



Introduction to the WECAFC Regional Database

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1. RDB background

2. Introduction to FIRMS

3. Building a RDB

4. The prototype

The background of the WECAFC Regional Database

WECAFC 15:

- **Collaboration with FIRMS is agreed:**
- Resources and fisheries inventories as a starting point to build regional knowledge on fisheries
- **Minimum steps towards becoming a RFMO:**
 1. **Increase and improve information content on fisheries data and statistics**
 2. Increase accuracy of data and statistics via utilizing agreed practices in data collection
 3. Develop and implement agreed practices for data sharing
 4. Identify feasible stock assessment models for the region

The need for regional information and data:

- **Information on the resources and fisheries in the region**, especially the share one for the key species (Conch, lobster, Flying fish)
- **Collect minimum data to support fisheries management (the Regional Fisheries Management Plans) and stock assessment** : support evidence based policy making
- ➔ need to define the type of information to be collected and a container to publish this collected information: DCRF and RDB

The need for regional information and data as agreed during the Regional data workshop in January 2016:

- **Information on the resources and fisheries in the region**, especially the share one for the key species (Conch, lobster, Flying fish)
- **Collect minimum data to support fisheries management** (the Regional Fisheries Management Plans) **and stock assessment** : support evidence based policy making
- ➔ Need to define the type of information to be collected and a container to publish this collected information: DCRF and RDB

WECAFC Regional database:

- Should be an entry point to the FIRMS inventories
- Should provide tools to collate statistics from the WECAFC Members according to the DRCF
- Should provide dissemination tools for the collated statistics
- Should apply Data and Access Sharing Policies for any data and information (confidentiality of data)
- The Regional data workshop endorsed the support from the BlueBRIDGE to develop a RDB prototype

Introduction to FIRMS Inventories

About the Partnership

- ❖ **14 intergovernmental organizations / 19 RFBs** subscribed the Partnership Arrangement providing for international cooperation in the development and maintenance of FIRMS



Food and Agriculture Organization
of the United Nations



ICESCIEM



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Provide access to a wide range of high-quality information on the global monitoring and management of fishery marine resources

In 2015 we celebrated "10 years of FIRMS"

FIRMS target audience and value proposition

RFBs:

- to increase visibility beyond their area of competence
- to provide a dissemination capacity when no other dissemination mechanism exists
- to foster information exchange in context where data sharing is a sensitive issue or would require long learning curve
- to be functional to needs of Fishery Management Plans
- regional dashboard of indicators for the State of environment

National agencies of governments dealing with fisheries reporting

Analysts and instruments (e.g. SDG14) working on global monitoring of state of fishery resources

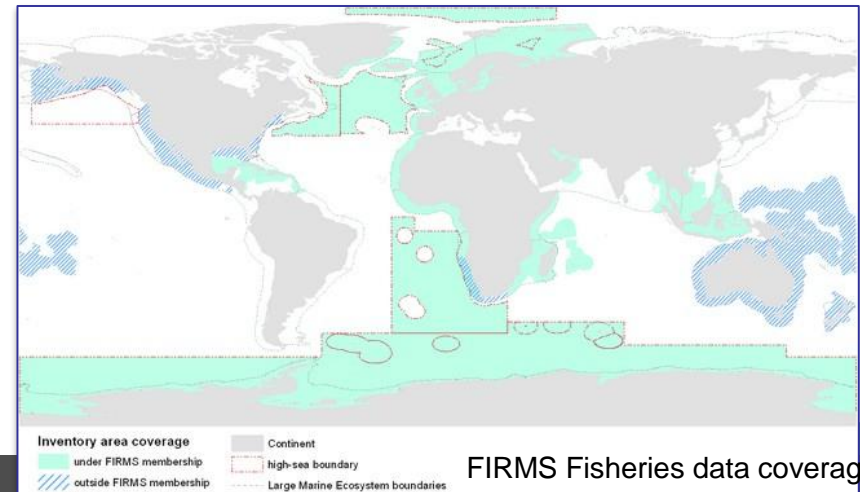
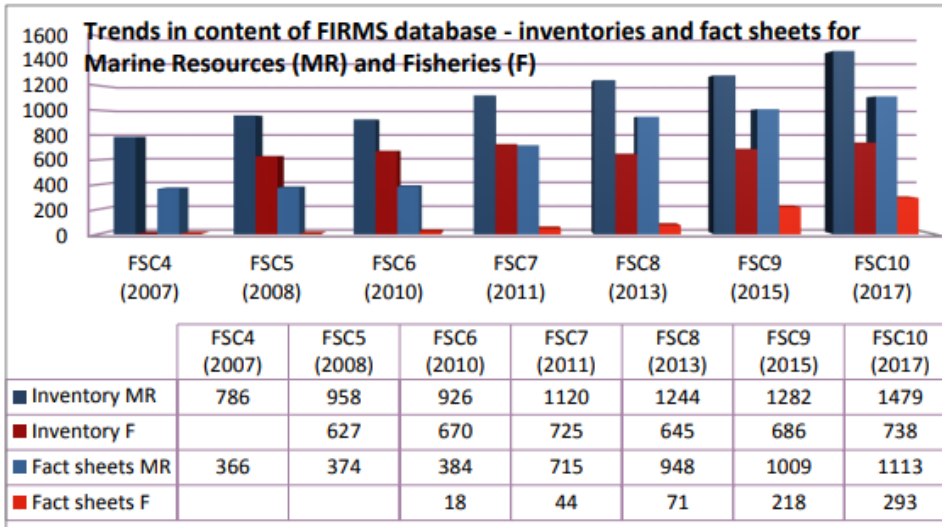
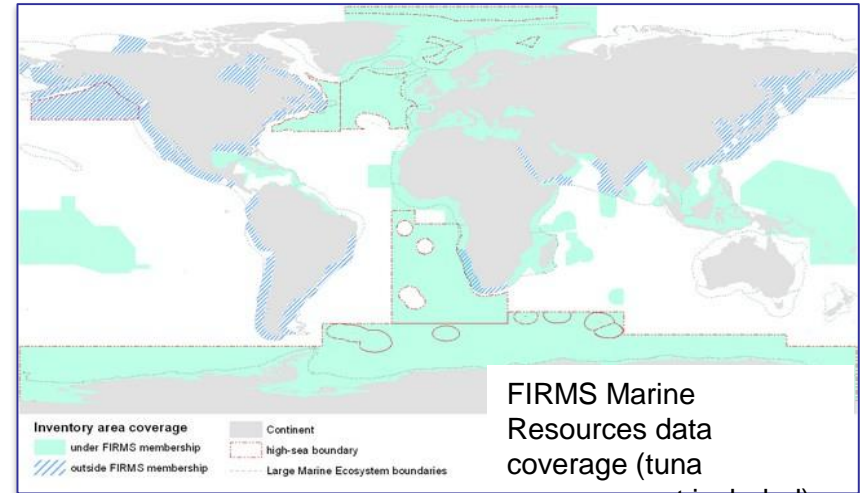
NGOs promoting sustainable fisheries and promoting progress in fisheries management (FIPs), including through traceability of fish products

Stakeholders (e.g. fishermen associations) and **General public**, to whom fishery data should be made available in more immediate and easy ways

FIRMS Data coverage

FIRMS is reporting on **Marine Resources** and **Fisheries**

- * Published inventory of **1479** stocks and **738** fisheries
- * Published status reports for about **600** stocks and **250** fisheries
- * Identified records with no published status:
 - * ~ 900 stocks
 - * ~ 500 fisheries



FIRMS Products

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

The collage displays several key outputs from the FIRMS system:

- Map Viewer:** A screenshot of the 'Stocks and Fisheries Map Viewer' showing a map of the Western Central Atlantic with various fishing gear icons and data points.
- Excel Spreadsheet:** A table listing fisheries with columns for 'Collection ID', 'Inventory ID', 'Data Owner', 'FIRMS File', 'Lang', 'XML', and 'HTML'. It includes entries for 'TOD01' through 'TOD09'.
- Fact Sheet:** A 'Marine Resource Fact Sheet' for 'Sardinellas - Cote d'Ivoire, Ghana, Togo and Benin', detailing the status of stocks and resources in 2000. It includes a map of the region and species illustrations.
- Inventory Table:** A 'Pecheries Fiche documentaire' table for 'Côte d'Ivoire Artisanal gillnet fishery', providing detailed information about the fishery, including its location and management status.
- Exploitation Rate Matrix:** A 2x2 matrix showing the relationship between 'Exploitation Rate' (High, Moderate, No or low, Uncertain) and 'Abundance Level' (Pre-exploitation, Intermediate, Low, Depleted).

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 & Fishery inventories

One input many outputs: fact sheets, maps, publications, etc.

| NUMERICAL REFERENCE / RÉFÉRENCE NUMÉRIQUE | FAO Marine Resource Title / Titre officiel de la ressource halieutique | Local label / Titre local | Language / Langue | Country and stock / Pays / Stock | Primary Georeferencing System / Système de géo-référencement principal | Other Georeferencing System / Système de géo-référencement alternatif |
|---|--|---|-------------------|----------------------------------|--|---|
| 10001 001 0001 | All resources - Eastern Central | Toutes Ressources dans la zone Atlantique E | No | Atlantica | Atlantica | Atlantica |
| 10002 001 0001 | All resources - Northern Area | Toutes Ressources dans la zone Nord Atlantique N | No | Atlantica | Atlantica | Atlantica |
| 10003 001 0002 | Coastal small pelagic - NE | Ressources en poissons pélagiques côtiers, NE | No | Atlantica | Atlantica | Atlantica |
| 10004 001 0003 | Sardine - Northwest Africa | Sardine (Clupea pilchardus) dans la région N | No | Atlantica | Atlantica | Atlantica |
| 10005 001 0004 | Sardine - North part of E | Stock nord de sardine - 35°44'19.45"-33°48'11.00" N | Yes | Atlantica | Atlantica | Atlantica |
| 10006 001 0004 | Sardine - Central part of E | Stock centre de sardine - 33°48'11.00" N-30°48'11.00" N | Yes | Atlantica | Atlantica | Atlantica |
| 10007 001 0004 | Sardine - Morocco (2014) | Stock sud de sardine - 30°48'11.00" N-28°48'11.00" N | Yes | Atlantica | Atlantica | Atlantica |
| 10008 001 0003 | Sardine - Northwest Africa | Sardine dans la région Nord Ouest Afrique N | No | Atlantica | Atlantica | Atlantica |
| 10009 001 0006 | Round sardine - Morocco | Sardine ronde (Sardinella maderensis) au Maroc | Yes | Atlantica | Atlantica | Atlantica |
| 10010 001 0008 | Maderen sardine - Atlas | Sardine plate (Sardinella maderensis) en AF | Yes | Atlantica | Atlantica | Atlantica |
| 10011 001 0003 | Bonga shad - Senegal and (Chine) | Sardinella maderensis au Sénégal | Yes | Atlantica | Atlantica | Atlantica |
| 10012 001 0003 | Atlantic horse mackerel - Morocco and Atlantic | Equula encrinetaria au Maroc / AF | Yes | Atlantica | Atlantica | Atlantica |
| 10013 001 0013 | Atlantic horse mackerel - Northwest Africa | Equula encrinetaria dans la région Nord Ouest Afrique N | Yes | Atlantica | Atlantica | Atlantica |
| 10014 001 0013 | Atlantic horse mackerel - Chocchard Blanc | Trachurus trachurus au AF | Yes | Atlantica | Atlantica | Atlantica |
| 10015 001 0013 | Atlantic horse mackerel - Chocchard Blanc | Trachurus trachurus au AF | Yes | Atlantica | Atlantica | Atlantica |
| 10016 001 0013 | Atlantic horse mackerel - Chocchard Noir | Trachurus trachurus au Maroc / AF | Yes | Atlantica | Atlantica | Atlantica |
| 10017 001 0013 | Atlantic horse mackerel - Senegal | Trachurus trachurus au Maroc / AF | Yes | Atlantica | Atlantica | Atlantica |
| 10018 001 0016 | Chub mackerel - Cape Bay | Trachurus trachurus au Cap Vert | Yes | Atlantica | Atlantica | Atlantica |
| 10019 001 0016 | Chub mackerel - Cape Bay | Trachurus trachurus au Cap Vert | Yes | Atlantica | Atlantica | Atlantica |
| 10020 001 0016 | Chub mackerel - Cape Bay | Trachurus trachurus au Cap Vert | Yes | Atlantica | Atlantica | Atlantica |
| 10021 001 0003 | Other pelagic - Northwest | Autres pélagiques dans la région Nord Ouest | No | Atlantica | Atlantica | Atlantica |
| 10022 001 0021 | Largehead hairtail - Atlantic | Trachurus trachurus au Maroc / AF | Yes | Atlantica | Atlantica | Atlantica |
| 10023 001 0021 | Barracuda - Mauritania | Sphyrna tiburo au Maroc / AF | Yes | Atlantica | Atlantica | Atlantica |
| 10024 001 0021 | Sharks - Northern area of the Eastern Central Atlantic | Zone nord de la zone Atlantique E | Yes | Atlantica | Atlantica | Atlantica |
| 10025 001 0021 | Sharks - Southern area of the Eastern Central Atlantic | Zone sud de la zone Atlantique E | Yes | Atlantica | Atlantica | Atlantica |
| 10026 001 0002 | Demersal resources - North | Ressources demersales dans la zone nord N | No | Atlantica | Atlantica | Atlantica |

Marine Resource Fact Sheet
 Status of stocks and resources 2001
Caribbean spiny lobster - Los Testigos and La Blanquilla Islands, Margarita Island
 Caribbean spiny lobster - Between 11.38021° N and 11.82365° N and 63.11774° E and 64.60785° E - Los Testigos and La Blanquilla Islands, Margarita Island

Owned by Food and Agriculture Organization (FAO) - Mire

Related observations
 Species: *Parulius ergus*

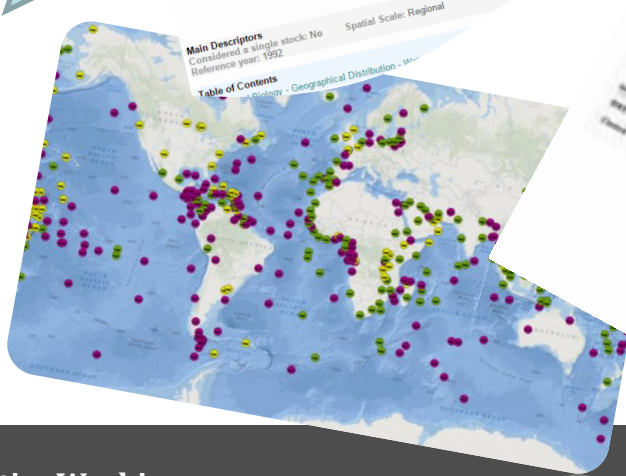
FAO Names: en - Caribbean spiny lobster, fr - Langouste blanche, es - Langosta común del Caribe

Geographic extent of Caribbean spiny lobster - Los Testigos and La Blanquilla Islands, Margarita Island

2000 km scale bar, coordinates: 11° 38' 02" N, 63° 11' 74" E

Map legend, Area Details

Locate in inventory



FAO Fisheries and Aquaculture Statistics

Caribbean spiny lobster - Los Testigos and La Blanquilla Islands, Margarita Island

2001

Stock status: **Overfished**

Reference year: 1992

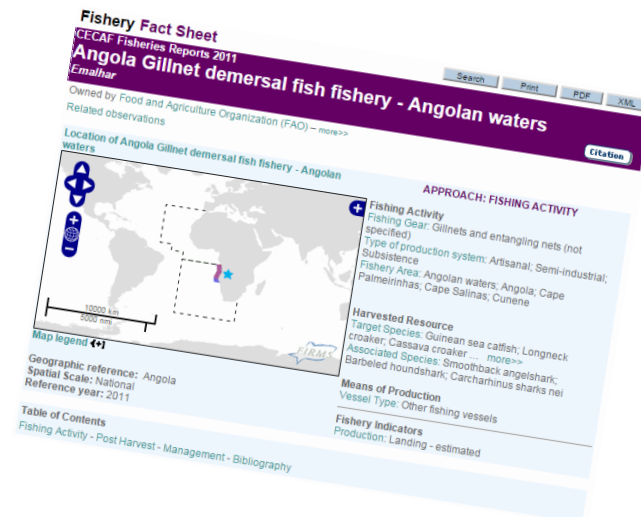
Map legend

Area Details

FIRMS Marine Resource & Fishery fact sheets

Examples of fact sheets

- **CCSBT** - [Southern Bluefin tuna](#)
- **IATTC** - [Swordfish - Northeastern Pacific](#)
- **NAFO** - [Atlantic Cod - Flemish Cap](#)
- **CECAF** - [Angola : Gillnet demersal fish fishery - Angolan waters](#)
- **SEAFO** - [South East Atlantic SEAFO High seas fisheries](#)



“Data tell, stories sell”

FIRMS 10 years after Directions for fulfilling the next 10 years ambition

Minimum data requirements to facilitate reporting to FIRMS

FIRMS maps viewer, and other on-line services

Dashboard of stock status indicators for the region – **traffic light approach**

Global Record for Stocks and Fisheries: towards

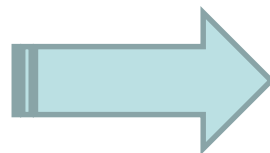
- supporting a live SDG 14.4.1 indicator “Proportion of fish stocks within biologically sustainable levels”
- use of FIRMS stocks and fisheries references for **traceability** purpose (also contribute to support 14.6.1 “Progress by countries in the degree of implementation of international instruments aiming to combat illegal, unreported and unregulated fishing”)

Cost-effective solutions for enhancing benefits and returns on investments

Towards mechanisms ensuring reporting timeliness

Mainstream the FIRMS reporting flow with Partner's established reporting procedures

| REFERENCE / RÉFÉRENCE DE RESSOURCE SUBSTITUÉE | MARINE RESOURCE TITLE / TITRE DE LA RESSOURCE HALIÉUTIQUE | | Considered as stock / Considéré comme stock | AREA OF DISTRIBUTION / ZONE DE DISTRIBUTION | | | |
|---|---|---------------------------|---|---|---|--|--|
| | FIRMS Marine Resource Title / Titre standard de la ressource halieutique | Local title / Titre local | | Primary Generalising System / Système de généralisation principal | Other Generalising System / Autre système de généralisation | Area Codes in this system / Codes de zone selon ce système | Area Codes in this system / Codes de zone selon ce système |
| 10011 001 001 | All resources - Eastern Centre / Toutes Ressources dans la zone Atlantique E | | No | NA, AN, SA | Atlantique Centre/EEZ | NA, HT, SEN, GMB, G | |
| 10012 001 001 | All resources - Western Area / Toutes Ressources dans la zone Nord Atlantique W | | No | NA, AN, SA | Zone nord de l'EEZ | NA, HT, SEN, GMB | |
| 10013 001 002 | Central small pelagic - No resources in previous pelagic codes / Sardine - Nord part of EEZ / Stock nord de sardine - "SARDIN" (C) - "SARDIN" E | | No | NA, AN, SA | Zone nord de l'EEZ | NA, HT, SEN, GMB | |
| 10014 001 003 | Sardine - Northwest Africa / Sardine (Sardinia pilchardus) dans la région W | | No | NA, AN, SA | Zone nord de l'EEZ | NA, HT | |
| 10015 001 004 | Sardine - North part of EEZ / Stock nord de sardine - "SARDIN" (C) - "SARDIN" E | | Yes | NA, AN, SA | Zone nord de l'EEZ | NA, HT | |
| 10016 001 005 | Sardine - Central part of EEZ / Stock centre de sardine - "SARDIN" (C) - "SARDIN" E | | Yes | NA, AN, SA | Zone nord de l'EEZ | NA, HT | |
| 10017 001 006 | Sardine - Morocco (DR) / Stock sud de sardine - "SARDIN" (C) - "SARDIN" E | | Yes | NA, AN, SA | Zone nord de l'EEZ | NA, HT, SEN, GMB | |
| 10018 001 007 | Sardine - Northwest Africa / Sardine dans la région Nord Ouest Afrique W | | No | NA, AN, SA | Zone nord de l'EEZ | NA, HT, SEN, GMB | |
| 10019 001 008 | Sardine - Morocco (DR) / Stock sud de sardine - "SARDIN" (C) - "SARDIN" E | | Yes | NA, AN, SA | Zone nord de l'EEZ | NA, HT, SEN, GMB | |
| 10020 001 009 | Sardine - Northwest Africa / Sardine dans la région Nord Ouest Afrique W | | Yes | NA, AN, SA | Zone nord de l'EEZ | NA, HT, SEN, GMB | |
| 10021 001 010 | Sardine - Morocco (DR) / Stock sud de sardine - "SARDIN" (C) - "SARDIN" E | | Yes | NA, AN, SA | Zone nord de l'EEZ | NA, HT, SEN, GMB | |
| 10022 001 011 | Sardine - Northwest Africa / Sardine dans la région Nord Ouest Afrique W | | Yes | NA, AN, SA | Zone nord de l'EEZ | NA, HT, SEN, GMB | |
| 10023 001 012 | Sardine - Morocco (DR) / Stock sud de sardine - "SARDIN" (C) - "SARDIN" E | | Yes | NA, AN, SA | Zone nord de l'EEZ | NA, HT, SEN, GMB | |
| 10024 001 013 | Sardine - Northwest Africa / Sardine dans la région Nord Ouest Afrique W | | Yes | NA, AN, SA | Zone nord de l'EEZ | NA, HT, SEN, GMB | |
| 10025 001 014 | Sardine - Morocco (DR) / Stock sud de sardine - "SARDIN" (C) - "SARDIN" E | | Yes | NA, AN, SA | Zone nord de l'EEZ | NA, HT, SEN, GMB | |
| 10026 001 015 | Sardine - Northwest Africa / Sardine dans la région Nord Ouest Afrique W | | Yes | NA, AN, SA | Zone nord de l'EEZ | NA, HT, SEN, GMB | |
| 10027 001 016 | Sardine - Morocco (DR) / Stock sud de sardine - "SARDIN" (C) - "SARDIN" E | | Yes | NA, AN, SA | Zone nord de l'EEZ | NA, HT, SEN, GMB | |
| 10028 001 017 | Sardine - Northwest Africa / Sardine dans la région Nord Ouest Afrique W | | Yes | NA, AN, SA | Zone nord de l'EEZ | NA, HT, SEN, GMB | |
| 10029 001 018 | Sardine - Morocco (DR) / Stock sud de sardine - "SARDIN" (C) - "SARDIN" E | | Yes | NA, AN, SA | Zone nord de l'EEZ | NA, HT, SEN, GMB | |
| 10030 001 019 | Sardine - Northwest Africa / Sardine dans la région Nord Ouest Afrique W | | Yes | NA, AN, SA | Zone nord de l'EEZ | NA, HT, SEN, GMB | |
| 10031 001 020 | Sardine - Morocco (DR) / Stock sud de sardine - "SARDIN" (C) - "SARDIN" E | | Yes | NA, AN, SA | Zone nord de l'EEZ | NA, HT, SEN, GMB | |
| 10032 001 021 | Sardine - Northwest Africa / Sardine dans la région Nord Ouest Afrique W | | Yes | NA, AN, SA | Zone nord de l'EEZ | NA, HT, SEN, GMB | |
| 10033 001 022 | Sardine - Morocco (DR) / Stock sud de sardine - "SARDIN" (C) - "SARDIN" E | | Yes | NA, AN, SA | Zone nord de l'EEZ | NA, HT, SEN, GMB | |
| 10034 001 023 | Sardine - Northwest Africa / Sardine dans la région Nord Ouest Afrique W | | Yes | NA, AN, SA | Zone nord de l'EEZ | NA, HT, SEN, GMB | |
| 10035 001 024 | Sardine - Morocco (DR) / Stock sud de sardine - "SARDIN" (C) - "SARDIN" E | | Yes | NA, AN, SA | Zone nord de l'EEZ | NA, HT, SEN, GMB | |
| 10036 001 025 | Sardine - Northwest Africa / Sardine dans la région Nord Ouest Afrique W | | Yes | NA, AN, SA | Zone nord de l'EEZ | NA, HT, SEN, GMB | |
| 10037 001 026 | Sardine - Morocco (DR) / Stock sud de sardine - "SARDIN" (C) - "SARDIN" E | | Yes | NA, AN, SA | Zone nord de l'EEZ | NA, HT, SEN, GMB | |
| 10038 001 027 | Sardine - Northwest Africa / Sardine dans la région Nord Ouest Afrique W | | Yes | NA, AN, SA | Zone nord de l'EEZ | NA, HT, SEN, GMB | |
| 10039 001 028 | Sardine - Morocco (DR) / Stock sud de sardine - "SARDIN" (C) - "SARDIN" E | | Yes | NA, AN, SA | Zone nord de l'EEZ | NA, HT, SEN, GMB | |
| 10040 001 029 | Sardine - Northwest Africa / Sardine dans la région Nord Ouest Afrique W | | Yes | NA, AN, SA | Zone nord de l'EEZ | NA, HT, SEN, GMB | |
| 10041 001 030 | Sardine - Morocco (DR) / Stock sud de sardine - "SARDIN" (C) - "SARDIN" E | | Yes | NA, AN, SA | Zone nord de l'EEZ | NA, HT, SEN, GMB | |
| 10042 001 031 | Sardine - Northwest Africa / Sardine dans la région Nord Ouest Afrique W | | Yes | NA, AN, SA | Zone nord de l'EEZ | NA, HT, SEN, GMB | |
| 10043 001 032 | Sardine - Morocco (DR) / Stock sud de sardine - "SARDIN" (C) - "SARDIN" E | | Yes | NA, AN, SA | Zone nord de l'EEZ | NA, HT, SEN, GMB | |
| 10044 001 033 | Sardine - Northwest Africa / Sardine dans la région Nord Ouest Afrique W | | Yes | NA, AN, SA | Zone nord de l'EEZ | NA, HT, SEN, GMB | |
| 10045 001 034 | Sardine - Morocco (DR) / Stock sud de sardine - "SARDIN" (C) - "SARDIN" E | | Yes | NA, AN, SA | Zone nord de l'EEZ | NA, HT, SEN, GMB | |
| 10046 001 035 | Sardine - Northwest Africa / Sardine dans la région Nord Ouest Afrique W | | Yes | NA, AN, SA | Zone nord de l'EEZ | NA, HT, SEN, GMB | |
| 10047 001 036 | Sardine - Morocco (DR) / Stock sud de sardine - "SARDIN" (C) - "SARDIN" E | | Yes | NA, AN, SA | Zone nord de l'EEZ | NA, HT, SEN, GMB | |
| 10048 001 037 | Sardine - Northwest Africa / Sardine dans la région Nord Ouest Afrique W | | Yes | NA, AN, SA | Zone nord de l'EEZ | NA, HT, SEN, GMB | |
| 10049 001 038 | Sardine - Morocco (DR) / Stock sud de sardine - "SARDIN" (C) - "SARDIN" E | | Yes | NA, AN, SA | Zone nord de l'EEZ | NA, HT, SEN, GMB | |
| 10050 001 039 | Sardine - Northwest Africa / Sardine dans la région Nord Ouest Afrique W | | Yes | NA, AN, SA | Zone nord de l'EEZ | NA, HT, SEN, GMB | |
| 10051 001 040 | Sardine - Morocco (DR) / Stock sud de sardine - "SARDIN" (C) - "SARDIN" E | | Yes | NA, AN, SA | Zone nord de l'EEZ | NA, HT, SEN, GMB | |
| 10052 001 041 | Sardine - Northwest Africa / Sardine dans la région Nord Ouest Afrique W | | Yes | NA, AN, SA | Zone nord de l'EEZ | NA, HT, SEN, GMB | |
| 10053 001 042 | Sardine - Morocco (DR) / Stock sud de sardine - "SARDIN" (C) - "SARDIN" E | | Yes | NA, AN, SA | Zone nord de l'EEZ | NA, HT, SEN, GMB | |
| 10054 001 043 | Sardine - Northwest Africa / Sardine dans la région Nord Ouest Afrique W | | Yes | NA, AN, SA | Zone nord de l'EEZ | NA, HT, SEN, GMB | |
| 10055 001 044 | Sardine - Morocco (DR) / Stock sud de sardine - "SARDIN" (C) - "SARDIN" E | | Yes | NA, AN, SA | Zone nord de l'EEZ | NA, HT, SEN, GMB | |
| 10056 001 045 | Sardine - Northwest Africa / Sardine dans la région Nord Ouest Afrique W | | Yes | NA, AN, SA | Zone nord de l'EEZ | NA, HT, SEN, GMB | |
| 10057 001 046 | Sardine - Morocco (DR) / Stock sud de sardine - "SARDIN" (C) - "SARDIN" E | | Yes | NA, AN, SA | Zone nord de l'EEZ | NA, HT, SEN, GMB | |
| 10058 001 047 | Sardine - Northwest Africa / Sardine dans la région Nord Ouest Afrique W | | Yes | NA, AN, SA | Zone nord de l'EEZ | NA, HT, SEN, GMB | |
| 10059 001 048 | Sardine - Morocco (DR) / Stock sud de sardine - "SARDIN" (C) - "SARDIN" E | | Yes | NA, AN, SA | Zone nord de l'EEZ | NA, HT, SEN, GMB | |
| 10060 001 049 | Sardine - Northwest Africa / Sardine dans la région Nord Ouest Afrique W | | Yes | NA, AN, SA | Zone nord de l'EEZ | NA, HT, SEN, GMB | |
| 10061 001 050 | Sardine - Morocco (DR) / Stock sud de sardine - "SARDIN" (C) - "SARDIN" E | | Yes | NA, AN, SA | Zone nord de l'EEZ | NA, HT, SEN, GMB | |



Traffic light approach



Biological State and Trend

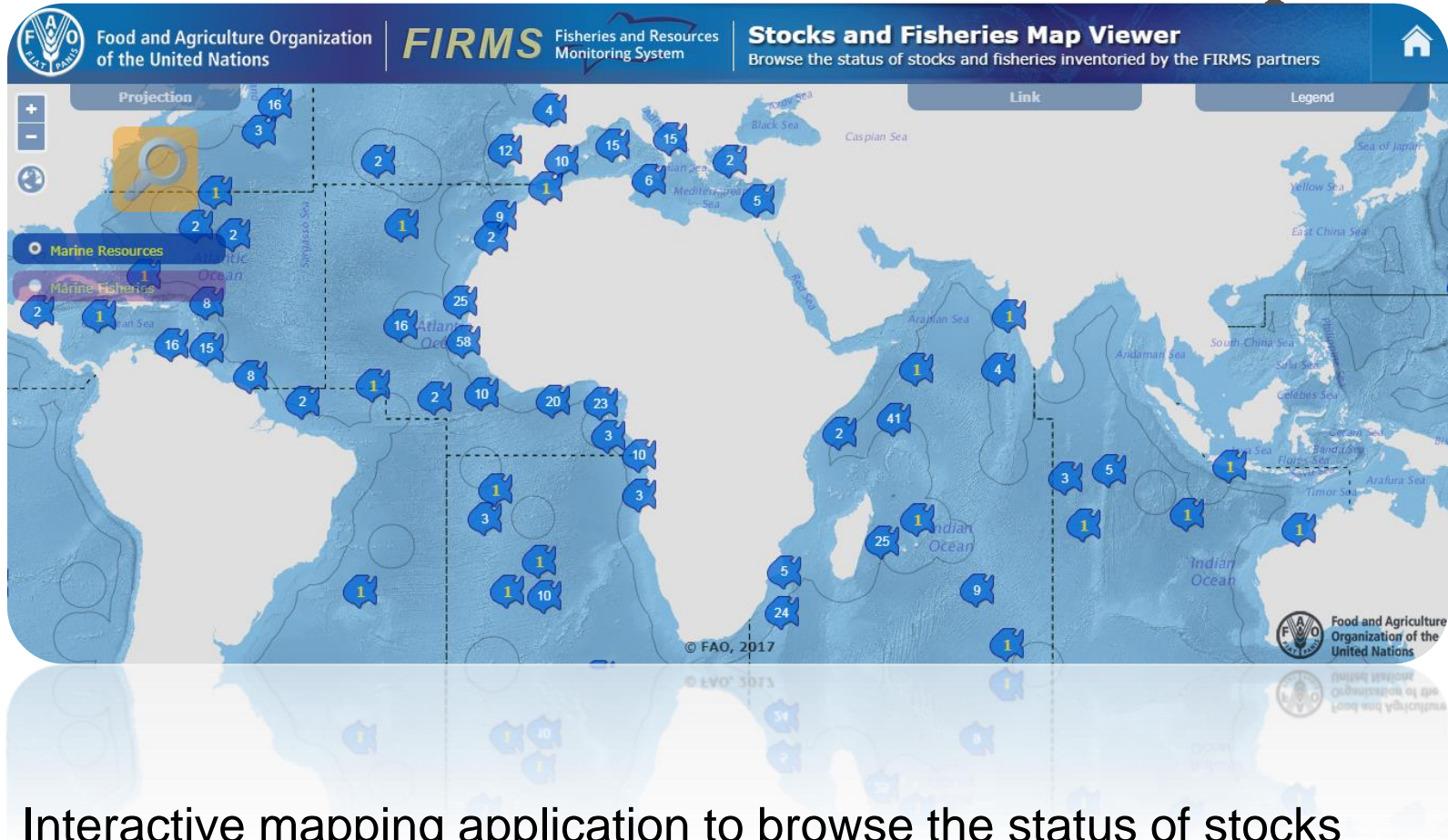
| State & Trend Descriptors | | Partner | FIRMS |
|---------------------------|----------------------------|-----------------------------|-------|
| Exploitation rate | None-Low Fishing Mortality | No or low fishing mortality | |
| Abundance level | Depleted Stock Size | Depleted | |



| | |
|----------------|--|
| Overfished | |
| Not Overfished | |

| | | | | |
|-----------------------------|--|------------------------|---------------|----------|
| High fishing mortality | | | | |
| Moderate fishing mortality | | | | |
| No or low fishing mortality | | | | |
| | Pre-exploitation biomass or high abundance | Intermediate abundance | Low abundance | Depleted |

FIRMS Stocks & Fisheries Map Viewer



Interactive mapping application to browse the status of stocks and fisheries inventoried by the FIRMS partners

Global Record for Stocks and Fisheries

**Comprehensive and shared global reference set of
stocks and fisheries records**

(a component of the BlueBRIDGE project – EU Horizon 2020)

- **Fisheries and Resources Monitoring System (FIRMS)**



- **RAM Legacy Stock Assessment Database**



- **FishSource**
Status and environmental
performance of fisheries worldwide



FIRMS & the Sustainable Development Goals

- ❖ **FIRMS, as a global reporting tool on fisheries and resources status & trends, is expected to be instrumental to the SDG 14**
 “Conserve and sustainably use the oceans, seas and marine resources for sustainable development”
- ❖ “In particular can provide the RFBs’ backbone to support a live monitoring of Indicator 14.4.1 **“Proportion of fish stocks within biologically sustainable levels”**, for which FAO/FI is responsible

* **14.4**
By 2020, effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science-based management plans, in order to restore fish stocks in the shortest time feasible, at least to levels that can produce maximum sustainable yield as determined by their biological characteristics.



Key messages

FIRMS is a partnership of intergovernmental fisheries organizations with competence for resource assessment and conservation.

Provides decision-and others with high-quality, authoritative information on global marine fisheries resources.

Enables decisions makers with information to develop informed *fisheries and marine resource* policies in accordance with the Code of Conduct for Responsible Fisheries.

Information Dissemination: presented in synthesized “*Fact Sheets*” and “*State of Resources Summaries*”.

Transparency and ownership: Fact Sheets sourced with a partner’s relevant links, providing transparent traceability, and when validated by the partner, they may also include related references and observations from other sources.

FIRMS as a mature framework for **global reporting tool** on fisheries and resources **status & trends**

FIRMS as a **shared reporting & web-dissemination system**
as well as a **data collation & sharing mechanism**

FIRMS contribute to **evidence-based decision making**

Assessment of Resource in the WECAF area

During the WECAFC-FIRMS phase I project: focus on the conch, lobster and flyingfish inventories: 22 Fishery fact sheets published from 7 countries and 6 marine resources

Stocks and Fisheries Map Viewer
Browse the status of stocks and fisheries

Marine Resource Fact Sheet
Status of stocks and resources 2004
Queen conch - Antigua
Conch of Antigua EEZ

Owned by Food and Agriculture Organization (FAO) – More

Related observations [Locate in inventory](#)

Species:
Strombus gigas
FAO Names: en - Queen conch, fr - Lambi, es - Caracol reina, zh - 大凤螺

Geographic extent of Queen conch - Antigua

Main Descriptors
Considered a single stock: No Spatial Scale: National

© FAO, 2018

Assessment of Resource in the WECAF area

WECAFC-FIRMS phase I project lesson learnt:

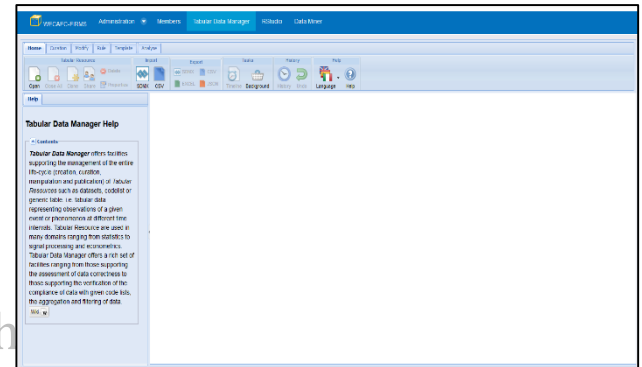
- Importance of support from sub-regional and regional organizations (WECAFC, CRFM, OSPESCA) to build this inventories
- Need to extend to other species of interest in the region with synergies with other projects: Shrimp and groundfish, large pelagics (including billfish),
- Need for FIRMS focal points in each country

Building a WECAFC regional database

- Development of the WECAFC Regional database:
- The definition of minimum data requirements for reporting: Data collection Reference Framework DCRF
- A series of tools developed under the BlueBRIDGE project (EU funded) to support reporting:

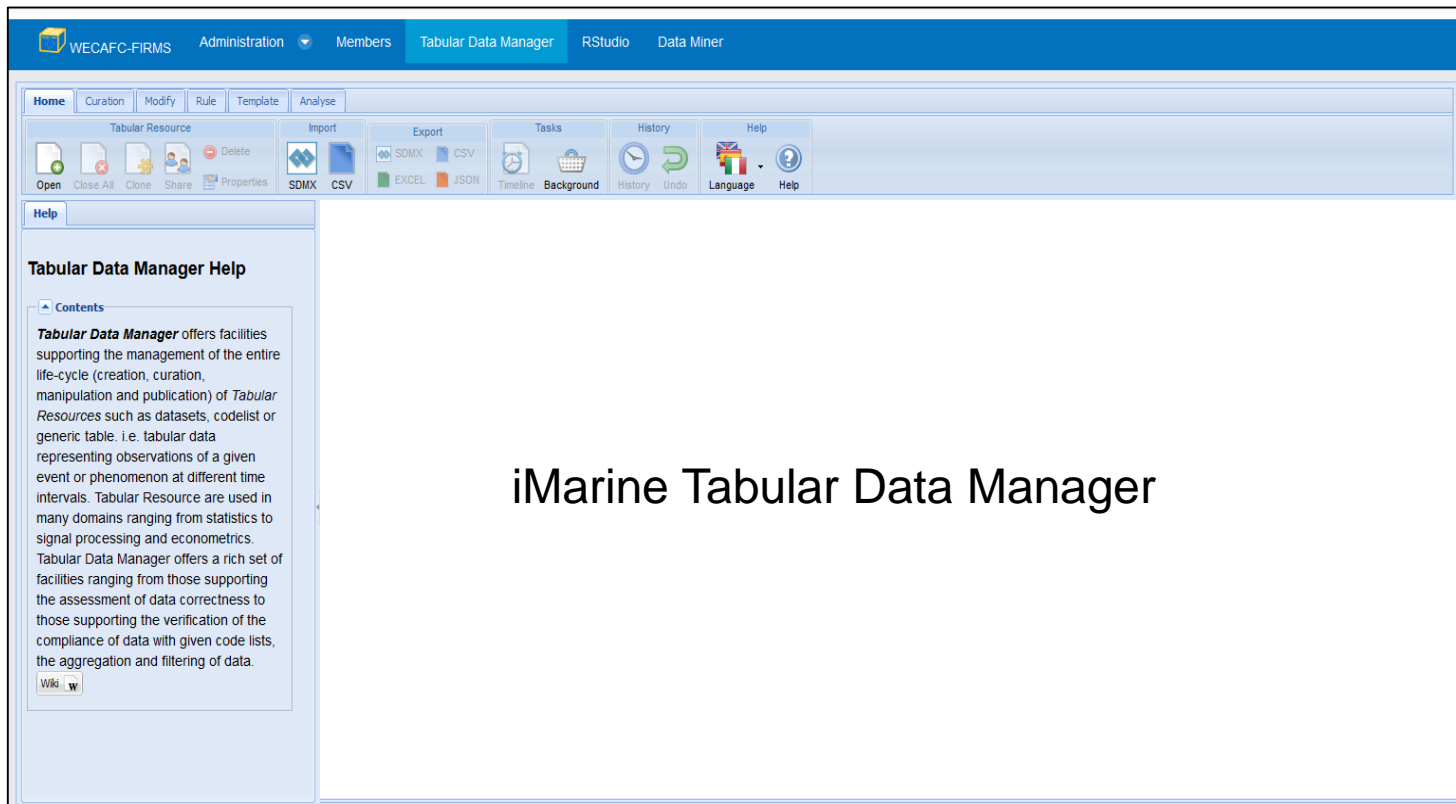
- A **simple** tool for the regional data manager to create data calls based on the DCRF

- A **userfriendly** tool based on Excel to help the regional data manager comply with the reporting request (WECAFC being a RFB, it is not yet an obligation!)



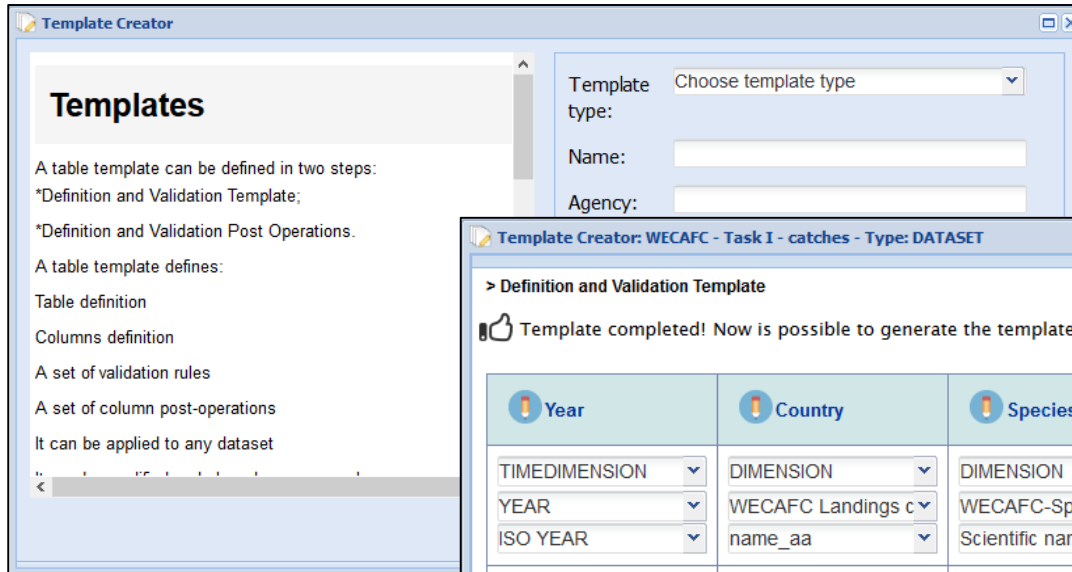
Simplifying reporting to regional organization

- WECAFC Regional database: Regional Data Manager

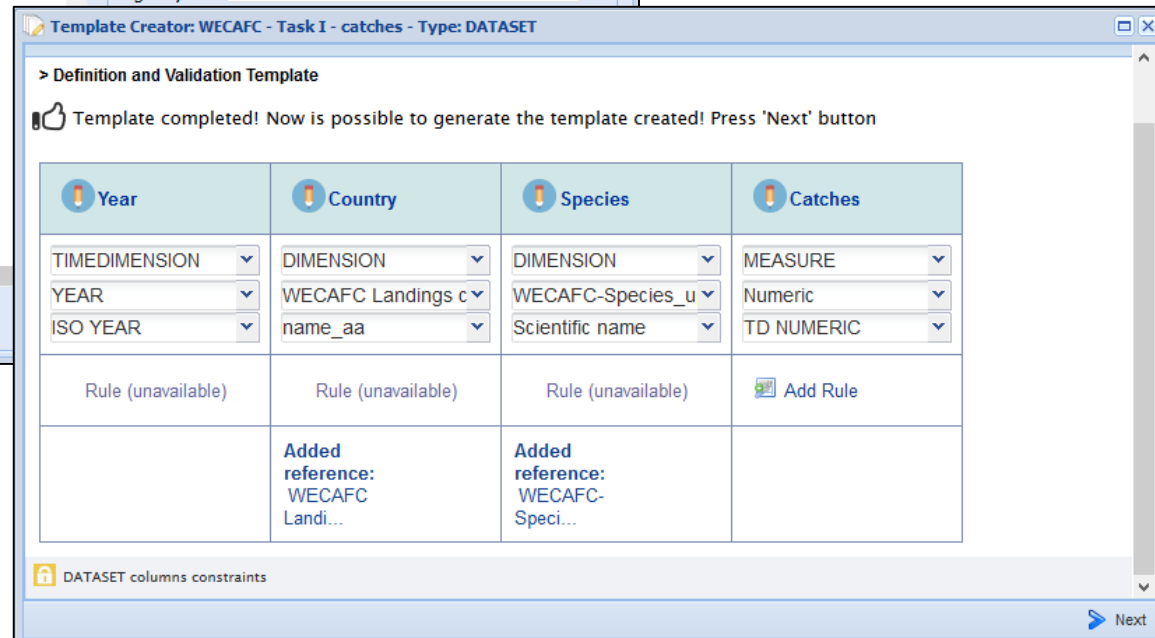


Simplifying reporting to regional organization

- WECAFC Regional database: Regional Data Manager



iMarine Tabular Data Manager
 Template creation
 A DSD is created

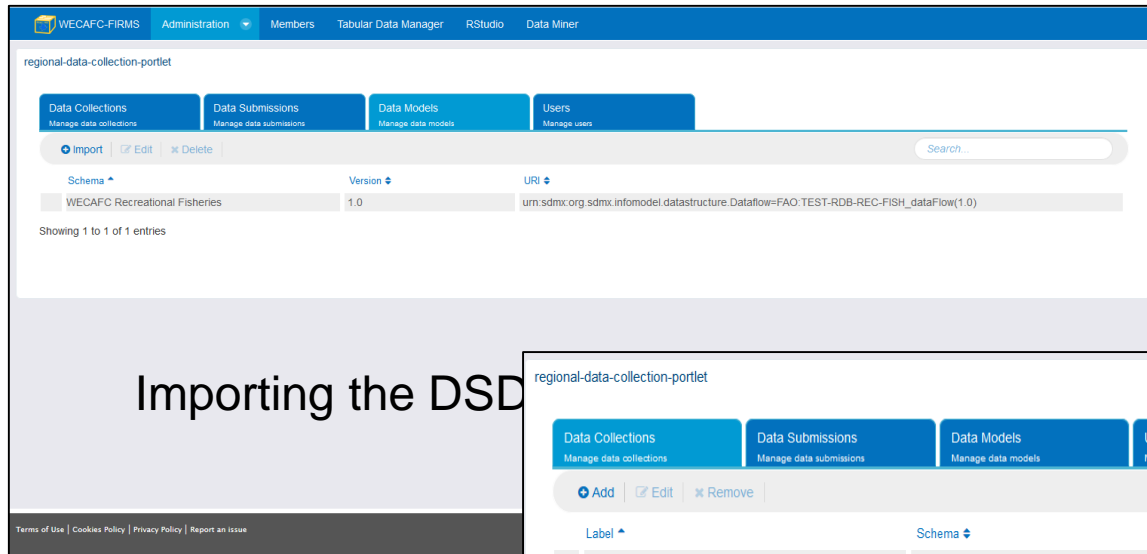


Simplifying reporting to regional organization

- WECAFC Regional database: Regional Data Manager

iMarine Regional database administration

Creation of data calls
Based on the DSD



WECAFC-FIRMS Administration Members Tabular Data Manager RStudio Data Miner

regional-data-collection-portlet

Data Collections Manage data collections | Data Submissions Manage data submissions | Data Models Manage data models | Users Manage users

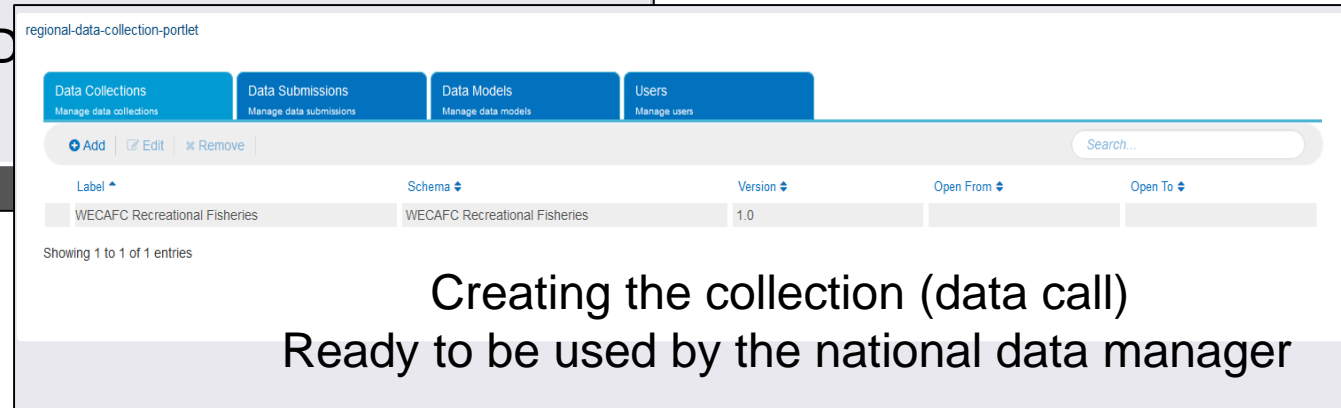
Import | Edit | Delete | Search...

| Schema | Version | URI |
|-------------------------------|---------|--|
| WECAFC Recreational Fisheries | 1.0 | urn:sdmx:org.sdmx.infomodel.datastructure.Dataflow=FAO:TEST-RDB-REC-FISH_dataFlow(1.0) |

Showing 1 to 1 of 1 entries

Terms of Use | Cookies Policy | Privacy Policy | Report an issue

Importing the DSD



regional-data-collection-portlet

Data Collections Manage data collections | Data Submissions Manage data submissions | Data Models Manage data models | Users Manage users

Add | Edit | Remove | Search...

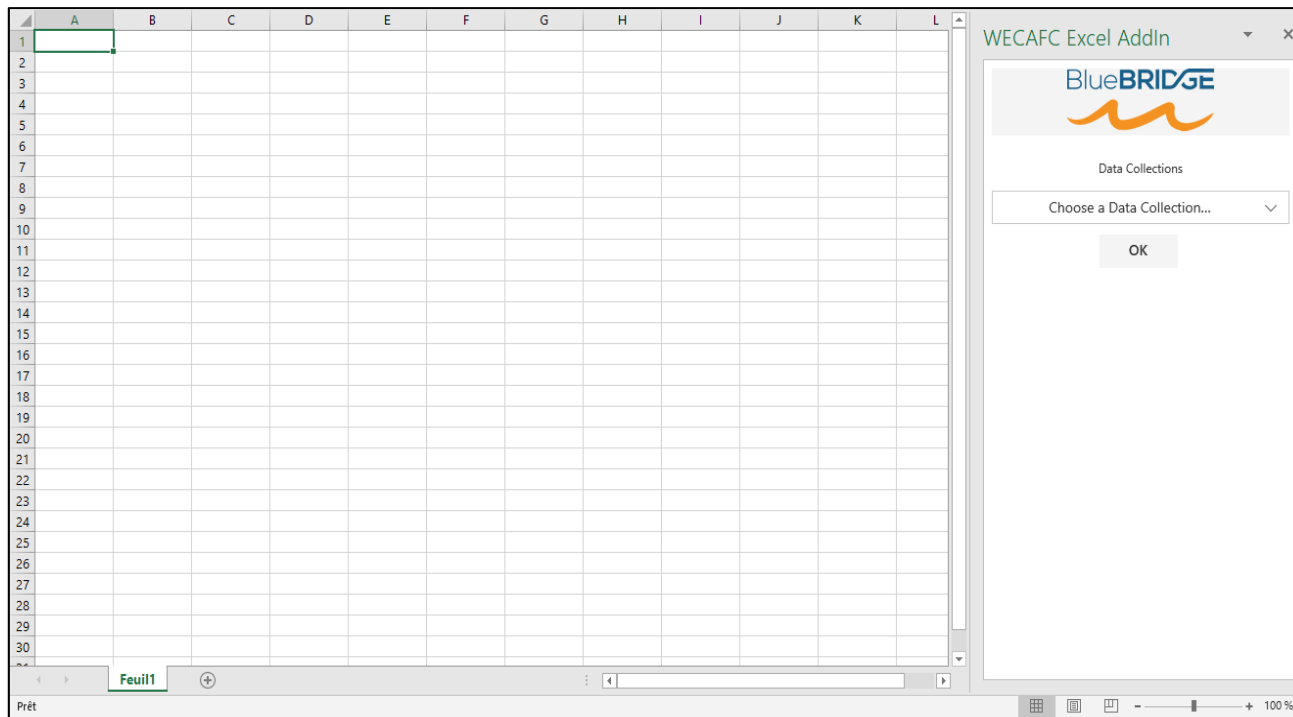
| Label | Schema | Version | Open From | Open To |
|-------------------------------|-------------------------------|---------|-----------|---------|
| WECAFC Recreational Fisheries | WECAFC Recreational Fisheries | 1.0 | | |

Showing 1 to 1 of 1 entries

Creating the collection (data call)
Ready to be used by the national data manager

Simplifying reporting to regional organization

- WECAFC Regional database: National Data Manager
Install an iMarine plugin in Excel
Validation services (web services; no macro)




Simplifying reporting to regional organization

- WECAFC Regional database: National Data Manager
Will use his Excel to fill out the form

| Country | Species | Year | Catches |
|---------|-----------------------|------|------------|
| Bahamas | Panulirus argus | 2015 | 6525,97152 |
| Bahamas | Strombus gigas | 2015 | 4055,74097 |
| Bahamas | Epinephelus striatus | 2015 | 53,3777223 |
| Bahamas | Mycteroperca venenosa | 2015 | 10,5123866 |
| Bahamas | Serranidae | 2015 | 41,4726316 |
| Bahamas | Lutjanus spp | 2015 | 357,205159 |
| Bahamas | Caranx spp | 2015 | 29,0222323 |
| Bahamas | Haemulon spp | 2015 | 30,7254991 |
| Bahamas | Haemulon album | 2015 | 37,7214156 |
| Bahamas | Sphyraena spp | 2015 | 2,86524501 |
| Bahamas | Lachnolaimus maximus | 2015 | 39,7943966 |
| Bahamas | Pterois volitans | 2015 | 4,23321234 |
| Bahamas | Panulirus argus | 2014 | 6568,74905 |
| Bahamas | Strombus gigas | 2014 | 4177,67294 |
| Bahamas | Epinephelus striatus | 2014 | 127,375907 |
| Bahamas | Serranidae | 2014 | 113,730898 |
| Bahamas | Lutjanus spp | 2014 | 555,027405 |
| Bahamas | Caranx spp | 2014 | 41,0399274 |
| Bahamas | Haemulon spp | 2014 | 76,5328947 |
| Bahamas | Haemulon album | 2014 | 9,9469147 |
| Bahamas | Sphyraena spp | 2014 | 60,3659256 |
| Bahamas | Panulirus argus | 2013 | 6087,95142 |
| Bahamas | Strombus gigas | 2013 | 2274,13816 |
| Bahamas | Epinephelus striatus | 2013 | 84,5893829 |
| Bahamas | Serranidae | 2013 | 211,071915 |
| Bahamas | Lutjanus spp | 2013 | 550,803426 |
| Bahamas | Caranx spp | 2013 | 59,8536751 |
| Bahamas | Haemulon spp | 2013 | 89,2560572 |
| Bahamas | Sphyraena spp | 2013 | 5,48094374 |

WECAFC Excel Addin



2018 WECAFC task I catches

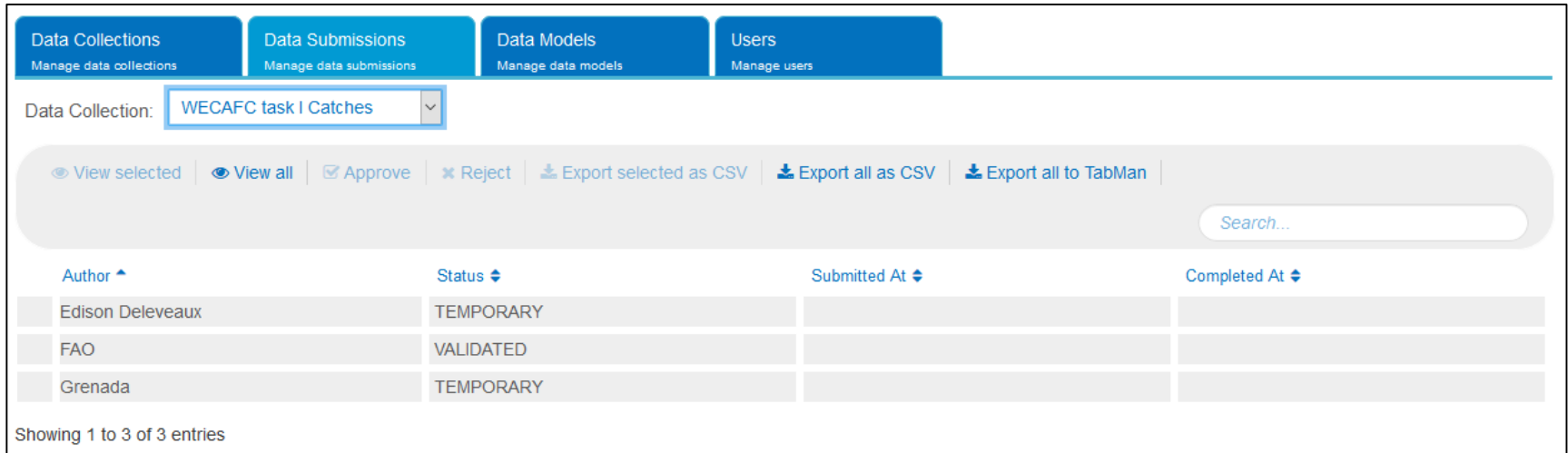
Submit

Validate

Ready for submission !

Simplifying reporting to regional organization

- WECAFC Regional database: Back to Regional Data Manager
 iMarine Regional database administration
 Review of submitted data and final validation

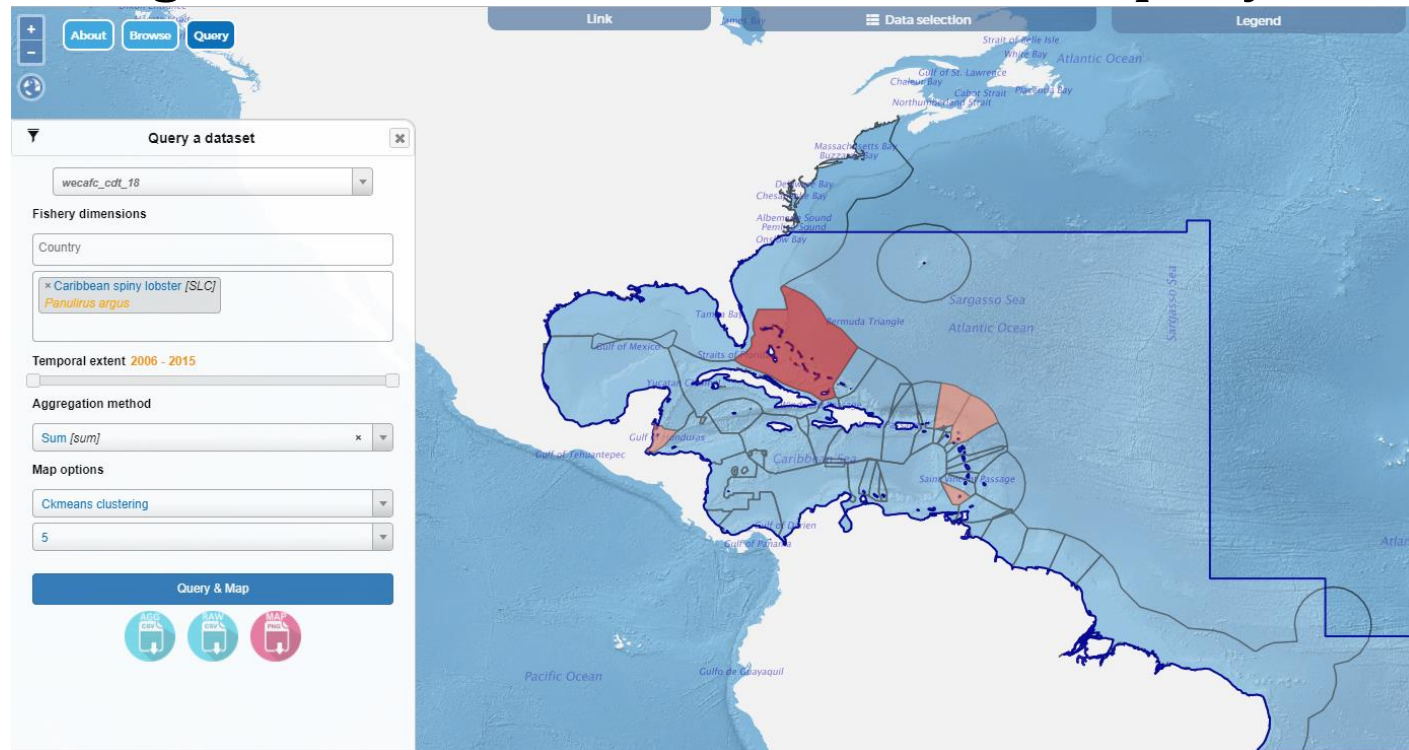


The screenshot shows the 'Data Submissions' section of the WECAFC Regional Data Manager. The 'Data Collection' dropdown is set to 'WECAFC task I Catches'. The interface includes navigation tabs for 'Data Collections', 'Data Submissions', 'Data Models', and 'Users'. A toolbar contains actions: 'View selected', 'View all', 'Approve', 'Reject', 'Export selected as CSV', 'Export all as CSV', and 'Export all to TabMan'. A search bar is also present. Below the toolbar is a table with columns: Author, Status, Submitted At, and Completed At. The table lists three entries: Edison Deleveaux (TEMPORARY), FAO (VALIDATED), and Grenada (TEMPORARY). At the bottom, it says 'Showing 1 to 3 of 3 entries'.

| Author | Status | Submitted At | Completed At |
|------------------|-----------|--------------|--------------|
| Edison Deleveaux | TEMPORARY | | |
| FAO | VALIDATED | | |
| Grenada | TEMPORARY | | |

Simplifying reporting to regional organization

- WECAFC Regional database: A data viewer and query



Only possible if WECAFC data and metadata are harmonized and standardized !

The prototype: live demo



<https://i-marine.d4science.org/group/wecaafc-firms/wecaafc-firms>

Thank you for your attention