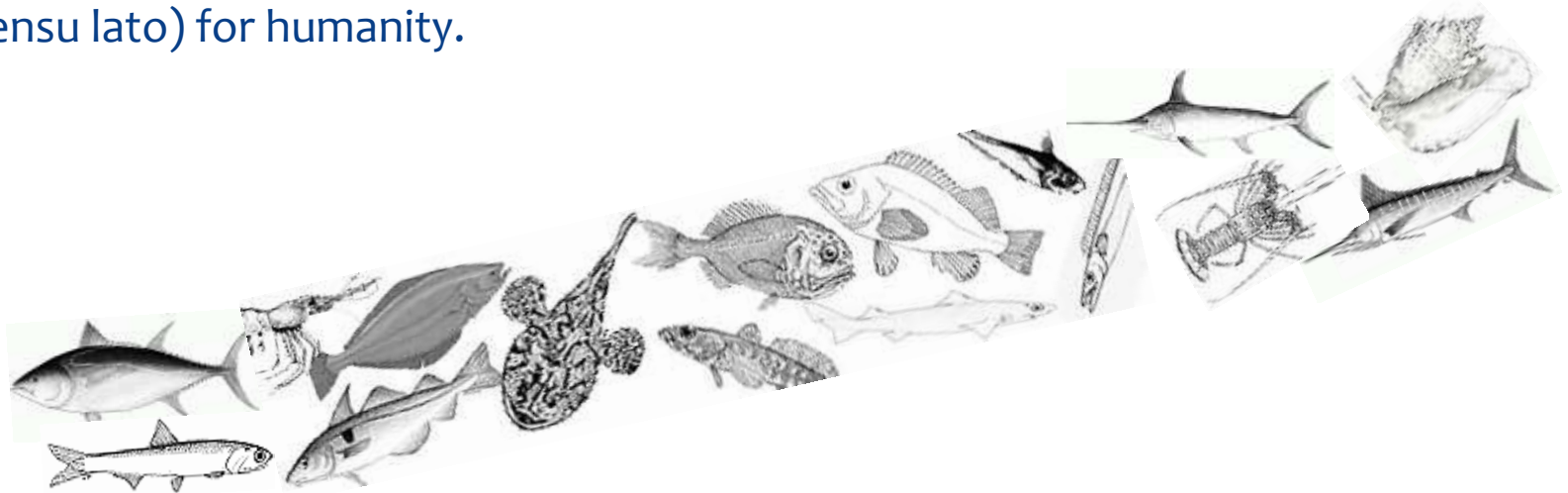


“You manage what you can measure”

FIRMS Marine Resource inventory

Marine Resource inventory: a comprehensive list of aquatic resources of value to fisheries.

The aquatic resources are the biotic element of the aquatic ecosystem, including genetic resources, organisms or parts thereof, populations, etc. with actual or potential use or value (*sensu lato*) for humanity.



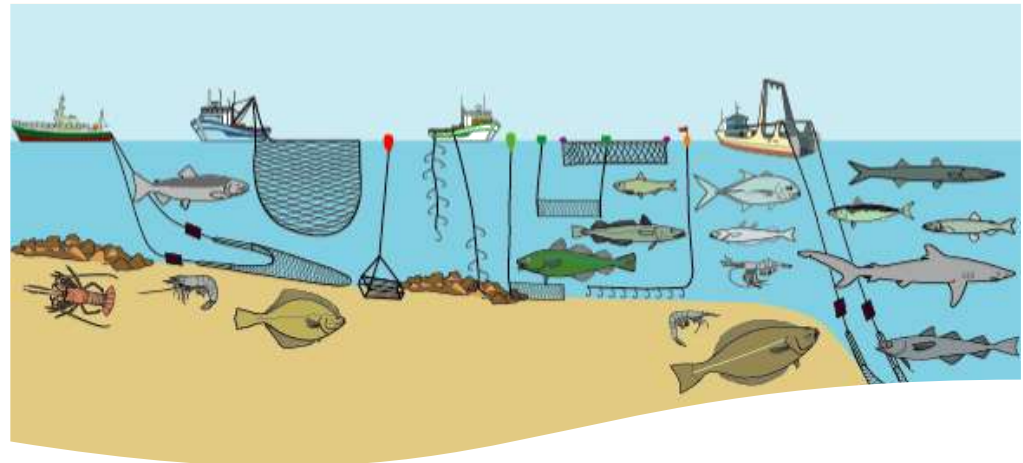
FIRMS Fishery inventory

FISHERY: “A Fishery is an activity leading to the harvesting of fish, within the boundaries of a defined area. The fishery concept fundamentally gathers indication of human fishing activity, including from economic, management, biological/environmental and technological viewpoints (FIRMS 2006, modified from FAO glossary of fisheries)”.

A statistical **fishing unit** is a particular type of fishing activity, conducted by a single flag country using a vessel and its major fishing gear.

Key data for fishery unit identification:

- Species (target and bycatch)
- Fishing area
- Gear
- Flag state
- Management entities



Status of the FIRMS Data coverage

Marine Resources and Fisheries

❖ FIRMS database currently covers:

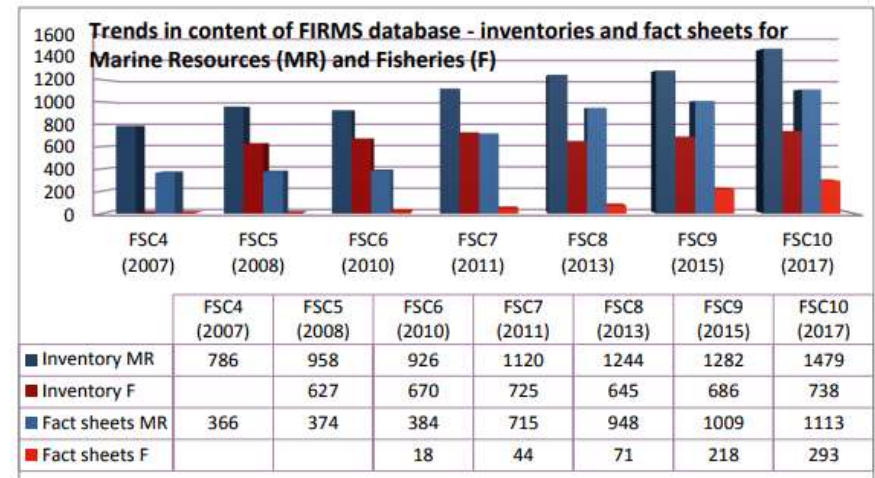
- shared stocks under RFBs mandates
- but also
- national stocks / assessment units
- status of national fisheries

} Under RFBs
monitoring
capacity

❖ Published **inventory** of **1479** stocks
and **738** fisheries

❖ Published **status reports** for about
600 stocks
and **250** fisheries

→ about 2 third of identified records
with no published status



WECAFC-FIRMS fisheries

25 up-to-date published Fisheries reports

- Bahamas - Lobster fishery: 2016
- Bahamas - Nassau Grouper fishery: 2016
- Bahamas - Queen Conch fishery: 2016
- Belize - Lobster fishery - 2017
- Belize - Queen conch fishery - 2017
- Jamaica - Artisanal spiny lobster - Island shelf and proximal banks: 2016
- Jamaica - Industrial spiny lobster - Offshore banks: 2016
- Jamaica - Queen conch fishery: 2016
- Saint Kitts and Nevis - Oceanic pelagic fishery: 2016
- Saint Kitts and Nevis - Queen conch fishery: 2016
- Saint Kitts and Nevis - Spiny lobster fishery: 2016
- Saint Lucia - Flyingfish fishery: 2016
- Saint Lucia - Large pelagic fishery: 2016
- Saint Lucia - Lobster fishery: 2016
- Saint Lucia - Queen conch fishery: 2016
- Saint Lucia - Sea urchin fishery: 2016
- Saint Lucia - Shark fishery: 2016
- Saint Lucia - Whelk fishery: 2016
- Saint Vincent and the Grenadines - Large pelagics fishery: 2016
- Saint Vincent and the Grenadines - Lobster fishery: 2016
- Saint Vincent and the Grenadines - Queen conch fishery: 2016
- Trinidad and Tobago - Dolphinfish fishery - Tobago: 2016
- Trinidad and Tobago - Gillnet and line flyingfish and associated pelagics fishery - Tobago: 2016
- Turks and Caicos Islands - Lobster fishery: 2016
- Turks and Caicos Islands - Queen conch fishery: 2016

Fishery Resources Report 2017
Belize Lobster fishery
 Lobster fishery

APPROACH FISHING ACTIVITY

Fishing Activity
 Fishing gear: Trawl, net
 Type of production system: Open
 Fishing boats: 1000

Harvested Resources
 Species: Caribbean spiny lobster

Means of Production
 Harvest: Trawl, net weight

Fishery Indicators
 Production: 1000

Table of Contents
 Overview, Fishing Activity, Fishing Area, Resources Exploited, Target Species

Fishing Area
 Coastal, open, tropical, subtropical and temperate, 1 stock, 1 stock distribution, 1 species

Resources Exploited
 Caribbean spiny lobster, 1 stock

Target Species
 Caribbean spiny lobster, 1 stock

Fishery Resources Report 2016
Trinidad and Tobago Gillnet and line flyingfish and associated pelagics fishery - Tobago
 Flyingfish fishery

APPROACH FISHING ACTIVITY

Fishing Activity
 Fishing gear: Gillnet and entangling net (cast net)
 Type of production system: Open, Semi-industrial
 Fishing boats: 1000

Harvested Resources
 Target Species: Flyingfish, Associated Species: Trawl, net weight

Means of Production
 Harvest: Gillnet, line

Fishery Indicators
 Production: 1000

Table of Contents
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Fishing Area
 Coastal, open, tropical, subtropical and temperate, 1 stock, 1 stock distribution, 1 species

Resources Exploited
 Flyingfish, 1 stock

Target Species
 Flyingfish, 1 stock

Food and Agriculture Organization of the United Nations
FIRMS Fisheries and Resources Monitoring System
Stocks and Fisheries Map Viewer
 Browse the status of stocks and fisheries administered by the FIRMS partners

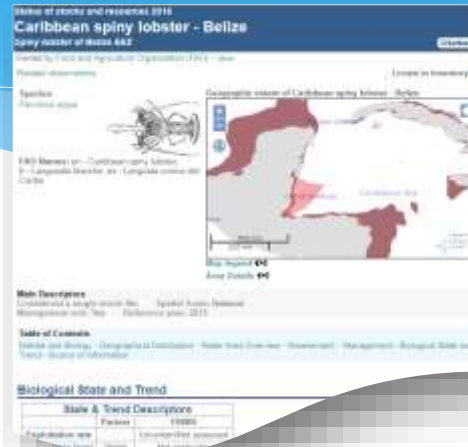
Search:

Legend: Fishing Area, Stock

WECAFC-FIRMS stocks

50 published Stocks reports – to be updated

- 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
- Brazilian sharpnose shark - Coastal areas of Trinidad and Tobago
- Caribbean sharpnose shark - Coast of French Guiana to the Orinoco delta
- Brazilian sharpnose 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



<http://firms.fao.org/firms/search/institution/wecafc/en>

Outputs of the WECAFC/CRFM/IFREMER Shrimp & Groundfish Working Group (May 2018)

17 draft fisheries fact sheets to be finalized and validated

French Guiana

- GUF01 Bottom trawl shrimp fishery
- GUF03 Coastal fish small scale fishery
- GUF02 Handlines red snapper fishery

Guyana

- GUY05 Artisanal finfish fishery
- GUY04 Artisanal shrimp fishery
- GUY02 Industrial finfish fishery
- GUY03 Industrial prawn fishery
- GUY01 Industrial seabob fishery

Suriname

- SUR01 Artisanal gillnet groundfish fishery
- SUR02 Bottom longline groundfish fishery
- SUR03 Bottom trawl seabob fishery
- SUR05 Bottom trawl shrimp fishery
- SUR04 Demersal trawl finfish fishery

Trinidad and Tobago

- TTO06 Artisanal multigear groundfish fishery
- TTO03 Artisanal trawl shrimp fishery
- TTO02 Dolphinfish fishery – Tobago (**published**)
- TTO05 Double rigged trawl shrimp fishery
- TTO01 Gillnet and line flyingfish and associated pelagics fishery – Tobago (**published**)
- TTO04 Single net trawl shrimp fishery

Data collation template

Brazil – Venezuela

Early inventories to review and update

What's next

- Complete the fisheries inventory (CLME+/FIRMS)
- Identify the assessment units (CLME+)
 - to conduct stock assessments (CLME+)
 - to compile stocks inventory (CLME+/FIRMS)

Contributing

Data repository for the DSS – Decision Support System

Inventories
Stock assessments
Stocks & Fisheries reports
Statistical data (RDB)
Vessel registry

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Merci

Thank You

Благодарю

¡Muchas Gracias!