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Organización
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WESTERN CENTRAL ATLANTIC FISHERY COMMISSION (WECAFC)

**WECAFC/CRFM/OSPESCA joint Fisheries Data and Statistics Working
Group (FDS WG)**

12 - 16 October 2020 - Virtual Meeting

WECAFC Interim Data Collection Reference Framework, v. 6



Food and Agriculture
Organization of the
United Nations

WECAFC Interim Data Collection
Reference Framework, v. 6



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Acronym and Abbreviations

ABNJ	Areas Beyond National Jurisdiction
ASFIS	Aquatic and Science Fisheries Information System
BS	Biological Sampling
CARICOM	Caribbean Community
CCCFP	Caribbean Community Common Fisheries Policy
CITES	Convention on International Trade in Endangered <i>Species</i>
CF	Conversion Factor
CPUE	Catch Per Unit of Effort
CRFM	Caribbean Regional Fisheries Mechanism
CWP	Coordinating Working Party on fishery statistics
DANIDA	Danish Development Cooperation
DCRF	Data Collection Reference Framework
EAF	Ecosystem Approach to Fisheries
EEZ	Economic Exclusive Zone
ETP	Endangered, Threatened and Protected (species)
EU	European Union
FAD	Fishing Aggregating Device
FDS-WG	Fisheries Data and Statistics Working Group
FIRMS	Fisheries and Resources Monitoring System
FMP	Fishery Management Plan
GFCM	General Fisheries Commission for the Mediterranean
GRT	Gross Registered Tonnage
GT	Gross Tonnage
hp	horse power
ICCAT	International Commission for the Conservation of the Atlantic Tunas
ICM	Interim Coordination Mechanism
IFREMER	Institut Français de Recherche pour l'Exploitation de la Mer
ILO	International Labor Organization
IMO	International Maritime Organization
IOTC	Indian Ocean Tuna Commission
IRCS	International Radio Call Sign
ISO	International Organization for Standardization
ISSCFG	International Standard Statistical Classification of Fishing Gears
ISSCFV	International Standard Statistical Classification of Fishery Vessels
IUU	Illegal, Unregulated and Unreported fishing
kW	kiloWatt
LOA	Length OverAll
OBS	Observer
OSPESCA	Organización del Sector Pesquero y Acuícola del Istmo Centroamericano
PS	Port Sampling
PSMA	Port State Measures Agreement
RFB	Regional Fishery Body

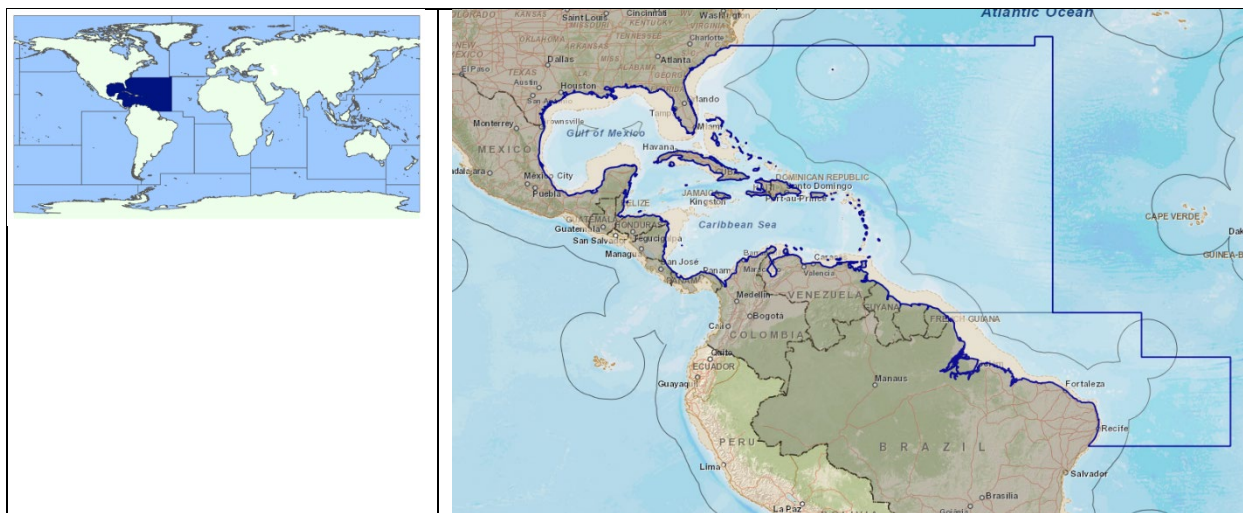
RFMO	Regional Fishery Management Organization
SEAFDEC	Southeast Asian Fisheries Development Center
SPA	Specially Protected Areas and Wildlife
SU	Scientific sUrvey
t-RFMO	tuna Regional Fishery Management Organization
UN	United Nations
WECAFC	Western Central Atlantic Fishery Commission
WGFD	Working Group on Fisheries Data and Statistics
WPAMSR	Working Party on Assessment of Marine Fishery Resources

1 Purpose and Background

1.1 About WECAFC

The Western Central Atlantic Fishery Commission (WECAFC) was established in 1973 by Resolution 4/61 of the FAO Council under Article VI (1) of the FAO Constitution. Its statutes were amended by the FAO Council at its Seventy-fourth Session in December 1978 and by the Hundred and Thirty-first Session of the FAO Council in November 2006. WECAFC is a Regional Fishery Body (RFB), which has the mandate to issue fishery management advice, which may be implemented by its members on a voluntary basis. Regional Fishery Bodies do not have the authority to issue binding advice for its members.

The WECAFC area covers nearly 15 million km² of marine area extending from Cape Hatteras in North Carolina, United States of America (35°N) to south of Cape Recife, Brazil (10°S). This area covers the south-east coast of the United States, the Gulf of Mexico, the Caribbean Sea and the north-east coast of South America. Approximately 51% of the mandate area is in areas beyond national jurisdiction (ABNJ) and around 81% corresponds to waters with depths greater than 400 m. Except for Northern Brazil which is included in FAO Area 41, the rest of the management area corresponds to FAO Area 31 (Fig. 1).



Currently the Commission has 34 members, including the European Union. The latest session (17th) convened in 2019 in Miami, Florida (USA) with 28 members participating. Observers from four Regional Fishery Bodies (RFBs) and four intergovernmental organizations also participated. The Commission adopted eleven regional fisheries management recommendations respectively on: 1) conservation and management of sharks and rays in the WECAFC Area, 2) on the management of Caribbean spiny lobster in the WECAFC Area, 3) on the regional data access and sharing policies, 4) on management of shrimp and groundfish resources of the North Brazil-Guianas Shelf in the WECAF Area, 5) on improved compliance

with trade measures for Queen conch, 6) on Queen conch conversion factor, 7) on the monitoring and control of transshipment at sea, 8) on the application in the region of the technical guidelines on methodologies and indicators for the estimation of the magnitude and impact of Illegal, Unreported and Unregulated (IUU) fishing, 9) on the marking of fishing gear, 10) Amendment to WECAFC/17/2019/21 on the sustainability of fisheries using moored fish aggregating devices in the WECAFC area, 11) on the WECAFC interim Data Collection Reference Framework (iDCRF), 12) on the List of Main Species for data collection in the WECAFC area, 13) on the sustainable management of spawning aggregations and aggregating species.

The 16th Commission agreed to establish a Working Group for fisheries data and statistics (FDS-WG) matters, based on the ongoing work of the WECAFC-FIRMS partnership and supported the development of a regional database in collaboration with the Members and partners in the region. At the 16th Commission Members Adopted Resolutions that 1) Members contribute to the RDB through the FDS-WG and provide national data and statistics according to the guidelines of the interim DCRF and 2) build on best practice guidelines for logbooks, and contribute to developing and updating national inventories of fisheries and resources.

The Commission during its 16th session¹ agreed to launch a process to establish a Regional Fisheries Management Organization (RFMO) in the WECAFC area of competence, being the Western Central Atlantic (area 31) and the Northern part of the South West Atlantic (area 41) and to collaborate in fisheries management and conservation in the Areas Beyond National Jurisdiction (ABNJ) of straddling stocks, deep sea fish stocks and highly migratory species that are not under the mandate of ICCAT (International Commission for the Conservation of the Atlantic Tunas). The Commission discussed intersessional activities of Working Groups and regional collaboration in addressing Illegal, Unregulated and Unreported (IUU) fishing, and approved the Programme of Work (2016–17).

At the 17th Commission, Members adopted Recommendations that: 1) Members endorses the structure and concept of developing a list of main species, according to guidance provided through the Interim DCRF on harmonization of collection of data and statistics, including socio-economic data, based on several selection supporting criteria by the FDS WG-1, 2) endorses the Interim Data Collection Reference Framework (DCRF), as a foundation for fisheries data and statistics collection and collation to feed the needs of developing, monitoring, assessing and reviewing regional fisheries policies, taking into account the need for adaptive review, 3) Members promote the provision of national data and statistics to the WECAFC-CRFM-OSPESCA Regional DataBase (RDB) according to Interim DCRF, and 4) Members encourage strengthened collaboration between the FDS-WG and thematic working groups to refine and keep updated the DCRF and associated data sharing policies, taking into account the input from all members.

1.2 What is the Data Collection Reference Framework (DCRF) and the Process to develop the DCRF

¹ <http://www.fao.org/3/a-bo086e.pdf>

The WECAFC Data Collection Reference Framework (DCRF) is the first instrument to establish the foundation for comprehensive fisheries data and statistics collection and collation in the WECAFC area. The DCRF will feed the needs of developing, monitoring, assessing and reviewing regional fisheries policies such as FMPs as needed by any regional or sub-regional RFB. The ultimate aim of the DCRF is to provide a path for achieving improved data collection in the entire region for informing regional and sub-regional management plans. The DCRF should be reviewed by relevant bodies in the WECAFC area (e.g., CRFM, OSPESCA, etc.) to accommodate needed improvements and requirements from the Commission, including new recommendations.

- Background

WECAFC member countries recognized in the 1970s and 1980s that without the necessary data and information, it would be impossible for the countries in the region to manage their shared fisheries. Following major investments by the countries, with support from the Danish Government (DANIDA) capacity building projects and the FAO/Norway EEZ programme (1982 -1985), the availability of data and information on the status of the stocks and the fisheries improved significantly. However in the 1990s and first decade of this millennium less emphasis was given to fisheries statistics and the need for sharing fisheries data and statistics between states, particularly for use in regional assessments. This resulted in increasing the already significant existing gaps in very basic information, making it difficult for fisheries managers and decision makers to make well-informed choices based on data, information and scientific evidence. Compared to the 1990s, fishery managers were faced with much less data for decisions on management and conservation purposes. Accurate stock assessments using up to date fishery statistics became increasingly difficult, and the rapid increase in Fish Aggregating Devices (FADs) fisheries in the 1980's and 1990s has exacerbated the situation. As a result, fishery management in the WECAFC region has become even more challenging and decisions have been postponed. Consequently, the stocks of many shared and highly migratory species, such as billfishes, continue to be heavily exploited and increasingly targeted for harvest even though they are already depleted well below biomasses that could achieve maximum sustainable yields.² As recent as 2015 it was estimated that 54% of the species or species groups were considered overfished or over-to-fully fished in the WECAFC region³. Furthermore, the commitment of CARICOM States to improving evidence based decision-making through regional cooperation has been clearly articulated in several regional policy documents including the “Strategic Action Programme for the Caribbean Large Marine Ecosystem”, the CARICOM Strategic Plan, 2015 - 2019, the Caribbean Community Common Fisheries Policy (CCCFP) and the CRFM Strategic Plan, 2013-2021. Concrete action in this direction led to the establishment of the WECAFC-FIRMS partnership in 2014 which among other results led to the establishment of WECAFC Data and Statistics Working Group in 2016. Moreover, data and information on some key commercial fisheries target species (Spiny lobster, Queen conch, Flying fish) are being shared between the members of CRFM, OSPESCA and WECAFC, through joint working groups on these specific fisheries.

At WECAFC 15 which was convened in Trinidad in March 2014, the minimum steps needed to improve the capability of the Commission in becoming a functional management organization were identified as:

² <http://www.fao.org/3/a-i6204e.pdf>

³ <http://www.fao.org/fi/static-media/MeetingDocuments/WECAFC/WECAFC17/3Reve.pdf>

- 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*

As a decisive step into this focus area, the WECAFC 15 agreed to enter into a collaboration with the FAO, Fishery Resource Monitoring Program (FIRMS), thus formally engaging the WECAFC-FIRMS Partnership recognizing the need to make these regional improvements in the basic fisheries data. This Partnership was successfully implemented in 2015 and 2016 during the WECAFC-FIRMS Regional Database project (phase I). The three main achievement outputs respectively were: 1: FIRMS regional inventories published⁴ and capacity built for national inventories in a few pilot countries, 2: National and sub-regional capacity strengthened in data collection and data sharing in support to WECAFC fishery management plans, and 3: Foundations of a Regional Database proposed and tested with pilot data contributions. A regional data workshop was convened in January of 2016 and the report of the workshop is available on-line⁵.

WECAFC-FIRMS phase II (implemented in 2017/2018) was a continuation of the WECAFC-FIRMS Phase I project and primarily was in support of the mandate of the Working Group on Fisheries Data and Statistics (FDS-WG), agreed by the Members during WECAFC 16th Commission Session which convened in Guadeloupe in June 2016. The Phase II project support focused on agreements regarding minimum data requirements for fisheries under management plans, and on the governance and operationalization of the WECAFC Regional Database, including development of a regional data collection reference framework (DCRF) and documentation of best practices for logbooks and data sharing policies and guidelines.

WECAFC-FIRMS phase III is a continuation of the WECAFC-FIRMS phase II project and is primarily supporting the activities of the WECAFC Fisheries Data and Statistics Working Group. Three main priorities have been identified: 1) the organization of its second meeting, 2) the operationalization of the WECAFC regional database by developing national capacity to upload data in the system, and 3) the reinforcement of national capacities in fisheries data and statistics

The general objective of WECAFC is to promote the effective conservation, management and development of the living marine resources of its area of competence, in accordance with the FAO Code of Conduct for Responsible Fisheries (CCRF)², and to address common problems of fisheries management and development faced by members of the Commission. Accordingly, the collection and quality of data and information is a crucial requirement for proper management, one which must consider the quantity, quality and comprehensiveness.

- The DCRF manual

⁴[http://firms.fao.org/figis/website/FIRMSSearch.do?dslist\[0\]=fishery&refxml=false&startrow=1&bsize=15&lixsl=webapps/figis/firms/format/searchfsfirmslist.xsl&kw\[0\]=institution&kv\[0\]=WECAFC&logop=and](http://firms.fao.org/figis/website/FIRMSSearch.do?dslist[0]=fishery&refxml=false&startrow=1&bsize=15&lixsl=webapps/figis/firms/format/searchfsfirmslist.xsl&kw[0]=institution&kv[0]=WECAFC&logop=and)

⁵<http://www.fao.org/3/a-i5789e.pdf>

This manual outlines the primary principles of the DCRF through providing the main indications for data collections by WECAFC members in a standardized way such to inform relevant WECAFC bodies with minimum information needed for stock assessment and monitoring.

The DCRF manual has been drafted under the WECAFC-FIRMS Phase II project with the goal of collection and collation of information to feed the needs of developing, monitoring, assessing and reviewing regional fisheries policies such as FMPs as required by any regional/sub-regional fishery body. In that regard, inspiration was sought from RFBs and RFMOs DCFs (e.g., the General Fisheries Commission for the Mediterranean (GFCM) through the 2016 GFCM Data Collection Reference Framework⁶ and from International Commission for the Conservation of the Atlantic Tunas (ICCAT)⁷. Improvements on this first version were further accomplished from inputs from several species Working groups (Joint Spiny Lobster, March 2018 Dominican Republic; Northern Brazil Shelf Shrimp and Groundfish, Barbados October 2018).

The manual is organized as follows: Working Definitions, Structure of data collection, and Supplemental Appendices providing WECAFC standard classifications.

The first version (2018.1) was reviewed by the Ninth Session of the Scientific Advisory Group (SAG) in November 2018 and further enriched from Member comments/input received through January 2019.

This manual will be further enriched through several accompanying documents of which two initial documents include: Data Access and Sharing Policies, and Regional Guidelines for Logbooks.

Features of the DCRF

DCRF Features

Data access and sharing policies

Indications of main themes of data collection ('tasks')

Description of data variables by tasks

Concepts of data aggregation and frequency of reporting

Identification of concept of species lists for which sampling is encouraged according to varying basis

⁶ <http://www.fao.org/gfcm/data/dcrf/en/>

⁷ <https://www.iccat.int/en/submitSTAT.htm>

2 Definitions

A **glossary** is available in appendix 5 with all the concepts and controlled terms definitions presented in alphabetical order.

2.1 Working definitions

Fish: The term “fish” refers to all species of living marine resources, whether processed or not (Port State Measures Agreement - PSMA⁸).

Species: The term ‘species’ is also used herein in the broad sense and refers to both individual species (e.g.: *Epinephelus striatus*, Nassau grouper) and in cases where identification of individual species is problematic to species groups (e.g.: *Epinephelus* spp., Groupers), acknowledging the preference of using individual species.

Species group: The term ‘species group’ refers to a collection of species which have been grouped together, often because these species are difficult to differentiate without detailed examination (very similar species) or because data for the separate species are not available (e.g. in fishery statistics or commercial categories) (SEAFDEC handbook on data collection⁹).

2.2 DCRF related definitions

Active vessels: vessels that have been engaged in any fishing operation (one day or more) during a calendar year. A vessel that has not been engaged in fishing operations during a year is considered ‘inactive’.

Bycatch (CWP): Component of the catch which represents non-targeted fish associated with the catch of the target species or group towards which fishing effort is directed, or other aquatic organisms taken incidentally during the course of fishing.

Catch fraction: a part of the total catch, such as the part of the catch landed above the minimum conservation reference size, the part landed below the minimum conservation reference size, the part discarded below the minimum conservation reference size, *de minimis* discards or discards.

Catch and landings: These guidelines follow the advice of the CWP on catch and landings¹⁰. The CWP advises that the overall aim for statistics on catch and landings is to report on fisheries contribution to the national economy, to the provision of food (subsistence) and on the total removal of fish and other organisms from the sea. Catch statistics are internationally reported as “*nominal*” catch (see definition below) which refers to the landings converted to a live weight basis. However, fisheries impact on the ecosystem extends beyond the landed fish and other organisms and further includes species impacted by the gear. Some of these organisms are brought on deck and later discarded. The various components of the catch are described in the CWP catch concept diagram (Figure 1). There are fisheries where the number of individuals caught is also required to be reported.

⁸ <http://www.fao.org/fishery/psm/agreement/en>

⁹ <http://www.seafdec.org/download/handbook-on-collecting-fishery-statistics/#>

¹⁰ <http://www.fao.org/cwp-on-fishery-statistics/handbook/capture-fisheries-statistics/catch-and-landings/en/>

National and Regional fisheries organizations annually publish catch statistics in different forms. These statistics are available from the websites of these organizations and/or other published bulletins. FAO publishes global fisheries statistics as in "FAO Statistical Yearbooks" and are available in more details from the FAO Fisheries and Aquaculture Statistics website (<http://www.fao.org/fishery/statistics/en>). When using published catch and landing statistics it is to be recognized that non-reporting and mis-reporting of landings is a major concern in some fisheries.

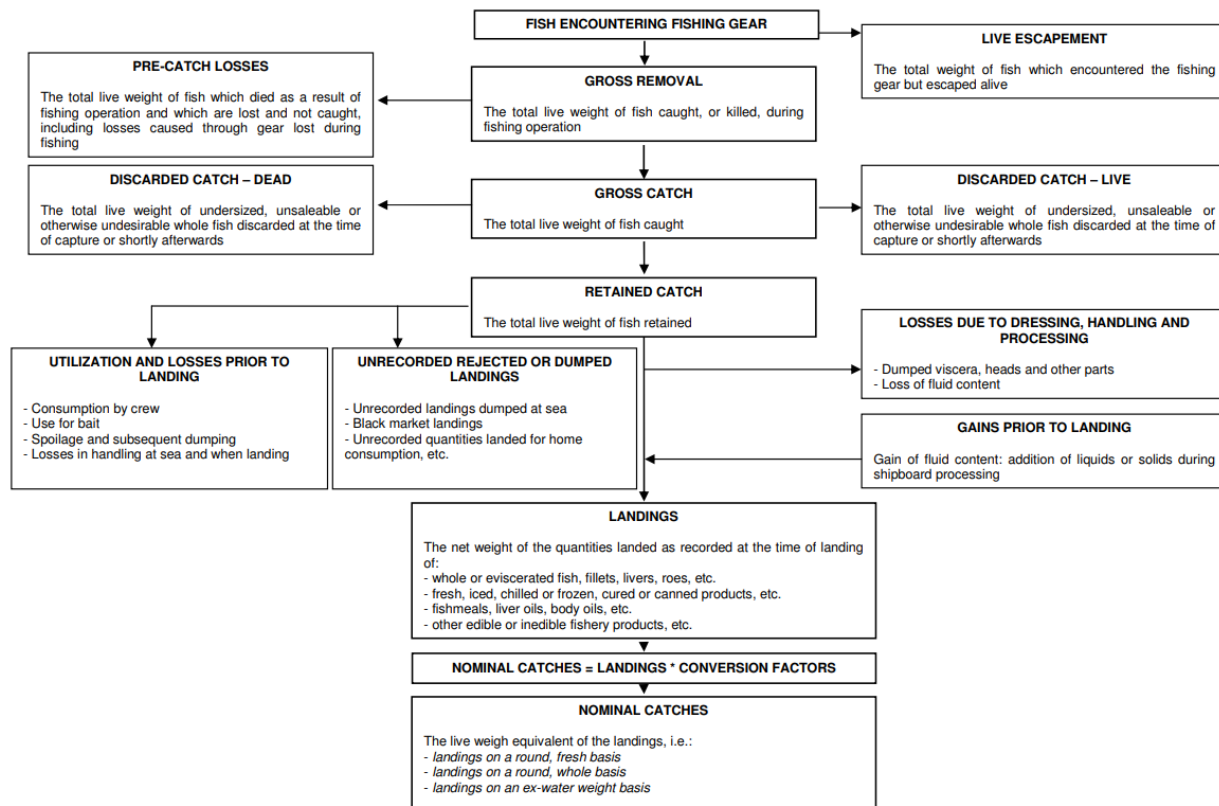


Figure 1: CWP diagrammatic representation of catch concepts. From CWP Handbook¹¹

Days at sea: any continuous period of 24 hours (or part thereof) during which a vessel is present within an area and absent from port.

Decked vessel: A vessel with a continuous watertight weather deck that extends from stem to stern with positive freeboard throughout.

Discarded catch (CWP¹⁵): The term ‘discarded catch’ (or discards) refers to the component of the catch which is discarded overboard (refer to the catch concept diagram, Fig. 1). The discarded catch is the total live weight of undersized, unsaleable or otherwise undesirable for economic, legal or personal considerations of whole fish discarded at the time of the capture or shortly afterwards. Discarded fish

¹¹ <http://www.fao.org/3/bt981t/bt981t.pdf>

and other organisms may be discarded dead or alive, and may include target species and catches taken as bycatch.

Fishing days: any calendar day at sea in which a fishing operation takes place, without prejudice to the international obligations of the Union and its Member States. One fishing trip can contribute to both the sum of the fishing days for passive gears and the sum of the fishing days for active gears on that trip.

Fishing effort (CWP¹²): The term ‘fishing effort’ refers to the amount of fishing gear of a specific type used on the fishing grounds over a specified unit of time e.g. number of hours trawled per day, number of hooks set per day, or number of hauls of a beach seine per day. The impact of an effort unit on the fish populations and the ecosystem in general differs with the vessel that deploys the gear and effort statistics need to be qualified by vessel type and size/motor power.

The CWP advised that fishing effort should be reported at three levels of resolution (i.e., precision):

- Category A refers to a detailed unit of measure, e.g. hours fished or number of sets, etc. These units of measure will vary with the gear used;
- Category B refers to "number of days fished", i.e., the number of days on which fishing took place. For those fisheries in which searching is a substantial part of the fishing operation, days in which searching but no fishing took place should be included in "days fished" data;
- Category C refers to "number of days on ground" in addition to days fishing and searching also all other days while the vessel was on the ground should be indicated.

The fishing effort may be nominal, reflecting the simple total of effort units exerted on a stock in a given defined or specified time period. It may also be standardized effort (i.e, developed using an accepted model) or effective effort when corrected to take account of differences in fishing power and efficiency and ensure direct proportionality with fishing mortality and this relates usually to a specific fishery and gear. If more than one gear is considered, standardization of the raw effort statistics in relation to one of them is necessary. For biologists, a good measure of fishing effort should be proportional to fishing mortality. For economists it should be proportional to the cost of fishing.

Fishing ground: (group of) geographical units where fishing takes place. These units shall be agreed at marine region level on the basis of existing areas defined by regional fisheries management organizations or scientific bodies.

Fisher (CWP, refer also ISCO-08): a fisher is a worker operating from fishing vessels but also those fishers operating land-based fishing gears and/or from shore foot-fishing without the use of boats.

Fishery (FIRMS): 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 <http://firms.fao.org/firms/concepts/en>)

¹² <http://www.fao.org/cwp-on-fishery-statistics/handbook/capture-fisheries-statistics/fishing-effort/en/>

Fishery fleet (CWP¹³): The term "fishery fleet" or "fishery vessels" refers to mobile floating objects of any kind and size, operating in freshwater, brackish water and marine waters which are used for catching, harvesting, searching, transporting, landing, preserving and/or processing fish, shellfish and other aquatic organisms, residues and plants.

Fishing vessel (CWP¹⁰): The term "fishing vessel" is used when the vessel is engaged only in catching operations.

Fishing gear (CWP¹⁴): Equipment used for fishing according to the international standard classification revised version (ISSCFG Rev1, 2013¹⁵). Each gear can have multiple configurations.

Fishery Inventory (FIRMS): "A Fishery Inventory is a comprehensive list of fishery units identified at an agreed scale and within a defined scope, including consideration of Geographic reference, thematic approach, and purpose". Geographic reference, thematic approach, and purpose are the main criteria driving the identification of fishery units in an inventory.

Fleet Capacity (draft): the term 'fleet capacity' refers to a nominal measure of the capacity of a fleet of fishing vessels' to conduct fishing activities. For statistical purposes, fleet capacity may be summarized by fishing vessel tonnage or type based on two international classifications adopted by the CWP:

1. The "International Standard Statistical Classification of Fishery Vessels by GRT Categories" (ISSCFV), based on the Gross Register Tonnage of the vessels, approved by the CWP in 1977. See ISSCFV GRT classification ¹⁶
2. The 'International Standard Statistical Classification of Fishery Vessels by Vessel Types' (ISSCFV), based on the type of gear used by the vessels, approved by the CWP in 1984¹⁷.

Full-time fishers (CWP): workers who receive at least 90% of their livelihood from fishing or spend at least 90% of their working time in that occupation (for full-time / Part-time employment, see also classification of occupations in the CWP handbook).

Live weight: The term 'live weight' refers to the live weight equivalent of fish or other organisms when brought on board (i.e., prior to processing).

Fleet segment: group of vessels with the same length class (LOA, length overall) and predominant fishing gear during the year.

Incidental catch¹⁸: Retained catch of non-targeted species

Landing (CWP¹⁵): The net weight of the quantities landed as recorded at the time of landing, including:

- Whole or eviscerated fish, fillet, livers, roes, etc.

¹³ <http://www.fao.org/cwp-on-fishery-statistics/handbook/capture-fisheries-statistics/fishery-fleet/en/>

¹⁴ <http://www.fao.org/cwp-on-fishery-statistics/handbook/capture-fisheries-statistics/fishing-gear-classification/en/>

<http://www.fao.org/cwp-on-fishery-statistics/handbook/capture-fisheries-statistics/fishing-gear-classification/en/>

¹⁵ <http://www.fao.org/3/a-bt987e.pdf> <http://www.fao.org/3/a-bt988e.pdf>

¹⁶ <http://www.fao.org/3/a-bt982e.pdf>

¹⁷ <http://www.fao.org/3/a-bt983e.pdf>

¹⁸ Alverson DL, MH Freeberg, SA Murawski and Pope JG (1994) [A global assessment of fisheries bycatch and discards](#) FAO Fisheries, Technical paper 339, Rome. [ISBN 92-5-103555-5](#).

- Fresh, iced, chilled or frozen, cured or canned products etc
- Fishmeals, liver oils, body oils etc
- Other edibles or inedibles fishery products, etc.

Landed weight (CWP¹⁵): The term ‘landed weight’ refers to the mass (often referred to as weight) of a product at the time of landing, regardless of the state in which it is landed. That is, the fish may be whole, or gutted or filleted. Consequently this measure is of limited use for further analysis except where it is known that the product is homogenous in nature. Where more detailed analysis of the data is required, the landed weight is generally converted to a more meaningful measure, the most frequently used being the "nominal catch" (see below).

Metier: a group of fishing operations targeting a similar (assemblage of) species, using similar gear (4), during the same period of the year and/or within the same area and which are characterised by a similar exploitation pattern.

Mothership

Multigear vessel: vessels which physical structure make them non specialized in the operation of one – sometimes two - particular fishing geartypes, and make them able to operate different geartypes in the day or over the year.

Non-fishing vessel (CWP¹⁰): The term "non-fishing vessel" applies to vessels performing other functions related to fisheries, such as supplying, protecting, rendering assistance or conducting research or training.

Nationality of catch and landings (CWP¹⁵): For the purpose of reporting national fishery statistics, the catch and landings is generally assigned to the country of the flag flown by the fishing vessel. However, the CWP recommended that this may be over-ridden only when one of the following arrangements between a foreign flag vessel and the host country exists: the vessel is chartered by the host country to augment its fishing fleet; or the vessel fishes for the country by joint venture contracts or similar agreements (as opposed to the ad-hoc practice of a vessel selling catches to a foreign vessel or landing catches at a foreign port) and the operation of such vessel is an integral part of the economy of the host country. In either case, the assignment of nationality to catch and landings data should be specified in the charter or joint-venture agreements.

Non-fishing vessel (CWP¹⁰): The term "non-fishing vessel" applies to vessels performing other functions related to fisheries, such as supplying, protecting, rendering assistance or conducting research or training.

Nominal catch (CWP¹⁵): The term ‘nominal catch’ refers to the landings converted to a live weight basis. Nominal catch is often referred to as the "Live weight equivalent of the landings" or shortened to the "Live weight", and in some national publications it is also referred to as "Landings on a round, fresh basis", "Landings on a round, whole basis" or "Landings on an ex-water basis". Care should be taken when referring to the nominal catch as the ‘catch’ since in many situations the catch includes components which are not landed (refer to the catch concept diagram, Fig. 1).

Nationality of catch and landings (CWP¹⁵): For the purpose of reporting national fishery statistics, the catch and landings is generally assigned to the country of the flag flown by the fishing vessel. However, the CWP recommended that this may be over-ridden only when one of the following arrangements between a foreign flag vessel and the host country exists: the vessel is chartered by the host country to augment its fishing fleet; or the vessel fishes for the country by joint venture contracts or similar agreements (as opposed to the ad-hoc practice of a vessel selling catches to a foreign vessel or landing catches at a foreign port) and the operation of such vessel is an integral part of the economy of the host country. In either case, the assignment of nationality to catch and landings data should be specified in the charter or joint-venture agreements.

Occasional fishers (CWP) : workers who receive under 30% of their livelihood from fishing, or spend under 30% of their working time in that occupation.

Part-time fishers (CWP) : workers who receive at least 30% but less than 90% of their livelihood from fishing or spend at least 30% but less than 90% of their working time in that occupation (for full-time / Part-time employment, see also classification of occupations in the CWP handbook).

Research surveys at sea: trips carried out on a research vessel, or a vessel dedicated to scientific research for stock and ecosystem monitoring, and designated for this task by the body in charge of the implementation of the national work plan established in accordance with Article 21 of Regulation (EU) No 508/2014.

Retained catch (CWP¹⁹): The term ‘retained catch’ refers to the component of the catch which is retained on board the fishing vessel (refer to the catch concept diagram, Fig. 1). The retained catch is reported as the total live weight of fish and other organisms retained, and in some fisheries the number of individuals retained is also required to be reported.

Post Release Mortality (FAO): This term refers to the quantity (commonly an average expected percentage) of the catch which is discarded alive, but will die in the immediate or long term due to various harmful effects of the capture and/or discarding processes.

¹⁹ <http://www.fao.org/cwp-on-fishery-statistics/handbook/capture-fisheries-statistics/catch-and-landings/en/>

Table 1: Standard measures of effort for each category of fishing gear. See also Table 2, and Report of technical workshop on global harmonization of Tuna fisheries statistics, March 2018, Session 6.2 and Appendix 8.

Fishing gear category (ISSCFG, 2016)	Standard measures of effort	Aggregated data
	Haul-by-haul data	
Surrounding net (01)	Soak time	Number of sets Number of days fished
Seine (02)	Soak time	Number of sets Number of days fished
Trawl (03)	Tow duration	Number of tows Tow duration Number of days fished
Dredge (04)	Tow duration	Number of tow Tow duration Number of days fished
Lift net (05)	Soak time	Number of sets Soak time Number of days fished
Falling gear (06)	Soak time	Number of sets Soak time Number of days fished
Gillnet and Entangling net (07)	Soak time Length of net set	Number of sets Length of net set Number of days fished
Trap (08)	Soak time	Number of sets Soak time Number of days fished
Hook and line (09)	Soak time Number of hooks set Length of line	Number of hooks set Number of lines set Length of line set
Dive (10.8)	Dive time	Number of hours dived Number of days fished

Reference year: The term “reference year” refers to the calendar year (1 January to 31 December) for which statistics are reported as recommended by CWP²⁰ for standard reporting timelines.

Undecked vessel: xxxx.

²⁰ <http://www.fao.org/fishery/cwp/handbook/E/en>

3 Structure of data collection

3.1 The different needs for data in the WECAFC region

Needs for data at the level of the WECAFC are of varying natures based on needs and goals of managers and stakeholders in the context of the Ecosystem Approach to Fisheries (EAF). Stock assessment derives from a need to monitor, evaluate and assess status, especially for the shared and/or straddling and transboundary stocks such as flying fish, dolphin fish, wahoo and resources considered overfished and/or threatened (e.g., some of the shark and ray species). It is also essential to provide evidence based statistics to support monitoring and management of shared fishery resources (implementation and monitoring of regional fishery management plans, implementation of regional registry as two of many examples). Finally, in addition to the above environmental dimensions, a set of minimum statistics are required to take into account the social and economic dimensions in policy making and management decisions.

The DCRF recognizes the importance of area based information on national fleets, catch, effort and biological data for main and/or other reference species, including discards and incidental catches. Additionally, it is recognized that socio-economic data is also needed to characterize fishing operations, enterprise, employment trends and national capacities. WECAFC members should strive to collect and submit information of the highest quality and submit such statistics in a timely manner. To respond to these different needs, the WECAFC data collection framework is divided in six (6) tasks as described below.

DCRF Tasks
Task I – Regional figures of national fisheries
Task II – Catch and effort (landing data, catch data per species)
Task III – Fleet statistics
Task IV – Biological information
Task V – Incidental catches
Task VI – Socioeconomics

- 1 **Task I: Regional figures:** provide a general summary overview of the fishery sector **by country** in the region (e.g., total nominal catches **by individual species and gear where possible, total effort,** and total capacity **by fleet segment by species, gear** and reference year)
- 2 **Task II: Catch and effort:** provide key information for fisheries monitoring, management and assessment (e.g. nominal catches (target and by-catch species), retained and discarded (dead and live) catch estimates, by **fishing fleet segment, species, year, gear type, region, fishing waters; and related effort by fleet segment and gear type**).
- 3 **Task III: Fleet:** Provide additional information for fisheries monitoring, management and assessment with **the fishing effort expressed in terms of capacity by fleet segment fleet capacity engaged by fishery by size categories;** it also provides the framework for the regional vessel registry as per the regional fishery management plans.

- 4 **Task IV: Biological information:** provide essential information for **stock status determination, or for** stock assessment (e.g., size frequencies of the samples (retained or discarded) measured for each species classified by fishing fleet, species, gear, sample units, time strata, area strata or reproductive state of individuals).
- 5 **Task V: Incidental catches:** provide more detailed information on fisheries impacts on the ecosystem.
- 6 **Task VI: Socio-economic:** The importance of this task is acknowledged. As a start, gender specific employment statistics will be collected from Member Countries. In line with CWP recommendation, this task will expand in the next iterations with the proposal to include the Value of Landings.

Aquaculture is not considered here and shall be subject to another data collection framework document. Recreational fishing can be considered here as an additional fleet segment. It should be revised and endorsed by the Commission.

The data requirements of the DCRF, together with its main purposes and the relation to current data requirements described in existing WECAFC recommendations and resolutions is detailed in Table 2.

Table 2 : DCRF Task summary with data requirement and reference to WECAFC recommendations / resolutions

DCRF Tasks					
ID	Task	Sub-task	Data	Purpose and Description	Resolutions
I	Regional Statistics	I.1 Fleet capacity	Operating Fishing Vessel Count Total Nominal Catch Total Effort Total Capacity (GT) Total Engine Power (kW)	General summary overview of the fishery sector in the wider Caribbean region. Data reported in this task are a sum of other indicators available through the other in the following tasks	Interim endorsement at WECAFC 16
		I.2. Landings	Nominal Catch by species and sub-area	Summary of landings by Species in the Wider Caribbean region	
II	Catch and effort				
		II.1. Catch	Retained Catch Discarded Catch Nominal Catch	Catches are defined in units of numbers as all the removed fish during the fishing activities whether targeted or taken as by-catch, and in weight units as the total weight of catches (in live weight equivalent) per species, area, fleet	Interim endorsement at WECAFC 16

				segment, geartype for the given year	
		II.2. Effort by fleet segment	Days Fishing Nominal Effort Fishing Vessel Count	Effort will reflect national flagged vessels fishing effort deployed during the reporting period to catch the above reported catches (and landings).	Interim endorsement at WECAFC 16
III	Fleet				
		III.1. Fleet by primary gear and target species (or fishery)	Number of active vessels	Number of vessels engaged in the fishery (i.e. active) by year, by primary gear/ target species and by fishing area and time unit	Interim endorsement at WECAFC 16
		III.2. Vessel registry	Vessel descriptors	Regional vessel registry fed by the national vessel records or registries	Interim endorsement at WECAFC 16
IV	Task IV: Biological information				
		IV.1: Size data	Total Retained Catch (weight) Total discarded catch Total weight of samples Length class /sex/maturity Number of individuals at length Total weight of Individuals	Size frequencies of the samples (retained and discarded) measured for each species classified by major fleet, gear sample units, time strata and area strata and sex for select species	Interim endorsement at WECAFC 16
		IV.2: Catch at Size data	Length Class/Sex/Stage of Maturity Total Weight of Individuals Total Catch	Reported catch at size (raised to Task II Catch data) classified by primary fleet, gear, species time unit and area and by sex (for select species)	Interim endorsement at WECAFC 16
V	Endangered, Threatened, Protected (ETP) species catches		Landings (in numbers or weight as appropriate) Number of discards alive (in numbers	The discards resulting from endangered, threatened or protected species catches are reported.	Interim endorsement at WECAFC 16

			or weight as appropriate) Number of discards dead (in numbers or weight as appropriate)		
VI	Socio economics				
		VI.1: Employment	Number of fishers for the specified gender / category / secondary workers	Employment in the fishery sector is a useful indicator of the importance of the fishery sector in the region. This indicator aims to present number of fishers by category (fully employed or part time ones), by gender (male / female) by the major fleet, and area for the reference year	Interim endorsement at WECAFC 16
		VI.2: Engagement in Fisheries	Count of fishers folks Count of fishers folks x days fishing	Number of fishers folks actively taking part to fishing activities, and the intensity of such involvement	Interim endorsement at WECAFC 16
		VI.3: Value of catches	Monetary value of total landed fish for the given species	The value of capture fisheries production at first sale after landing, in US\$,	Interim endorsement at WECAFC 16

3.2 WECAFC Data Sharing and Access Policies

All data when submitted are publicly available.

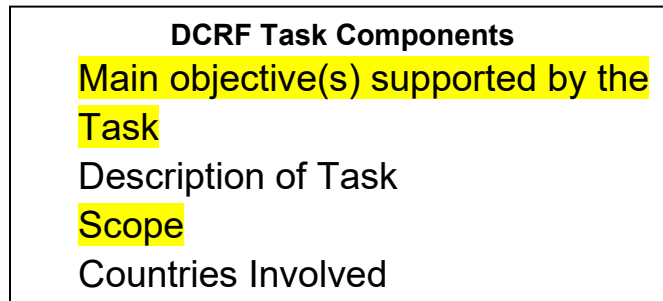
All data transmission are subject to WECAFC data sharing and access policy as per general principles and implementation options defined in the document “WECAFC fisheries data sharing policies and guidelines”²¹.

Submitted data should in principle be made publicly available, however the data access and sharing rules address details regarding the steps of the validation process as well as relevant levels of aggregation for published data, and confidentiality rules. Tasks specific to Data access and sharing rules are drafted, with the understanding that in their final version these will be approved by the Commission as the result of a consultative process involving the FDS-WG, the WECAFC-WGs, and the SAG.

²¹ <http://www.fao.org/fi/static-media/MeetingDocuments/WECAFC/FDSWG/2018/5e.pdf>

3.3 Components of the Data Collection Framework

This section introduces the structure and how data will be collected/called for.



3.3.1 Task I: Regional Statistics

Objective

This task aims to provide WECAFC with a summary overview of the fishery sector inputs and outputs by country in the wider Caribbean region.

3.3.1.1 Task I.1: Fishing Capacity and total nominal catches

Objective

to provide a general overview of the fishery in each country, with an indication of total capacity and total nominal catches by fleet segment and sub-area.

Description

Total fleet capacity and nominal catches by fleet segment, sub-area by species, gear and reference year. Data reported in this task are the sum of other indicators available in the following tasks. Totals must be aligned between with tasks for nominal catches (Task II.1) and Fleet by sub-area (Task III) engaged by fishery (Task III.1) effort.

Note from GFCM: fleet segments could be merged (i.e. aggregating length classes) if they have similar exploitation patterns (targeting the same species), and exploiting the same portion of the population (i.e. juveniles or adults).

Scope

Recommended at country database level and at Regional database level for all species of the WECAFC Reference list of species for which Nominal catches are available at Fleet segment and sub-area levels.

Total catches and numbers of vessels should be reported for all vessels flagged under member countries in the WECAFC areas (including distant water fishing fleet vessels also registered under member countries in the WECAFC area).

Countries involved

All WECAFC countries

Data to be reported

Field	Definition
Flag State Country	The M49 UN code for the country (see appendix 1)
Year	Reference year for reporting
<i>Quarter</i>	<i>Optional, and for specific sub-sets (if available in the member country)⁽²⁾</i>
Fleet Segment	See appendix 2.1 for fleet segment definition
Fishing mode	Optional (if available and when relevant for the member country) See appendix 2.1 for fishing mode definition
Area	See appendix 2.2 for regional subareas' definition
Total Nominal Catch	Weight of total landed fish for the given species in live weight equivalent (in tonnes), by fleet segment and for the reference year (or quarter)
<i>Retained Catch</i>	<i>Optional: same as in Task II.1</i>
<i>Discarded Catch</i>	<i>Optional: same as in Task II.1</i>
Operating Fishing Vessel Count	Total number of operating fishing vessels during the reference year (or quarter) by fleet segment
Total Effort	Total number days fished by all operating fishing vessels in the reference year*
Total Capacity (GT)	Total capacity, in gross tonnage (GT), of all operating fishing vessels by fleet segment in the reference year (or quarter)
Total Engine Power (kW)	Total main engine power, in kilowatt (kW) ⁽¹⁾ , of all operating fishing vessels by fleet segment in the reference year (or quarter)

(*) If for specific strata the requirement is by quarter, the number is provided for each quarter of the reference year by fleet segment.

⁽¹⁾ 1 hp = 0.7457 kilowatt (kW).

⁽²⁾ Optional means that this information can be reported if and when relevant to the member country.

Frequency and deadline of transmission

Once a year prior to the end of the first semester of the following year.

Data access and sharing rules (see section 3.2)

- *first submission accessible to Member country and FAO data manager for validation.*
- *integration of this submission in a wider dataset accessible to all Member Countries having submitted and FAO data manager, for validation of the call once all data are collected*
- *eventually publicly available*

3.3.1.2 Task I.2: Nominal catches by species and sub-areas (Statlant)

Objective:

The regional overview of total catches by country, species and sub-areas for all species of the WECAFC Reference list of species provides the overall reference for fisheries production in each sub-area, and allows to monitor catch trends by species among sub-areas.

Description:

Total catch should be considered as the weight of the total yearly catches, including retained catch (landings) and the discarded fraction (discards). This sub-task is a breakdown by sub-area of the questionnaire NS1 submitted by countries to FAO.

Scope:

Recommended at country database level and for upload to the Regional database for all species of the WECAFC Reference list of species.

Total catches and numbers of vessels should be reported for all vessels flagged under member countries in the WECAFC areas (including distant water fishing fleet vessels also registered under member countries in the WECAFC area).

Countries involved

All WECAFC countries

Data to be reported

Field	Definition
Flag State	The M49 UN code for the country (see appendix 1)
Year	Reference year for reporting
Quarter	<i>Optional, and for specific sub-sets (if available in the member country)⁽²⁾</i>
Area	See appendix 2.2 for regional subareas' definition
Species	See appendix 2.3 for the main commercial species (scientific name)
Retained Catch	<i>Optional: Weight of retained species (including landed catches or catches retained for other uses²²), for the given species in live weight equivalent (in tonnes) for the reference year or quarter</i>
Discarded Catch	<i>Optional: Weight of discarded species, for the given commercial species in live weight equivalent (in tonnes) for the reference year or quarter</i>
Nominal Catch per species	Weight of total landed fish for the given species in live weight equivalent (in tonnes)

Frequency and deadline of transmission

Once a year prior to the end of the first semester of the following year.

Data access and sharing rules (see section 3.2)

- *first submission accessible to Member country and FAO data manager for validation.*
- *integration of this submission in a wider dataset accessible to all Member Countries having submitted and FAO data manager, for validation of the call once all data are collected*
- *eventually publicly available*

²² The term 'retained catch' refers to the component of the catch which is retained on board the fishing vessel (including catches landed plus catches retained for other uses, such as consumption by the crew, utilization as bait, quantities for home consumption) and reported as the total live weight of fish and other organisms retained, and in some fisheries the number of individuals retained.

3.3.2 Task II: Catch and effort (e.g., landing data, catch data per species, fleet segment/geartype, effort)

Objective

Provide key fisheries monitoring data on Catch and Effort in support to management and stock assessment at either national or regional levels.

3.3.2.1 Task II.1: Catch

Description

Nominal catches (target and by-catch species), retained and discarded (dead and live) catch estimates, by fleet segment, [geartype], fishing areas, species, year; and related effort by fleet segment [and geartype].

Catches are defined in units of numbers as all the removed fish during the fishing activities whether targeted or taken as bycatch: Thus, the term “catches” encompasses retained fractions (supposedly all landed) and the discarded fraction (See definitions, section 2).

Catches are defined in weight units as the total weight of catches per species, area, fleet segment [and geartype], for the given year.

Weight is defined as the live equivalent (see appendix 3 for regional conversion factors - when available, national conversion factors should be shared with WECAFC).

It is acknowledged that discards are not collected in many countries in the WECAFC area. This is a target to be achieved. Reporting of discards is done on a “data availability” basis. Sampling resources should be put in place to collect these data as they are key for stock assessment and monitoring (see Section IV on biological data).

Scope

Recommended at the country level for species of basis level 1, 2 or 3 of the list of main species. If additional data are available for other species, these may be reported using the scientific name and the ASFIS 3 alpha code.

Catch and effort should be reported for all vessels flagged under member countries in the WECAFC areas (including distant water fishing fleet vessels also registered under member countries in the WECAFC area).

Recommended at Regional Database level for all species of basis level 1, 3 of the list of main species

Countries involved

All WECAFC countries.

Data to be reported

Field	Definition
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Country Flag State	The M49 UN code for the country (see appendix 1)
Year / Month	Reference year for reporting
Quarter / Month	<i>Optional, and for specific sub-sets that might be required at national level, or by specific WGs</i>
Fleet Segment	See appendix 2.1 for fleet segment definition
Gear type	<i>Optional, but recommended in particular for Multigear vessel categories of Fleet segment. See Appendix 2.5 for geartype codes from ISSCFG</i>
Fishing mode	See appendix 2.1 for fishing mode definition
Area	See appendix 2.2 for regional subareas' definition
Species	See appendix 2.3 for the main commercial species (scientific name)
Retained Catch	Weight of retained species (including landed catches or catches retained for other uses ²³), for the given species in live weight equivalent (in tonnes) for the reference year or quarter
Discarded Catch	Weight of discarded species, for the given commercial species in live weight equivalent (in tonnes) for the reference year or quarter
Nominal Catch	Weight of total landed fish for the given species in live weight equivalent (in tonnes)
<i>Fishery ?</i>	<i>Optional - FIRMS fishery identifier? See Appendix 5 for the list of WECAFC fisheries</i>

Frequency and deadline of transmission

Once a year prior to the end of the first semester /~~quarter~~ of the following year.

Data access and sharing rules (see section 3.2)

- first submission accessible to the Member country and FAO data manager for validation.
- integration of this submission in a wider dataset accessible to all Members of a specific Working Group [having submitted], and to the FAO data manager, for validation of the data call by the WG as a whole
- eventually publicly available (and possibly at aggregated level)

²³ The term 'retained catch' refers to the component of the catch which is retained on board the fishing vessel (including catches landed plus catches retained for other uses, such as consumption by the crew, utilization as bait, quantities for home consumption) and reported as the total live weight of fish and other organisms retained and in some fisheries the number of individuals retained.

3.3.2.2 Task II.2: Effort by fleet segment / geartype

Objective**Description**

Effort will reflect the fishing ~~national fleet~~ effort deployed during the reporting period associated with the ~~total retained~~ catches (and landings) in Task II.1.

Scope

Recommended **at the country level** for species **of basis level 1, 2 or 3** of the list of main species for all flagged fishing vessels actively fishing within the reference period in the WECAFC competence area.

Recommended at Regional Database level for all species of basis level 1, 3 of the list of main species

Countries involved

All WECAFC countries

Data to be collected

Field	Definition
Country	The M49 UN code for the country (see appendix 1)
Year	Reference year for reporting
<i>Quarter / Month</i>	<i>Optional (same as for Task II.1)</i>
Fleet Segment	See appendix 2.1 for fleet segment definition
Gear type	<i>Optional, but recommended in particular for Multigear vessel categories of Fleet segment.</i> See Appendix 2.5 for geartype codes from ISSCFG
Target species	<i>Optional</i> See Appendix 2.3 for the main commercial species (scientific name)
Fishing Mode	See Appendix 2.1 for fishing mode definition
Area	See Appendix 2.2 for regional subareas' definition
Days Fishing	Number of days spent fishing for the fleet segment for the reporting period
Nominal Effort	Value of Nominal effort per fleet segment and per area (see Appendices 2.1, 2.2 and 2.4)

<i>Fishery ?</i>	<i>Optional - FIRMS fishery identifier? See Appendix 5 for the list of WECAFC fisheries</i>
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Frequency and deadline of transmission

Once a year before the end of the first semester of the following year.

Data access and sharing rules (same as section 3.2)

3.3.3 Task III: Fleet

3.3.3.1 Task III.1: Fleet engaged by fishery primary gear

Objective

Provide first level fisheries monitoring data on Nominal Effort in support to management at either national or regional levels.

Description

Number of vessels engaged in the fishery (i.e. active) by year, by fleet segment and by fishing area and time unit. The fishery can be identified by the predominant gear type, and/or the FIRMS fishery identifier.

Scope

Recommended at the country level for all species of basis level 1, 2 or 3 of the list of main species for all flagged fishing vessels actively fishing within the reference period in the WECAFC competence area.

Recommended at Regional Database level for all species of basis level 1, 3 of the list of main species

Countries involved

All WECAFC countries

Data

Field	Definition
Flag State Country	The M49 UN code for the country (see appendix 1)
Year	Reference year for reporting
Fleet Segment	See Appendix 2.1 for Fleet segment classification
Gear type ?	Optional - Predominant / primary gear See Appendix 2.5 for gear type codes from ISSCFG
Target species	Optional - See Appendix 2.3 for the main commercial species (scientific name)
Area	See Appendix 2.2 for regional subareas' definition
Number	Number of active vessels for the considered Fleet segment during the reference year
Fishery ?	Optional - FIRMS fishery identifier? See Appendix 5 for the list of WECAFC fisheries

Frequency and deadline of transmission

Once a year before the end of the first semester of the following year.

Data access and sharing rules (see section 3.2)

- *first submission accessible to the Member country and FAO data manager for validation.*
- *integration of this submission in a wider dataset accessible to all Members of a specific Working Group having submitted, and to the FAO data manager, for validation of the data call by the WG as a whole*
- *eventually publicly available (and possibly at aggregated level)*

3.3.3.2 Task III.2: Vessel registry

Provision has been made in the regional fishery management plan to create a regional vessel registry fed by the national vessel records or registries.

The minimum set of information required is as recommended by the WECAFC IUU working in its second meeting (Barbados, Sept 2017):

Vessel information	Mandatory / Optional	Definition
Unique identifier		WECAFC vessel unique identifier
Name	M	Current Vessel Name
Registration Number	M	National Vessel Registration Number
Home Port (Registration Port)	M	Vessel Home Port Name
Owner(s)	M	Name of the current vessel owners
Flag	M	Current Vessel Flag (country of vessel registration)
Operational status	M	Is the status of the vessel: active, decommissioned, sunk etc...
IMO (*)	O	International Maritime Organization Number
IRCS (*)	M	International Radio Call Sign
LOA (m) (*)	M	Length OverAll is the maximum length of a vessel's hull measured parallel to the waterline ²⁴
Draft (m)	O	Is the vertical distance from the bottom of the keel to the waterline.
Beam (m)	O	is the width of the hull
GT (t) (*)	O	Gross Tonnage
GRT (t) (*)	O	Gross Registered Tonnage
Main engine Power (kW)	M	Power of the vessel main engine (in-board or outboard)

²⁴ *Launer, Donald (2006). [Dictionary of Nautical Acronyms and Abbreviations](https://books.google.com/books?id=9_7ycOuv6a4C&pg=PA64&dq=LOA+length+overall+LOD+donald#v=onepage&q&f=false). Sheridan House, Inc. p. 64. ISBN 978-1-57409-239-4*

See

https://books.google.com/books?id=9_7ycOuv6a4C&pg=PA64&dq=LOA+length+overall+LOD+donald#v=onepage&q&f=false

Hull type	O	Type of the watertight body of the vessel (steel, aluminum, fiber glass, wood,
Vessel Type	M	Type of fishing vessel according to the ISSCFV
Year of construction	M	Year of the original vessel construction
Location of construction	O	Location of the vessel shipyard
Image	M	Image of the vessel (with registration number)
Previous flag(s)	O	Previous country(ies) of vessel registration
Previous name	O	Previous vessel name
Beneficial owner	O	Name of the vessel beneficial owner
Year of entry into fishing activity	O	The year in which the vessel commenced its fishing activity
Year	O	Reference Year for Reporting
Actually active	O	Indicator Y or N ; information from Registry/License, or from census
Authorization to fish (licence indicator)	O	Any authorization to fish, e.g. licence, permit or any other official denomination; indicator Y/N
Main fishing gear used	O	The main gear, according to the fishing licence of the vessel or the owner/operator, <i>using the Appendix 2.5 for gear type codes from ISSCFG</i>
Secondary fishing gear	O	The secondary gear, according to the fishing licence of the vessel or the owner/operator, <i>using the Appendix 2.5 for gear type codes from ISSCFG</i>
Third fishing gear	O	The tertiary gear, according to the fishing licence of the vessel or the owner/operator, <i>using the Appendix 2.5 for gear type codes from ISSCFG</i>

3.3.4 Task IV: Biological information

Objective

Biological data are key to population dynamic studies, regional or national stock assessment in support to fisheries management, stock status determination e.g. in the context of indicator SDG14.4.1.



3.3.4.1 Task IV.1: Size data

Objective:

Monitor the structure of exploited populations based on samples of length frequencies;
Monitoring the biological rates and dynamics of the exploited species, with other biological data such as sex or maturity stage.

Description

Size frequencies of the samples (retained and discarded) measured for each species, classified by major fleet, gear sample units, time strata, area strata, and sex (where possible and relevant) for select species from the Main List of Species for selected subareas.

(where appropriate for selected species) sex with the stage of maturity.

It is acknowledged that discards are not collected in many countries in the WECAFC area. This is a target to be achieved. Reporting of discards is done on a “data availability” basis. Effort should be put in place to collect these biological data for some portion of the numbers discarded as they are key for stock assessment and monitoring.

Note: this Task describes the overall list of fields with reference to statistical standards. The species Working Groups will be requested to further tailor the description of the Task for their specific needs.

Scope

Recommendation 1: at the country level for species at basis levels 1, 2, or 3 from the List of Main species, and any additional species which undergo occasional stock status determination (e.g. national reference list of stocks for indicator SDG14.4.1) .

Recommendation 2: at WECAFC Regional Database level, as per specification of WECAFC-CRFM-OSPESCA working groups for selected species (basis 1, basis 2?) and subareas



Countries involved

All WECAFC countries when data are available.

Data to be reported

Field	Definition
Flag State Country	The M49 UN code for the country (see appendix 1)
Year	Reference year for reporting
<i>Quarter/Month</i>	Optional: by quarter or month if available
Fleet Segment	See appendix 2.1 for fleet segment definition and 2.2 for gear
<i>Gear type (detailed)</i>	<i>(Optional) could be added as a dimension if the classification is defined (see question below); See Appendix 2.5 for gear type codes from ISSCFG</i>
Fishing mode	See appendix 2.1 for fishing mode definition
Area	See appendix 2.2 for regional subareas' definition
Source of data	Source of data: Port sampling from scientists (PS) or Scientific Research Survey (SU), Observer (OBS), Self-reported

Species	See appendix 2.3 for the main commercial species (Scientific name)
Total Retained Catch (weight)	Weight of retained species, for the given commercial species in live weight equivalent (in tonnes)
Total discarded catch	Amount of catch discarded and not brought to landings site, Total number of discarded species, for the given commercial species in live weight equivalent (in tonnes). Use NA if discards were not recorded, and 0 if discards were actually zero and no catch was discarded.
Total weight of samples	Weight of sampled species and number in the sample
Length class interval	Length class and intervals of size 1cm as specified in Appendix X,... Convention for length type and interval identity to be further specified.
Sex	sex with the stage of maturity where appropriate for selected species (male = M, female = F, total = T, unknown = U) -- total catch observations = T, but allows separation by sex if available
Maturity stage	stage of maturity where appropriate
Maturity scale	(e.g. stage 1 on a scale 1 – 5 or 1 on a scale 0-1 as specified in Appendix X)
Number of individuals by class	Total number of fish in the sample for the given length class and (where appropriate for selected species) sex with the stage of maturity
Total weight of Individuals by size class	Total weights of individuals in length class and (where appropriate for selected species) sex with the stage of maturity, + indicate unit (e.g. grams or kilograms).

Frequency and deadline of transmission

Once a year before the end of the first semester of the following year.

Data access and sharing rules (see section 3.2)

Question for reviewers FDS-WG:

Geartype is added as an optional dimension if classification of gear type by characteristics can be provided (gillnet net by mesh size, longline by group of number of hooks etc...).

Can such classification be defined at regional level for the whole WECAFC area ?

If not, would it be better to add this information as metadata to the reported data (i.e. an additional information attached to the table, describing the gear characteristics ?)

3.3.4.2 Task IV.2: Catch at Size data

Objective:

Monitor the structure of exploited populations based on length frequencies;

Monitoring the biological rates and dynamics of the exploited species, with other biological data such as sex or maturity stage.

Description

This task originates and is an aggregated level of Task IV.1 however acknowledging that varying constraints may prevent countries from submitting at Task IV. 1 level, thus IV.2 provisions for countries reporting statistics as the extrapolated level. Reported catch at size (raised to Task II Catch data) classified by fleet segment, geartype, species, time unit, area and (where appropriate for selected species) sex with the stage of maturity.

Scope

Recommendation 1: at Country level, for species at basis levels 1, 2, or 3 from the List of Main species, and any additional species which undergo occasional stock status determination (e.g. national reference list of stocks for indicator SDG14.4.1) .

Recommendation 2: at WECAFC Regional Database level as per specification of WECAFC-CRFM-OSPESCA working groups for selected species (basis 1, basis 2?) and subareas

Countries involved

All WECAFC countries

Data to be reported

Field	Definition
Country	The M49 UN code for the country (see appendix 1)
Year	Reference year for reporting
<i>Quarter/Month</i>	Optional: by quarter or month if available
Fleet Segment	See appendix 2.1 for fleet segment definition
<i>Geartype (detailed)</i>	<i>(Optional) could be added as a dimension if the classification is defined (see question below); See Appendix 2.5 for geartype codes from ISSCFG</i>
Fishing mode	See appendix 2.1 for fishing mode definition
Area	See appendix 2.2 for regional subareas' definition
Species	See appendix 2.3 for the main commercial species (Scientific name)
Length Class	Total catch by Length class in 1 cm units and sex Length class in 1 cm units
Sex	Sex where appropriate for selected species (male = M, female = F, total = T, unknown = U) -- total catch observations = T, but allows separation by sex if available
Stage of Maturity	stage of maturity where appropriate for selected species (<i>as specified in Appendix X per species, see below</i>)
Total Weight of Individuals by length class	Total weight of individuals in length class ² and (where appropriate for selected species) sex with the stage of maturity, + indicate units (e.g. grams or kilograms).
Total Catch	Total number of individuals (raised to task II total catch) for length of the entire catch by fleet, geartype, Year/Quarter/Month, area

Frequency and deadline of transmission

Once a year before the end of the first semester of the following year.

Data access and sharing rules (see section 3.2)

Question for reviewers FDS-WG:

same question regarding geartype as above.

There is a need to define a regional reference list of stage of maturity per species. Advice expected from the Species Working Groups

3.3.5 Task V: Endangered, Threatened, Protected (ETP) species catches

Objective**Description**

These discards resulting from endangered, threatened or protected species catches are reported (see appendix 2.1).

Scope

Recommended for all species in the list of main species

Countries involved

All WECAFC countries when data are available

Data to be reported

Field	Definition
Flag State Country	The M49 UN code for the country (see appendix 1)
Year	Reference year for reporting
<i>Quarter/Month</i>	Optional: by quarter or month if available
Fleet Segment	See appendix 2.1 for fleet segment definition
Gear type	See Appendix 2.5 for geartype codes from ISSCFG
Fishing mode	See appendix 2.1 for fishing mode definition
Area	See appendix 2.2 for regional subareas' definition
Species	See appendix 2.3 for ETP species (Scientific name)
Landings (in numbers or weight as appropriate)	Number and estimated weight landed
Number of discards alive (in numbers or weight as appropriate)	Number of discards and estimated weight for alive fish
Number of discards dead (in numbers or weight as appropriate)	Number of discards and estimated weight for dead fish

Frequency and deadline of transmission

Once a year before the end of the first semester of the following year.

Data access and sharing rules (see section 3.2)

3.3.6 Task VI: Socio economics

Objective

Monitor the economic and social status of the fishing sector in support to appropriate policies and strategies, especially in relation to promoting fishing as a source of livelihoods thanks to the long-term sustainability of resources and fleets.

Economic and social data are generally collected through sampling surveys using questionnaires, but for some fleet segments and some variables, other data sources could be used (e.g. administrative records, auction sales, and census)

3.3.6.1 Task VI.1: Employment

Objective

Employment in the fishery sector is a useful indicator of the importance of the fishery sector in the region, with specific attention is to be paid to gender, youth, decent/child labour, and more generally to the dynamics of populations engaged in fishing activities (primary production sector).

Description

This indicator addresses the primary fishery production sector and aims to present the total number of fishers by sex gender (male / female), age group, time-use category (fully-employed full time employment or part time employment ones), by the major fleet, and area for the reference year.

Age groups are set according to the ILO guidelines “Decent work indicators: for producers and users of statistical and legal framework indicators”, with categories <15 (for child labour); 15-24 (for youth employment); 24-65; >65

Country Members provides along with the data the related metadata qualifying what is a full-time fisher and part-time one.

Scope**Countries involved**

All WECAFC countries

Data to be reported

Field	Definition
Country	The M49 UN code for the country (see appendix 1)
Year	Reference year for reporting
Area	See appendix 2.2 for regional subareas' definition
Gender Sex	Male or Female

Age Group	0-18 / 18 - 65 / >65 0-15 / 15-24 / 24-65 / >65
Category	Full-time fisher / part-time fisher
Count of fishers	Number of fishers for the specified gender sex / age group / time-use category / (excluding workers in secondary sector)

Frequency and deadline of transmission

Once a year before the end of the first semester of the following year.

Data access and sharing rules (see section 3.2)

- *First submission accessible to Member country and FAO data manager for validation.*
- *integration of this submission in a wider dataset accessible to all Member Countries having submitted and FAO data manager, for validation of the call once all data are collected*
- *eventually publicly available*

3.3.6.2 Task VI.2: Participation in fishing activities

Objective

Foundation for assessing the engagement of fishers by fishery (particularly important for hand collection from shore), the productivity of manpower and the assessment of individual income levels.

Description

~~First draft:~~ The intensity of employment for fishers actively engaged in fishing activities, measured in numbers of persons and total number of days spent fishing.

Scope

Countries involved

All WECAFC countries

Data to be reported

Field	Definition
Country	The M49 UN code for the country (see appendix 1)
Year	Reference year for reporting
Quarter/Month	Optional: by quarter or month if available
Fleet Segment	See appendix 2.1 for fleet segment definition
<i>Geartype</i>	<i>Optional - See Appendix 2.5 for geartype codes from ISSCFG</i>
<i>Fishing mode</i>	<i>Optional - See appendix 2.1 for fishing mode definition</i>
Area	See appendix 2.2 for regional subareas' definition
Count of fishersfolks	Number of fishersfolks actively taking part to fishing activities
Count of fishersfolks x days fishing	Number of fishers multiplied by number of fishing days (intensity of fishersfolks involvement in fishing activities)
<i>Fishery ?</i>	<i>Optional - FIRMS fishery identifier? See Appendix 5 for the list of WECAFC fisheries</i>

Frequency and deadline of transmission

Once a year before the end of the first semester of the following year.

Data access and sharing rules (see section 3.2)

- *First submission accessible to Member country and FAO data manager for validation.*
- *integration of this submission in a wider dataset accessible to all Member Countries having submitted and FAO data manager, for validation of the call once all data are collected*
- *eventually publicly available*

3.3.6.3 Task VI.3: Value of catches

Important note: this item, not presented nor discussed at the first FDS-WG, is added for the sake of completeness and in order to receive feedback from WECAFC stakeholders on whether the value aspect should be part of the DCRF. There is increasing global policy demand for this data, and CWP has added at its 26th session (May 2019) is in the process of adding this variable as part of the minimum data requirement for socio-economic statistics.

Objective

Assessment of the total income of the primary fishing sector and its contribution to national GDP e.g. for SDG indicator 14.7.1, trends analysis of average annual prices for commercial species; also a foundation for the assessment of the fleet socio-economic performance.

Description

The price value of capture fisheries production at first sale after landing of the catch (ex-vessel price), and the average value of species' prices/kg, in US\$, converted from local currencies available for conversion in US\$ using appropriate average annual exchange rates. The value should exclude taxes, transportation costs and marketing expenses, and the profit of fishers. The concept of the ex-vessel price in some countries can correspond to the landed value and of first-hand selling (or first sale) price.

Scope

Recommended at the country level for species at basis levels 1, 2, or 3 from belonging to the list of main species.

Countries involved

All WECAFC countries

Data to be reported

(to be defined – very first draft)

Field	Definition
Flag State Country	The M49 UN code for the country (see appendix 1)
Year	Reference year for reporting
Species	See appendix 2.3 for the main commercial species (scientific name)
Total nominal catch	Weight of total landed fish for the given species in live weight equivalent (in tonnes).
Unit price by species	The average value of species' prices (price/kg) during the reference year (in local currency) - (converted into US\$ in the regional database)
Value	Total monetary value of total landed fish for the given species (in local currency) - (converted into US\$ in the regional database)
Currency	The International Standard for currency codes ISO 4217 (e.g. USD for US dollar)

Frequency and deadline of transmission

Once a year before the end of the first semester of the following year.

Data access and sharing rules (see section 3.2)

(to be defined)

4 Appendix

- **Appendix 1: List of WECAFC countries codes (M49²⁵) for flag states**

FAO and CWP are advising to use the M49 classification as Global standard for Countries and Territories.

Name	M49 code
Anguilla	660
Antigua and Barbuda	028
Bahamas	044
Barbados	052
Belize	084
Brazil	076
Colombia	170
Costa Rica	188
Cuba	192
Dominica	212
Dominican Republic	214
France	250
Grenada	308
Guadeloupe	312
Guatemala	320

²⁵ <https://unstats.un.org/unsd/methodology/m49/>
CWP FAO countries code list: <http://www.fao.org/3/bt978e/bt978e.pdf>

Guinea	324
Guyana	328
French Guyana	254
Haiti	332
Honduras	340
Jamaica	388
Japan	392
Martinique	474
Mexico	484
Netherlands	528
Nicaragua	558
Panama	591
Republic of Korea	410
Saint-Barthélemy &	652
Saint Kitts and Nevis	659
Saint Lucia	662
Saint-Martin (French Part)	663
Saint Vincent/Grenadines	670
Spain	724
Suriname	740
Trinidad and Tobago	780
United Kingdom	826
United States of America	840
Rep of Venezuela.	862

■ Appendix 2: WECAFC Standard Classifications

■ Appendix 2.1: Fleet segment / vessel type

We recalled here the conclusion on vessel type of the first Working Party on Statistics meeting (1978):

“ The Working Party examined the International Standard Statistical Classification of Fishing Vessels (ISSCFV) by GRT categories and by HP categories. It was felt that while these categories would be helpful for classification of larger vessels, they may not be practicable for smaller vessels engaged in artisanal fishery which were very important in this area. It was, therefore recommended by the Working Party that the vessels of 5 tons or less should be classified by length instead of tonnage indicating the hp if the vessels are motorized.”

The challenge is to define the small-scale vessel type given the diversity of type of vessels. The goal here is to be able to give a standard reference to collect data to compute CPUE with comparable unit of effort at regional level.

If we refer to the definition proposed by Haughton, 2005, to define small-scale fisheries in the Caribbean, *“fisheries involving individuals, households, small fishing companies, or fisherfolk organisations using relatively small, unsophisticated fishing vessels, if any, under 20 m LOA, powered by engines not exceeding 300 hp, operating relatively close to shore, and producing fish for local consumption and/or for export.”*, it should provide some indications on a tentative classification.

All vessels above 20m should be considered industrial as per the above definition, in line with ICCAT vessel class definition²⁶. The international classification defines a size class 12-18 and 18-24m and thus must also be considered.

For industrial fleet, as all Caribbean countries report to FAO for their fleet, the ISSCFV can be used. Two classifications exist:

- one per gross tonnage class (<http://www.fao.org/3/a-bt982e.pdf>)
- and one per vessel type (based on the gear type used: <http://www.fao.org/3/a-bt983e.pdf>)

To accommodate both regional and international fisheries organizations classifications, the following fleet segments are proposed by the 1st WG-FDS²⁷:

²⁶ http://www.iccat.int/Documents/Comply/vessels_ENG.pdf

²⁷ ~~Add reference to report when published~~ <http://www.fao.org/3/ca5695b/ca5695b.pdf>

1. Fleet segment by size (the codes for the fleet segments are in the greyed out cell range)

VESSEL TYPE			LENGTH CLASS				
CODE	STAND . ABB.	NAME	<6m (18.9 ft.)	6 m – 11.9 m (19 – 38.9 ft.)	12 to 19.9 m (39 – 64.9 ft.)	20 to 24 m (65 – 78.4 ft.)	>24 m (78.5 ft.)
1	TO	Trawlers	TO-1	TO-2	TO-3	TO-4	TO-5
2	SP	Purse seiners	SP-1	SP-2	SP-3	SP-4	SP-5
3	SO	Other seiners	SO-1	SO-2	SO-3	SO-4	SO-5
4	DO	Dredgers	DO-1	DO-2	DO-3	DO-4	DO-5
6	GO	Gill netters	GO-1	GO-2	GO-3	GO-4	GO-5
7	WO	Trap setters	WO-1	WO-2	WO-3	WO-4	WO-5
8	LL	Long liners	LL-1	LL-2	LL-3	LL-4	LL-5
9	LO	Line vessels (other)	LO-1	LO-2	LO-3	LO-4	LO-5
9.2	LP	Pole and line vessels	LOX-1 LP-1	LOX-2 LP-2	LOX-3 LP-3	LOX-4 LP-4	LOX-5 LP-5
9.3	LT	Trollers	LT-1	LT-2	LT-3	LT-4	LT-5
9.4	LH	Hand liner vessels	LH-1	LH-2	LH-3	LH-4	LH-5
10.2	MTW	Multigear (or Multipurpose) trawlers (in combination with longline, trap, gillnet, dredge)	MTW-1	MTW-2	MTW-3	MTW-4	MTW-5
10.3	MLG	Multigear (or Multipurpose) non trawlers (longline, gillnet, trap)	MLG-1	MLG-2	MLG-3	MLG-4	MLG-5
19	OV	Other fishing vessels	OV-1	OV-2	OV-3	OV-4	OV-5
20	HO	Motherships	HO-1	HO-2	HO-3	HO-4	HO-5
19.9.1 (1)	OVN ⁽¹⁾	Non-motorized Vessels	OVN -1	OVN -2	OVN -3	OVN -4	OVN -5
99	NOV	No vessel (fishing from shore)	-	-	-	-	-

⁽¹⁾ Not in the FAO classification – needed for regional classification. Will be considered as FX if needed

2. Fishing Modes

Fishing mode classification will complement the **Geartype vessel type for enhanced fishing effort definition, e.g.** to consider **the use of FAD in tuna line fishing**, or certain fishing techniques like **diving or hand collection from shore**. The proposal for FAD is taken from the recommendation of the March 2018 tuna RFMOs meeting in Rome²⁸.

The proposed classification is the following.

Code	Name	Description
N/A	n-a	Not applicable
ALL	All	All fishing modes reported together
FREE	Free	Fishing on free school, no FAD use
ASSO	Associated	Fishing on FAD associated school
DIVE	Diving	Fishing with one or more divers
HAND	Hand	Hand collection by fishers without vessels

3. Fleet Segment mapping for WECAFC Member countries

The table below should be filled out by the WECAFC Country Members to map their classification to the regional one.

Instructions:

The empty cell should be filled out with the country's vessel local name.

The same name can be repeated for different length classes if relevant.

When the fleet segment is not present in the country, please write N/A

Template for Fleet segment–vessel–mapping with the regional classification

COUNTRY :			Length class				
CODE	STAND . ABB.	VESSEL TYPE	+D: decked +U: undecked				
			<6m (18.9 ft.)	6 m – 11.9 m (19 – 38.9 ft.)	12 to 19.9 m (39 – 64.9 ft.)	20 to 23.9 m (65 – 78.4 ft.)	>=24 m (78.5 ft.)
1	TO	Trawlers http://www.fao.org/fishery/vesseltype/10/en					
2	SP	Purse seiners http://www.fao.org/fishery/vesseltype/140/en					
3	SO	Other seiners http://www.fao.org/fishery/vesseltype/700/en					
4	DO	Dredgers					

²⁸ Add link to report – not yet published.

		http://www.fao.org/fishery/vesseltype/440/en					
6	GO	Gill netters http://www.fao.org/fishery/vesseltype/200/en					
7	WO	Trap setters http://www.fao.org/fishery/vesseltype/230/en					
8	LL	Long liners http://www.fao.org/fishery/vesseltype/260/en					
9	LO	Line Vessels(others)					
9.2	LP	Pole and line vessels http://www.fao.org/fishery/vesseltype/350/en					
9.3	LT	Trollers http://www.fao.org/fishery/vesseltype/360/en					
9.4	LH	Hand liner vessels http://www.fao.org/fishery/vesseltype/340/en					
10.2	MTW	Multi-gear trawler vessels					
10.3	MLG	Multi-gear non-trawler vessels http://www.fao.org/fishery/vesseltype/380/en					
19	OV	Other fishing vessels					
20	HO	Motherships					
19.9.1 ⁽¹⁾	OVN ⁽¹⁾	Non-motorized Vessels					
99	NOV-	No vessel (fishing from shore)					

Guidelines for mapping:

For mapping purposes, the Vessel type category is to be considered for local vessel types either using gears exclusively or using gears predominantly.

⁽¹⁾ Non standard ISSCFV classification

■ **Appendix 2.2: Spatial units for fishing zones**

Important note: in this version of DCRF, this section has not been revised and is same as presented at the first FDS-WG. It will be revised in a forthcoming version with the results of investigations to be conducted as per the directions provided by FDS-WG1.

The definition of the spatial units for fishing zones is a challenge.

2 options could be considered:

- Option 1 is the definition of FAO sub areas for the Major Fishing Area 31. The appendix 2.4 recalls below the proposals made in 1978 and 1994 for such sub areas.
- Option 2 is a grid on the model of NOAA (1°x1° grid for the southeast Coastal fisheries Trip Report²⁹ or 2.5°x2.5° for US Caribbean fisheries) or RFMOs such as IOTC (5°x5° or 1°x1° depending on species³⁰).

These two options could be complementary. The first one could lay the path to a more precise geospatial referencing of catches for species with a fishery management plan.

1. Option 1 for geospatial units: New Statistical Subareas For The Major Fishing Area 31 (1978 proposal)

In 1978, a first proposal was presented to the WECAFC Working Party on Statistics.

The excerpt below details the different sub areas and sub divisions proposed. This has to be understood in the light of the 1978 geopolitical context (Please note that some of the British Overseas Territories are now independent states).

From the 1978 report: “

The Working Party reviewed the proposal of sub-areas as presented in the document WECAFC: ST 1/78/6. It was agreed that national jurisdictions should be adopted as the basic subdivisions of the fishing area for the purpose of fishery statistics with the national zones of the larger countries further subdivided as appropriate Adjustments may be needed in the future in the light of circumstances.

Bahamas

Barbados

Brazil: Some subdivision will have to be considered, if necessary.

Colombia: On biological grounds, the Colombian zone could be divided into three sectors, namely:

- (i) the continental coast from the border of Venezuela. westward to the meridian at 74°10'W
- (ii) the coast from this point westward to Panama

²⁹ https://www.sefsc.noaa.gov/docs/2015_coastal_logbook.pdf - page 6

³⁰ www.iotc.org/sites/default/files/documents/data/Guidelines%20Data%20Reporting%20IOTC.pdf pages 12-15

(iii) waters around the islands of Providencia and San Andrés and the various oceanic cays under Colombian jurisdiction in that vicinity.

Cuba: The Cuban zone could be divided into two sectors:

- (i) the Gulf of Guacanayabo, bounded by the coast to the north and east by the meridian at 80°W to the west, and by the parallel at 20°N to the south
- (ii) the remainder of the Cuban zone.

Dominican Republic

France: There are three distinct French areas in the region:

- (i) French Guyana
- (ii) Guadeloupe and dependencies
- (iii) Martinique

Grenada

Guatemala

Guyana

Haiti

Honduras

Jamaica

Mexico: For practical reason, it is most convenient to adopt the coastlines of the states along Mexico's east coast as statistical subdivisions. From north to south, these are:

- (i) Tamaulipas
- (ii) Veracruz
- (iii) Tabasco
- (iv) Campeche
- (v) Yucatan
- { vi) Quintana Roo

Netherlands: Two distinct groups of islands are associated with the Netherlands:

- (i) St. Martin, Saba, St. Eustatius
- (ii) Aruba, Curaçao, Bonaire

Nicaragua

Panama

Suriname

Trinidad and Tobago

United Kingdom: There are a number of British dependencies in the region, which for statistical purposes could be grouped as follows:

- (i) Anguilla, Sombbrero
- (ii) Antigua, Barbuda, Redonda
- (iii) Belize
- (iv) Bermudas
- (v) British Virgin Islands
- (vi) Cayman Islands
- (vii) Dominica
- (viii) Montserrat

- (ix) St. Kitts, Nevis
- (x) St. Lucia
- (xi) St. Vincent
- (xii) Turks and Caicos Islands

United States: The mainland coast and Caribbean dependencies could be divided as follows:

- (i) the mainland coast from the northern boundary of the WECAFC region at 35°N southward to 26°N on the east coast of Florida, this parallel extending seaward as a boundary
- (ii) from this point, around the coast of Florida to 87°W, this meridian extending seaward as a boundary
- (iii) from this point westward to the mouth of the Mississippi River (South Pass) at about 89°W , the next boundary
- (iv) from this point, westward to 94°W, the next boundary
- (v) from this point, west and then south along the coast of Texas to the northern boundary of Mexico
- (vi) Puerto Rico
- (vii) U.S. Virgin Islands

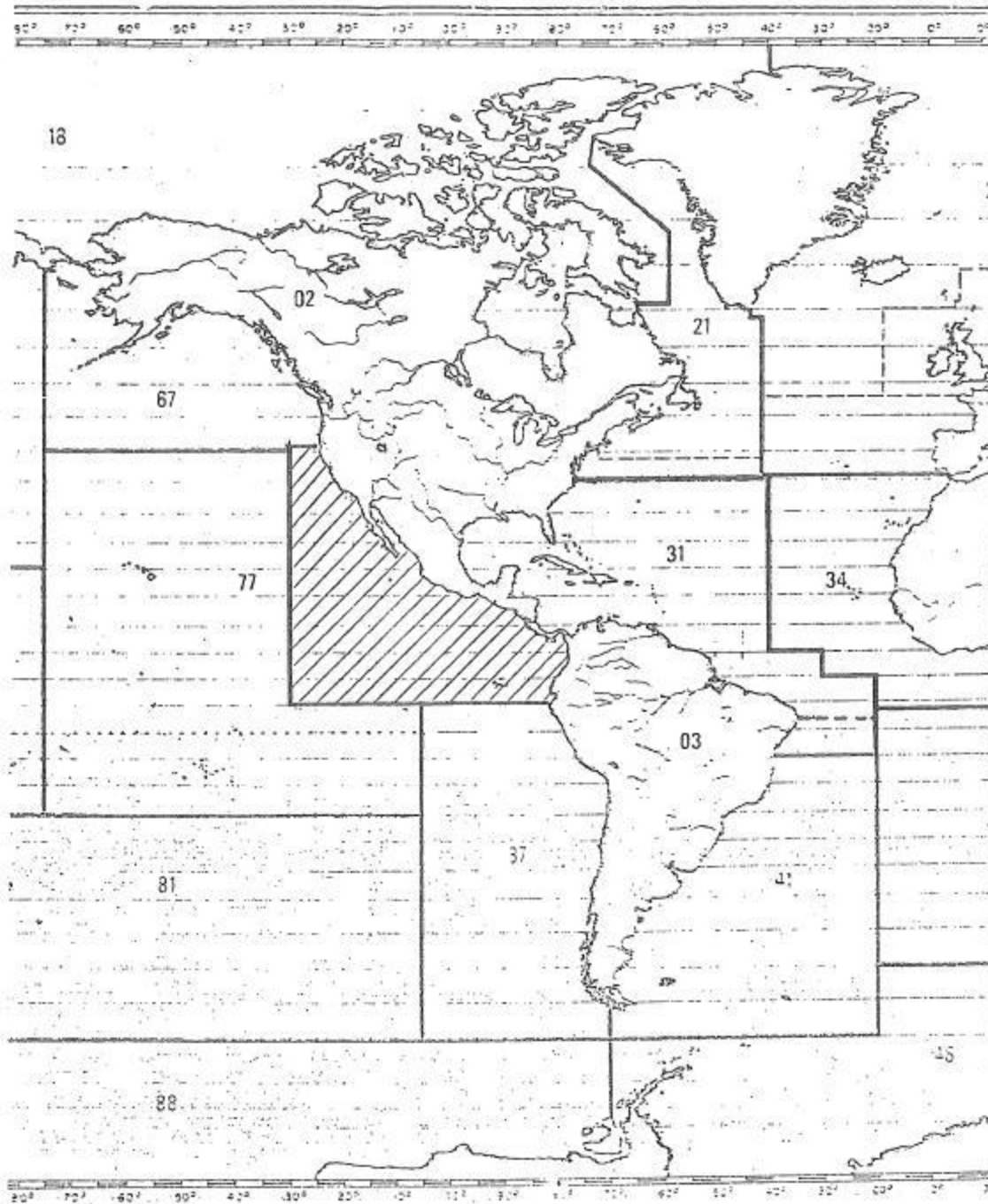
Venezuela: The three subdivisions of the Venezuelan coast recommended previously for shrimp statistics would serve as well for fish. From west to east, these are:

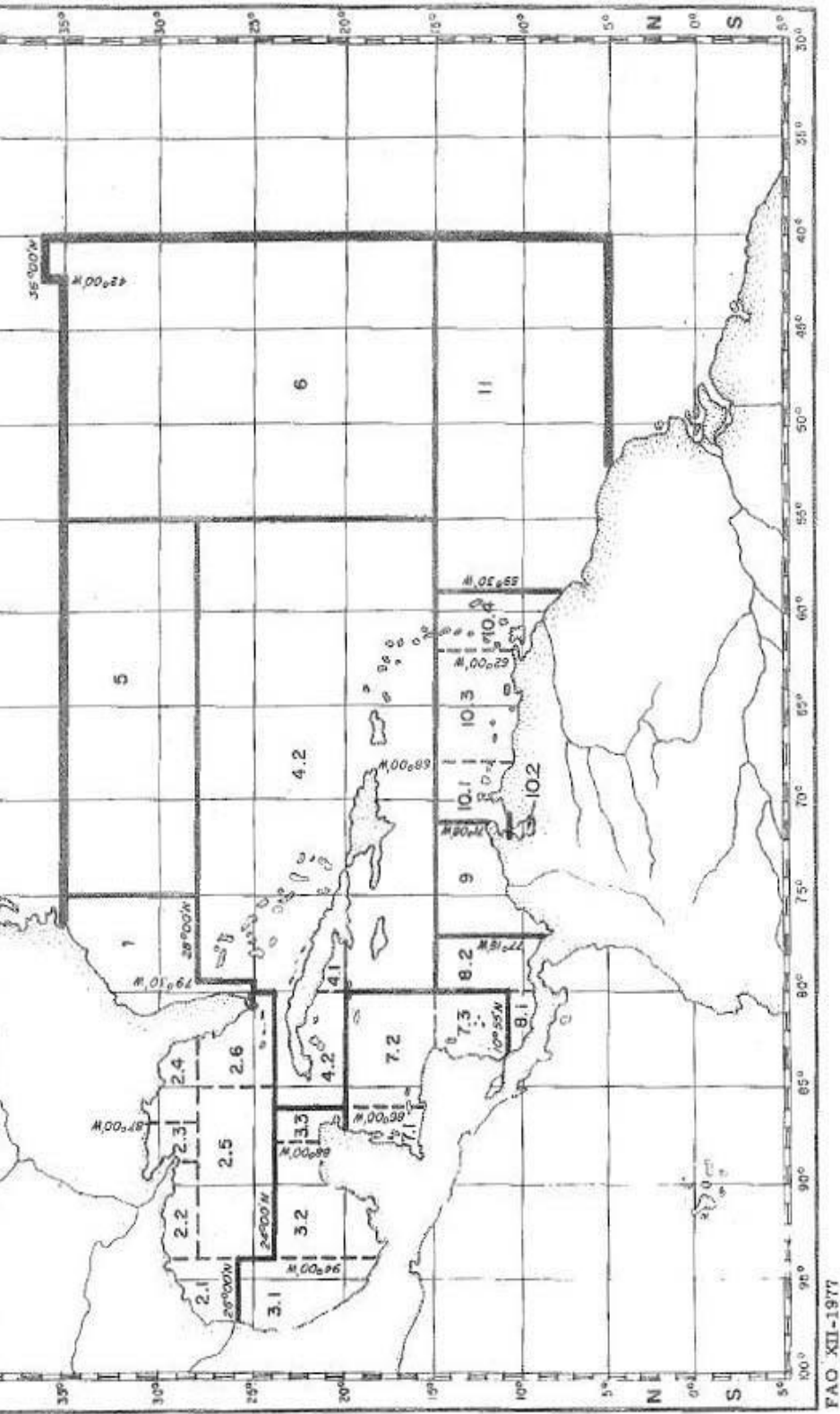
- (i) from the land and sea boundary with Colombia, eastward to the meridian at 68°W
- (ii) from this meridian eastward to the meridian at 62°W
- (iii) from this meridian eastward to the land and sea boundary with Guyana

The proposed subareas and division codes are:

- 31.1 USA Atlantic Coast subarea
- 31.2 Northern Gulf of Mexico subarea
- 31.2.1 Texas Division
- 31.2.2 Louisiana Division
- 31.2.3 Mobile Division
- 31.2.4 Alapachicola division
- 31.2.5 Central division
- 31.2.6 Sanibel division
- 31.3 Southern Gulf of Mexico subarea
- 31.3.1 Tampico division
- 31.3.2 Campeche division
- 31.3.3 Contoy division
- 31.4 West Indies subarea
- 31.4.1 Cuba, southeast shelf division
- 31.4.2 West Indies division
- 31.5 Bermuda subarea
- 31.6 Oceanic subarea
- 31.7 Yucatan / Nicaragua subarea
- 31.7.1 Belize division
- 31.7.2 Honduras division
- 31.7.3 Nicaragua division

31.8	Costa Rica / Panama subarea
31.8.1	Costa Rica division
31.8.2	Panama division
31.9	Colombia division
31.10	Venezuela division
31.10.1	Gulf of Venezuela division
31.10.2	Lake Maracaibo division
31.10.3	Venezuelan, east coast division
31.10.4	Paria division
31.11	Guyana subarea
31.00.9	Division not known





2. WECAFC Working Party on Assessment of Marine Fishery Resources (WPAMSR) proposal for sub areas

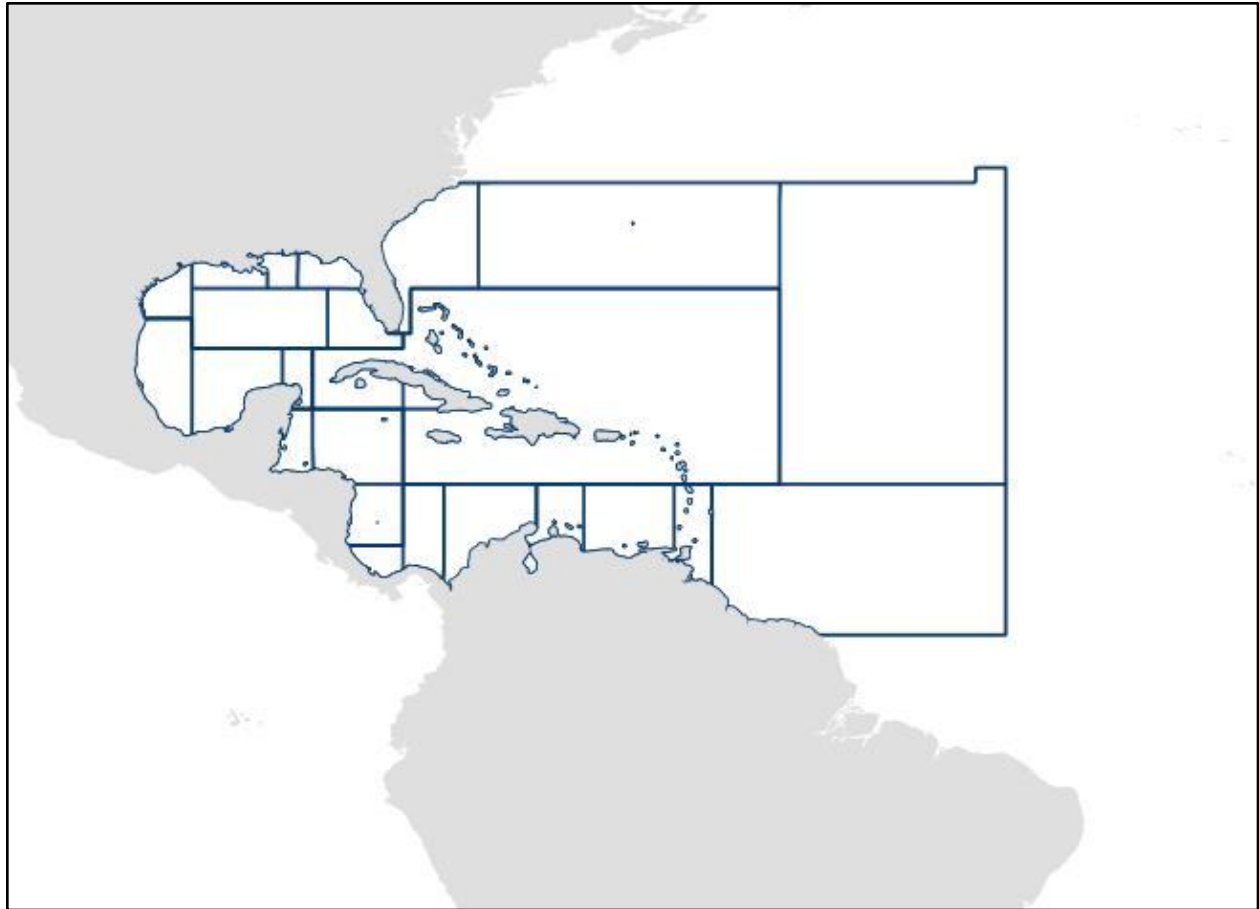
Area 31 sub areas definition (WECAFC, 1990) was refined and proposed by the Working Party on Assessment of Marine Fishery Resources (6th session, 15-19 may 1989).

- 31.1 USA Atlantic Coast
- 31.2 Northern Gulf of Mexico
- 31.3 Southern Gulf of Mexico
- 31.4 West Indies
- 31.5 Bermuda
- 31.6 Oceania
- 31.7 Yucatan / Nicaragua
- 31.8 Costa Rica/Panama
- 31.9 Colombia
- 31.10 Venezuela
- 31.11 Guyana

These are in line with the 1978 proposal.

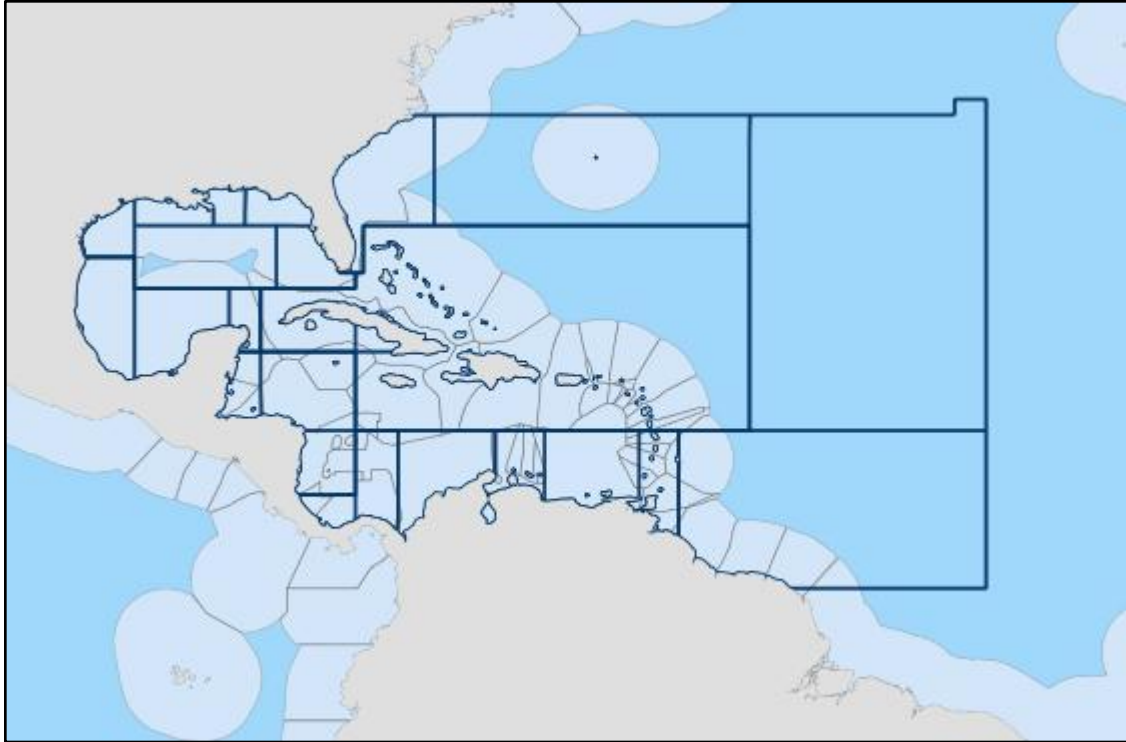
Here is the interactive representation of the WECAFC proposed sub areas:

http://www.fao.org/figis/geoserver/fifao/wms?service=WMS&version=1.1.0&request=GetMap&layers=fifao:FAO_AREAS_ERASE,fifao:UN_CONTINENT2&styles=&bbox=-100.0,-10.0,-35.0,40.0&width=1320&height=660&srs=EPSG:4326&format=application/openlayers&cql_filter=F_AR EA=31;INCLUDE



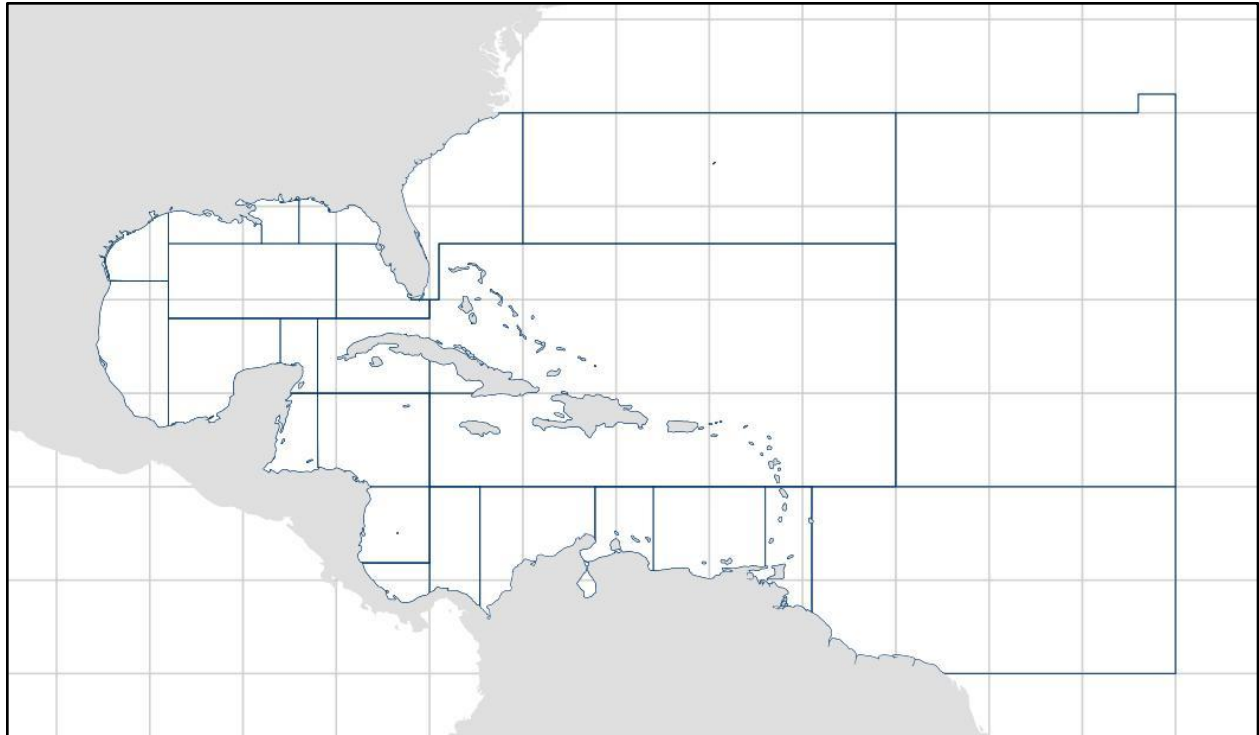
The below figures show a possible implementation with even more detailed sub-areas (reflected EEZ). This is a non-official representation of these possible sub areas as proposal

http://www.fao.org/figis/geoserver/fifao/wms?service=WMS&version=1.1.0&request=GetMap&layers=fifao:VLIZ_EEZ_HS,fifao:FAO_AREAS_ERASE,fifao:UN_CONTINENT2&styles=&bbox=-100.0,-10.0,-35.0,40.0&width=1320&height=660&srs=EPSG:4326&format=application/openlayers&cql_filter=INCLUDE;F_AREA=31;INCLUDE



3. Grid proposal: the 5°x5° square grid proposal

The link below proposes a representation of the Area 31 sub areas proposals with the 5°x5° square grid.
http://www.fao.org/figis/geoserver/fifao/wms?service=WMS&version=1.1.0&request=GetMap&layers=fifao:GRID_G5,fifao:FAO_AREAS_ERASE,fifao:UN_CONTINENT2&styles=&bbox=-100.0,-10.0,-35.0,40.0&width=1320&height=660&srs=EPSG:4326&format=application/openlayers&cql_filter=INCLUDE;F_AREA=31;INCLUDE



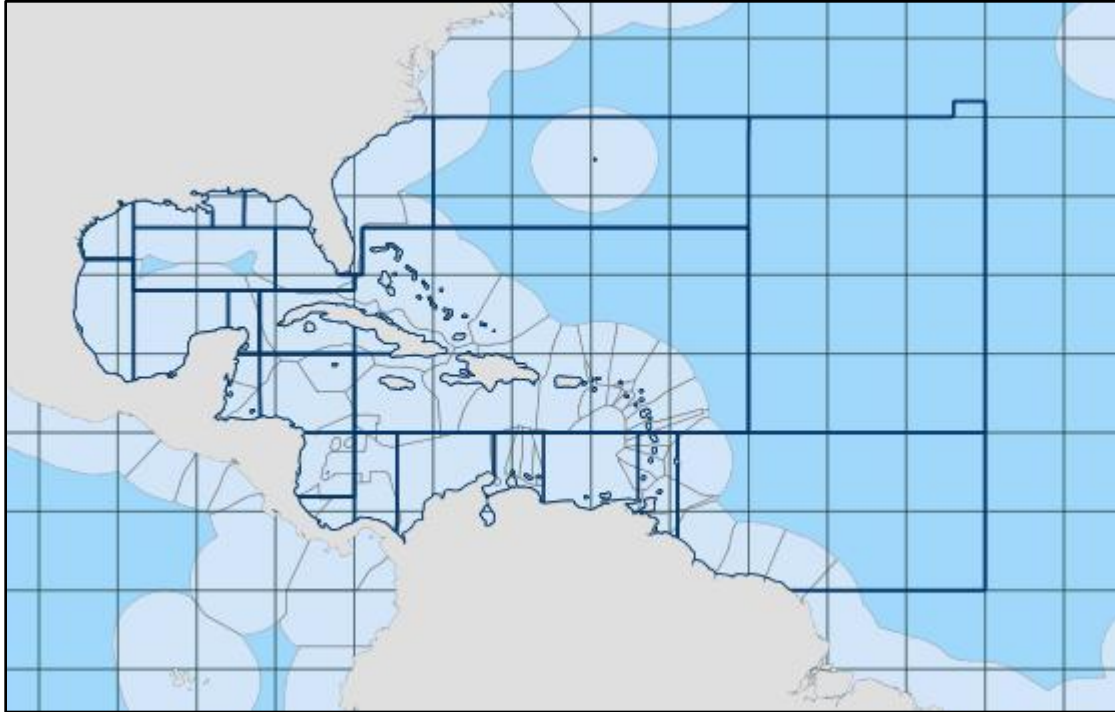
The grid will provide more detailed information especially for the West Indies. Differences between Bahamas, Dominican Republic, Jamaica, and smaller islands (a group of Montserrat / Guadeloupe / Dominica, another with only Barbados and the last one with Martinique / St Lucia / St Vincent and the Grenadines / Grenada and Trinidad and Tobago) will be made using this grid. In some cases, for the West Indies, reporting will be easy as the EEZ is included in the 5x5 square. In other cases like for Bahamas, reporting will be more complex as it will be spread over 3 to 4 different squares.

The grid has to be clearly defined, especially the definition of the coordinates. Do these represent the North East corner, North West corner, the center? (Review CWP recommendations)

4. Discussion on refining subareas

The map below shows the proposal for Major FAO area 31 subareas, the countries' EEZ and the 5x5 square.

http://www.fao.org/figis/geoserver/fifao/wms?service=WMS&version=1.1.0&request=GetMap&layers=fifao:VLIZ_EEZ_HS,fifao:GRID_G5,fifao:FAO_AREAS_ERASE,fifao:UN_CONTINENT2&styles=,darkgrey_line.,&bbox=-100.0,-10.0,-35.0,40.0&width=1320&height=660&srs=EPSG:4326&format=application/openlayers&cql_filter=INCLUDE;INCLUDE;F_AREA=31;INCLUDE



As mentioned previously, some subareas are quite broad (31.4.2) and would require some review to propose subareas

Question for reviewers:

Provide recommendations on the best solution for sub areas according to the above proposal

■ Appendix 2.3: WECAFC Reference list of species categorizations



1. Introduction to list of species

As a preamble, WECAFC competence is recalled regarding species and stocks coverage.

*“All living marine resources, without prejudice to the management responsibilities and authority of other competent fisheries and other living marine resources management organizations or arrangements in the area.”*³¹

Commonalities on WECAFC species categorizations can be found among the interest expressed for the importance of monitoring certain species through the historical establishment of species (conch, lobster, flying fish) and/or fisheries (e.g., FAD, deep sea, recreational billfish) working groups and of policies within the region. These initial listings for data reporting have derived from the policy priorities agreed by the Commissions of WECAFC, CRFM and OSPESCA, or other processes such as CITES or the Cartagena Convention (Specially Protected Areas and Wildlife (SPAW) Protocol) – UN Environment, and for which additional data and information are critical for monitoring, reporting, assessment and /or decision-making purposes. As such inclusion into the interim list for data collection is rationalized on the basis they support the policy priorities for the various regional Commissions (WECAFC, CRFM, OSPESCA) including informing the various fishery management plans under development. As such these listings further support the interim framework agreed by regional fishery bodies as specified by the 2016 Interim Coordination Mechanism (ICM)² to facilitate, support and strengthen the coordination of actions, among the organizations for sustainable fisheries in the Western Central Atlantic. In particular the ICM specified support for the queen conch, spiny lobster, flying fish, shrimp and groundfish fisheries.

Additionally, it is recognized that other support for species categorization can derive from interest:

- to monitor the high seas straddling/migratory/deep sea species in areas beyond national jurisdiction that would correspond to the WECAFC-as-a body with management authority (e.g., as an RFMO as per WECAFC 16³² decision), and
- to monitor high seas and deep seas species in preparing for a possible mandate for WECAFC as RFMO, and
- to monitor species identified to other importance to the regional fishery bodies (e.g., CRFM, or OSPESCA), and responding to criteria that would make the sub-regional list distinct from the ICM criteria

Two main levels of importance for species reporting are defined for countries:

- **Appendix 2.3.1 List of Main Species:** these are key species to the region for which States are strongly encouraged to statistical reporting. These key species are defined as follows and are supported on one or more primary bases (i.e., criteria for inclusion):
 - **Basis 1:** Species with endorsed fisheries management plans (Conch, lobster, flying fish) or are under development ~~or historically established working groups~~ (e.g., Conch, lobster and Flyingfish, shrimp and Groundfish, recreational billfish) (Appendix 2.3.1a)

³¹ <http://www.fao.org/fishery/rfb/wecafc/en>

³² <http://www.fao.org/3/a-bo086e.pdf>

- **Basis 2:** Species with existing mandatory reporting to RFMO (here ICCAT- <https://old.iccat.int/en/introduction.htm>): tuna and tuna like species, commercially targeted and threatened sharks and rays (Appendix 2.3.1b)
- **Basis 3:** High Seas and Deep Sea Species falling under a possible mandate of WECAFC as RFMO or as continued RFB (Appendix 2.3.1c)
 - WECAFC Working Group on the management of deep-sea fisheries
 - ~~WECAFC/OSPESCA/CRFM/CITES/CFMC Working Group on Sharks and Highly Migratory Species~~
- **Basis 4:** Species for which a specific fishery working group has been established in one of the sub-regional or regional organizations and are not included under Basis 1, 2 or 3, or where other specific concerns exist (Appendix 2.3.1d)
 - ~~OSPESCA/WECAFC/CRFM/CFMC Working Group on Caribbean Spiny Lobster~~
 - ~~CFMC/OSPESCA/WECAFC/CRFM/CITES Working Group on Queen Conch~~
 - ~~WECAFC Working Group on the Management of Deep-Sea Fisheries~~
 - WECAFC/OSPESCA/CRFM/CFMC Working Group on Recreational Fisheries
 - CRFM/IFREMER/WECAFC/JICA Working Group on Fisheries using Fish Aggregating Devices (FADs)
 - ~~CRFM/WECAFC Working Group on Flyingfish in the Eastern Caribbean~~
 - WECAFC/CRFM/IFREMER Working Group on Shrimp and Groundfish in the Northern Brazil-Guianas Shelf
 - WECAFC Working Group for the Conservation And Management of Sharks in the Wider Caribbean Region
 - CRFM Reef and Slope Fisheries Working Group (RSWG)
 - CRFM Continental Shelf Fisheries Working Group (CSWG)
 - CFMC Draft Island Based Fishery Management Plans
 - CFMC/WECAFC Spawning Aggregations Working Group
 - CRFM Pelagic Fisheries Working Group (PWG)
- **Appendix 2.3.2: Other Reference species:** if a list of reference species by countries are available, countries are encouraged to report for these species lists to WECAFC. Included under this category are species categorized according to the following:
 - **Basis 5:** Other species of importance (at sub-regional level, or national level) which would not meet the above criteria or bases (1-4) could be included under “**Other Reference**” species:
 - ~~Other Reference species includes WECAFC listed species derived from the 1978 species of high commercial interest. Included in respect of possible interest for certain countries and/or for regional biodiversity considerations~~
 - The list of species of major commercial importance defined in the first session of the WECAFC Working Party on Fishery Statistic (1978, in Panama) are also considered in the main species list (especially for the definition of the shrimp and groundfish species list) and are included under Basis 5
 - Also, the above are included in respect of possible interest for certain countries and/or for regional biodiversity considerations

- **Appendix 2.3.2** provides a list of additional species identified in historical WECAFC works.

The interim WECAFC complete species categorization is defined as followed: The **WECAFC reference list of species** will categorize WECAFC species as part of the ‘main species’ list or the ‘other Reference species’ list.

The WECAFC ‘main’ and ‘other reference’ species categorization refers to the ASFIS classification. This CWP classification is maintained and used by FAO to standardize species of fisheries and aquaculture interest. See <http://www.fao.org/fishery/collection/asfis/en>. It contains standard (official) names in English, French and Spanish.

The regional species classification is built on the ASFIS structure enriched with regional names in English, Spanish and French.

The proposed structure is the following:

- ASFIS unique 3 alpha code (3 digits) (from ASFIS classification)
- Scientific name (from ASFIS classification)
- FAO Official English name (from ASFIS classification)
- FAO Official French Name (from ASFIS classification)
- FAO Official Spanish Name (from ASFIS classification)

2. WECAFC Reference Species list

The list of WECAFC List of Main Species and other Reference Species is to be established through the process defined by the first meeting of the WG-FDS. In order to facilitate this process, the following list has been developed from the 1978 list of species of high commercial interest and structured taking into account the policy priorities described in the Introductory Preface paragraph above. Supplemental basis for inclusion is provided and the capacity to annotate important subareas for collection is incorporated, extending flexibility for assigning (or excluding) specific tasks of the interim Data Collection Framework (iDCRF) to species by subarea. Stakeholders are invited to consult this list and confirm among the species which ones should be categorized as ‘Main’ species or as ‘Other Reference’ species and to annotate important subareas for species.

iDCRF_Appendix 2.3.1. WECAFC List of Main Species and Important Subareas

- Appendix 2.3.1a: Species of key importance for the region - with regional fishery management plans (basis 1).

ASFIS code	Scientific name	Reg En Name	Reg Fr Name	Reg Sp Name	ASFIS en Name	ASFIS Fr Name	ASFIS En Name	Supportin g Basis	V C a R
Species with management plan									
SLC	<i>Panulirus argus</i>	Caribbean spiny lobster	Langouste blanche	Langosta común	Caribbean spiny lobster	Langouste blanche	Langosta común del Caribe	1	
FFV	<i>Hirundichthys affinis</i>	Flying Fish	Exocet hirondelle	Volador golondrina	Fourwing flyingfish	Exocet hirondelle	Volador golondrina	1	
COO	<i>Lobatus gigas</i>	Queen conch	Strombe rose	Cobo rosado	Queen conch	Lambi	Caracol reina	1	
Ground fish (species to be promoted as main species upon advice from Species WGs and other Reviewer Stakeholders, can be found in the Other Reference Species listing)									
YNA	<i>Cynoscion acoupa</i>	Acoupa weakfish	Acoupa toeroe	Corvineta amarilla	Acoupa weakfish	Acoupa toeroe	Corvinata amarilla		N B S
SNC	<i>Lutjanus purpureus</i>	Southern red snapper	Vivaneau rouge	Pargo colorado	Southern red snapper	Vivaneau rouge	Pargo colorado	1	N B S
Shrimps (species to be promoted to the List of Main species upon advice from Species WGs and other Reviewer Stakeholders, can be found in the Other Reference Species listing)									
PNU	<i>Farfantepenaeus subtilis</i>	Southern brown shrimp	Crevette café	Camarón café sureño	Southern brown shrimp	Crevette grise du Sud	Camarón café sureño	1	N B S

Question for reviewers:

Identify the key shrimp and ground fish species for the region, and define the sub-region where the species is of importance, and fill out above table

- *Appendix 2.3.1b: Species of importance to other regional or sub regional fishery bodies and/or mandatory reporting required by an RFMO (e.g., ICCAT) (basis 2)*

Tunas									
ASFIS code	Scientific name	Reg En Name	Reg Fr Name	Reg Sp Name	ASFIS en Name	ASFIS Fr Name	ASFIS En Name	Supporting Basis	WECAFC Sub-area of Reporting
BFT	<i>Thunnus thynnus</i>	Northern bluefin tuna	Thon rouge	Atún	Atlantic bluefin tuna	Thon rouge de l'Atlantique	Atún rojo del Atlántico	2	
YFT	<i>Thunnus albacares</i>	Yellowfin tuna	Thon albacore	Rabil	Yellowfin tuna	Albacore	Rabil	2	
ALB	<i>Thunnus alalunga</i>	Albacore	Germon	Atún blanco	Albacore	Germon	Atún blanco	2	
BET	<i>Thunnus obesus</i>	Bigeye tuna	Patudo	Patudo	Bigeye tuna	Thon obèse(=Patudo)	Patudo	2	
SKJ	<i>Katsuwonus pelamis</i>	Skipjack tuna	Listao	Listado	Skipjack tuna	Listao	Listado	2	
BLF	<i>Thunnus atlanticus</i>	Blackfin tuna	Thon à nageoire noire	Atún aleta negra	Blackfin tuna	Thon à nageoires noires	Atún aleta negra	2	
LTA	<i>Euthynnus alletteratus</i>	Little tunny	Thonine	Bacoreta	Little tunny(=Atl.black skipj)	Thonine commune	Bacoreta	2	
BON	<i>Sarda sarda</i>	Atlantic bonito	Pélamide	Bonito atlántico	Atlantic bonito	Bonite à dos rayé	Bonito del Atlántico	2	

FRI	<i>Auxis thazard</i>	Frigate tuna	Auxide	Melva	Frigate tuna	Auxide	Melva	2	
BOP	<i>Orcynopsis unicolor</i>	Plain bonito	Palomete	Tasarte	Plain bonito			2	
WAH	<i>Acanthocybium solandri</i>	Wahoo	Thazard-bâtard	Peto	Wahoo	Thazard-bâtard	Peto	2	
SSM	<i>Scomberomorus maculatus</i>	Spotted Spanish mackerel	Thazard tachteté	Carite pintado	Atlantic Spanish mackerel	Thazard atlantique	Carite atlántico	2	
KGM	<i>Scomberomorus cavalla</i>	King mackerel	Thazard barré	Carite lucio	King mackerel	Thazard barré	Carite lucio	2	
CER	<i>Scomberomorus regalis</i>	Cero mackerel	Thazard franc	Carite chinigua	Cero	Thazard franc	Carite chinigua	2	
BLT	<i>Auxis rochei</i>	Bullet tuna	Auxide	Melva	Bullet tuna	Bonitou	Melva(=Melvera)	2	
BRS	<i>Scomberomorus brasiliensis</i>	Serra Spanish mackerel	Serra Spanish mackerel	Thazard serra	Serra Spanish mackerel	Thazard serra	Serra	2	
DOL	<i>Coryphæna hippurus</i>	Mahi Mahi/ Common dolphin fish	Coryphène commune	Lampuga	Common Dolphin fish	Coryphène commune	Lampuga	2	
CFW	<i>Coryphæna equiselis</i>				Pompano				

					dolphin fish				
KGX	<i>Scomber omorus Spp</i>	Seerfish hes nei	Thazard s nca	Carites nep				2	
Billfishes									
SAI	<i>Istiophor us albicans</i>	Atlantic sailfish	Voilier de l'Atlanti que	Pez vela del Atlántic o	Atlantic sailfish	Voilier de l'Atlantiqu e	Pez vela del Atlántico		
BUM	<i>Makaira nigricans</i>	Blue Marlin			Blue Marlin	Makaire bleu	Aguja azul	2	
WHM	<i>Kajikia albida</i>	Atlantic white marlin			White Marlin	Makaire blanc de l'Atlantiqu e	Aguja blanca del Atlántico	2	
SWO	<i>Xiphias gladius</i>	Swordfi sh			Swordfis h	Espadon	Pez espada	2	
SPF	<i>Tetraptu rus pfluegeri</i>	Longbil l spearfis h			Longbill spearfish			2	
RSP	<i>Tetraptu rus georgii</i>	Rounds cale spearfis h			Roundsc ale spearfish			2	

Commercially targeted and/or threatened Sharks

ASFIS S COD E	Scientific Name	Reg En Name	Reg Fr Nam e	Reg Sp Name	ASFIS en Name	ASFIS Fr Name	ASFIS En Name	Supporti ng Basis	WECAF C Sub- area of Reportin g
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SUD	<i>Squatina dumeril</i>	Atlantic Angel Shark			Sand devil	Ange de mer de sable	Tiburón ángel	2	
CIO	<i>Isogomphodon oxyrinchus</i>	Daggernose Shark	Requin bécu ne	Cazón picudo sudamericano	Daggernose shark	Requin bécu ne	Daggernose Shark	2	
OCS	<i>Carcharhinus longimanus</i>	Oceanic whitetip shark			Oceanic whitetip	Requin océanique	Oceanic whitetip	2	
RHN	<i>Rhincodon typus</i>	Whale Shark			Whale shark	Requin baleine	Whale shark	2	
FAL	<i>Carcharhinus falciformis</i>	Silky Shark			Silky Shark	Requin soyeux	Tiburón jaquetón	2	
BTH	<i>Alopias superciliosus</i>	Bigeye thresher shark			Bigeye thresher	Renard à gros yeux	Zorro ojón	2	
SMA	<i>Isurus oxyrinchus</i>	Shortfin mako			Shortfin mako	Taupe bleue	Marrajo dientuso	2	
POR	<i>Lamna nasus</i>	Porbeagle shark			Porbeagle shark	Requin-taupe commun	Marrajo sardinero	2	
BSH	<i>Prionace glauca</i>	Blue shark			Blue shark	Peau bleue	Tiburón azul	2	
SPL	<i>Sphyrna lewini</i>	Scalloped hammerhead shark			Scalloped hammerhead	Requin-marteau halicorne	Cornuda común	2	
SPK	<i>Sphyrna mokarran</i>	Great hammerhead			Great hammerhead	Grand requin marteau	Cornuda gigante	2	
SPZ	<i>Sphyrna zygaena</i>	Smooth hammerhead			Smooth hammerhead	Requin-marteau commun	Cornuda cruz(=Pez martillo)	2	
SPQ	<i>Sphyrna tudes</i>	Smalleye hammerhead			Smalleye hammerhead	Requin-marteau à petits yeux	Cornuda ojichica	2	

N/A	<i>Rhizoprionodon porosus</i>	Caribbean sharpnose shark			Caribbean sharpnose shark	Requin aiguille antillais	Cazón picudo antillano	2	
N/A	<i>Rhizoprionodon lalandii</i>	Brazilian sharpnose shark			Brazilian sharpnose shark			2	
N/A	<i>Carcharhinus porosus</i>	Smalltail shark			Smalltail shark			2	
CTI	<i>Mustelus canis</i>	Dusky smoothhound			Dusky smoothhound	Émissol e douce	Boca dulce	2	
MTR	<i>Mustelus norrisi</i>	Florida smoothhound			Narrowfin smoothhound	Émissol e veuve	Musola viuda	2	
N/A	<i>Mustelus sinuatus</i>	Gulf smoothhound						2	
RPP	<i>Pristis pectinata</i>	Smalltooth sawfish			Smalltooth sawfish	Poisson-scie tident	Requin-marteau halicorne malltooth sawfish	2	
RPM	<i>Pristis microdon</i>	Large-tooth sawfish			Large-tooth sawfish	Poisson-scie grandent	Large-tooth sawfish	2	
N/A	<i>Aetobatus narinari</i>	Spotted eagle ray (chucho)			Spotted eagle ray (chucho)			2	
N/A	<i>Mobula birostris</i>	Giant Oceanic Manta Ray			Giant Oceanic Manta Ray			2	
N/A	<i>Dasyatis americana</i>	Sting ray			Sting ray			2	
N/A	<i>Narcine bancroftii</i>	Caribbean Electric Ray			Caribbean Electric Ray			2	

ASFIS CODE	Scientific Name	Reg En Name	Reg Fr Name	Reg Sp Name	ASFIS en Name	ASFIS Fr Name	ASFIS En Name	Supporting Basis	WECAFC Sub-area of Reporting
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SUD	<i>Squatina dumeril</i>	Atlantic Angel Shark			Sand devil	Ange de mer de sable	Tiburón ángel	2	
CIO	<i>Isogomphodon oxyrinchus</i>	Daggernose Shark	Requin bécune	Cazón picudo sudamericano	Daggernose shark	Requin bécune	Daggernose Shark	2	
OCS	<i>Carcharhinus longimanus</i>	Oceanic whitetip shark			Oceanic whitetip	Requin océanique	Oceanic whitetip	2	
RHN	<i>Rhincodon typus</i>	Whale Shark			Whale shark	Requin baleine	Whale shark	2	
FAL	<i>Carcharhinus falciformis</i>	Silky Shark			Silky Shark	Requin soyeux	Tiburón jaquetón	2	
BTH	<i>Alopias superciliosus</i>	Bigeye thresher shark			Bigeye thresher	Renard à gros yeux	Zorro ojón	2	
SMA	<i>Isurus oxyrinchus</i>	Shortfin mako			Shortfin mako	Taupe bleue	Marrajo dientuso	2	
POR	<i>Lamna nasus</i>	Porbeagle shark			Porbeagle shark	Requin-taupe commun	Marrajo sardinero	2	
BSH	<i>Prionace glauca</i>	Blue shark			Blue shark	Peau bleue	Tiburón azul	2	
SPL	<i>Sphyrna lewini</i>	Scalloped hammerhead shark			Scalloped hammerhead	Requin-marteau halicorne	Cornuda común	2	
SPK	<i>Sphyrna mokarran</i>	Great hammerhead			Great hammerhead	Grand requin marteau	Cornuda gigante	2	
SPZ	<i>Sphyrna zygaena</i>	Smooth hammerhead			Smooth hammerhead	Requin-marteau commun	Cornuda cruz(=Pez martillo)	2	
SPQ	<i>Sphyrna tudes</i>	Smalleye hammerhead			Smalleye hammerhead	Requin-marteau à petits yeux	Cornuda ojichica	2	

N/A	<i>Rhizoprionodon porosus</i>	Caribbean sharpnose shark			Caribbean sharpnose shark	Requin aiguille antillais	Cazón picudo antillano	2	
N/A	<i>Rhizoprionodon lalandii</i>	Brazilian sharpnose shark			Brazilian sharpnose shark			2	
N/A	<i>Carcharhinus porosus</i>	Smalltail shark			Smalltail shark			2	
CTI	<i>Mustelus canis</i>	Dusky smoothhound			Dusky smoothhound	Émissol e douce	Boca dulce	2	
MTR	<i>Mustelus norrisi</i>	Florida smoothhound			Narrowfin smoothhound	Émissol e veuve	Musola viuda	2	
N/A	<i>Mustelus sinuatus</i>	Gulf smoothhound						2	
RPP	<i>Pristis pectinata</i>	Smalltooth sawfish			Smalltooth sawfish	Poisson-scie tident	Requin-marteau halicorne malltooth sawfish	2	
RPM	<i>Pristis microdon</i>	Largetooth sawfish			Largetooth sawfish	Poisson-scie grandent	Largetooth sawfish	2	
N/A	<i>Aetobatus narinari</i>	Spotted eagle ray (chucho)			Spotted eagle ray (chucho)			2	
N/A	<i>Mobula birostris</i>	Giant Oceanic Manta Ray			Giant Oceanic Manta Ray			2	
N/A	<i>Dasyatis americana</i>	Sting ray			Sting ray			2	
N/A	<i>Narcine bancroftii</i>	Caribbean Electric Ray			Caribbean Electric Ray			2	

Question for reviewers FDS-WG:

This list is to be filled out. Identify the key threatened sharks/ray species for the region, and define the sub-region where the species is of importance, and fill out above table.

See <http://www.fao.org/3/i8718en/I8718EN.pdf> for the list of sharks from the sharks working group

- **Appendix 2.3.1c:** High Seas and Deep Sea Species falling under a possible mandate of WECAFC as RFMO (basis 3)

ASFIS CODE	Scientific Name	Reg En Name	Reg Fr Name	Reg Sp Name	ASFIS en Name	ASFIS Fr Name	ASFIS En Name	Supp. Basis	WECAF C Sub-area of Reporting
BXD	<i>Beryx decadactylus</i>	Alfonsino			Alfonsino	Béryx commun	Alfonsino palometón	3	
BSF	<i>Aphanopus carbo</i>	black scabbard fish			Black scabbard fish	Sabre noir	Sable negro	3	
EPI	<i>Epigonus telescopus</i>	black cardinal fish			Black cardinal fish	Poisson cardinal	Boca negra(=Pez del diablo)	3	
WRF	<i>Polyprion americanus</i>	wreckfish			Wreckfish	Cernier commun	Cherna	3	
ARS	<i>Aristaeomorpha foliacea</i>	giant red shrimp			Giant red shrimp	Gambon rouge	Gamba española	3	
RRS	<i>Pleoticus robustus</i>	royal red shrimp			Royal red shrimp	Salicoque royale rouge	Camarón rojo real	3	
NIS	<i>Penaeopsis serrata</i>	pink speckled deep sea shrimp			Megalops shrimp	Crevette mégalops	Camarón megalops	3	
MFI	<i>Metanephrops binghami</i>	deep sea lobster			Caribbean lobster	Langoustine des Caraïbes	Cigala del Caribe	3	
GPX	<i>Epinephelus spp</i>				Grouper s nei	Mérou nca	Meros nep	3	
SNA	<i>Lutjanus spp</i>				Snappers nei	Vivaneaux nca	Pargos tropicales nep	3	
RPU	<i>Rhomboplites aurorubens</i>				Vermilion snapper	Vivaneau tiyeux	Pargocunaro	3	
n/a	<i>Erythrochle s monody</i>							3	

HOF	<i>Merluccius albidus</i>				Offshore silver hake	Merlu argenté du large	Merluza blanca de altura	3	
MVJ	<i>Lophius gastrophysus</i>				Blackfin goosefish	Baudroie pêcheuse	Rape pescador	3	
n/a	<i>Zenopsis conchifera</i>							3	
n/a	<i>Acanthocharis caeca</i>							3	
NFI	<i>Nephropsis rosea</i>				Two-toned lobsterette	Langoustine bicolore		3	
NFU	<i>Nephropsis aculeata</i>				Florida lobsterette	Langoustine de Floride	Cigala de Florida	3	
NFN	<i>Nephropsis neglecta</i>				Ruby lobsterette			3	
n/a	<i>Aristaeomorpha foliacea</i>							3	
AVD	<i>Aristeus virilis</i>				Stout red shrimp	Gambon gaillard	Gambon colorado	3	
ANJ	<i>Aristeus antillensis</i>				Purplehead gamba prawn	Crevette pourprée	Gamba purpurea	3	
SSH	<i>Plesiopenaeus edwardsianus</i>				Scarlet shrimp	Gambon écarlate	Gamba carabinero	3	
n/a	<i>Benthesicymus bartletti</i>							3	
CRR	<i>Chaceon quinque dens</i>				Red crab	Gériocrabe rouge	Geriocangrejo rojo	3	
ELQ	<i>Chaceon eldorado</i>				El Dorado shrimp	Géryon El Dorado	Cangrejo El Dorado	3	

Question for reviewers:

This list is to be filled out [the proposed species have been extracted from the VME / high sea working groups] – there is no list of species in the ToRs of the High Seas working group. See <http://www.fao.org/3/i8718en/I8718EN.pdf> for the list of sharks from the sharks working group



- **Appendix 2.3.1d.** Species for which a specific fishery working group has been established in one of the sub-regional or regional organization or where other specific concerns exist (**Basis 4**)

ASF IS CODE	Scientific Name	Reg En Name	Reg Fr Name	Reg Sp Name	ASFIS en Name	ASFIS Fr Name	ASFIS En Name	Supporting Basis	WECAF C Sub-area of Reporting
Small pelagics species									
AVA	<i>Cetengraulis edentulus</i>	Atlantic anchoveta	Anchois queuejaune	Anchoveta rabo amarillo	Atlantico anchoveta	Anchois queuejaune	Anchoveta rabo amarillo	4	
SAA	<i>Sardinella aurita</i>	Round sardinella (Spanish sardine)	Allache	Sardinella atlantica	Round sardinella	Allache	Alacha	4	
POM	<i>Trachinotus carolinus</i>	Florida pompano	Pompaneau sole	Pámpano amarillo	Florida pompano	Pompaneau sole	Pámpano amarillo	4	
LHT	<i>Trichiurus lepturus</i>	Largehead hairtail	Poisson sabre (de l'Atlantique)	Sable	Largehead hairtail	Poisson-sabre commun	Pez sable	4	
LOB	<i>Lobotes surinamensis</i>				Atlantico tripletail	Croupia roche	Dormilona	4	
Reef and Slope species									
Grouper									
GPR	<i>Epinephelus morio</i>	Red grouper	Mérou rouge	Mero americano	Red grouper	Mérou rouge	Mero americano	4	

GPN	<i>Epinephelus striatus</i>	Nassau grouper	Mérou raye	Cherna criolla	Nassau grouper	Mérou rayé	Cherna criolla	4	
MA B	<i>Mycteroperca bonaci</i>	Black grouper			Black grouper	Badèche bonaci	Cuna bonací	4	
EEU	<i>Epinephelus guttatus</i>	Red hind			Red hind	Mérou couronné	Mero colorado	4	
EET	<i>Epinephelus itajara</i>	Goliath grouper			Atlantique goliath grouper	Mérou géant de l'Atlantique	Mero gigante del Atlántico	4	
CFJ	<i>Cephalopholis fulva</i>	Coney			Coney	Coné ouatalibi	Cherna cabrilla	4	
CFL	<i>Cephalopholis cruentata</i>	Graysby			Graysby	Coné essaim	Cherna enjambre	4	
EFD	<i>Epinephelus adscensionis</i>	Rock hind			Rock hind	Mérou oualioua	Mero cabrilla	4	
MKT	<i>Mycteroperca tigris</i>	Tiger grouper			Tiger groupe	Badèche tigre	Cuna gata	4	
MKV	<i>Mycteroperca venenosa</i>	Yellowfin grouper				Badèche de roche	Cuna de piedra	4	
EEY	<i>Epinephelus mystacinus</i>	Misty grouper				Mérou brouillard	Mero listado	4	
EEL	<i>Epinephelus flavolimbatus</i>	Yellowed ge grouper				Mérou aile jaune	Mero aleta amarilla	4	

MKN	<i>Mycteroperca interstitialis</i>	Yellowmouth grouper				Badèche gueule jaune	Cuna amarilla	4	
Grunts									
HLI	<i>Haemulon plumieri</i>	White grunt				Gorette blanche	Ronco margariteño	4	
HLU	<i>Haemulon album</i>	White Margate				Gorette margate	Ronco jallao	4	
HHI	<i>Haemulon sciurus</i>	Bluestriped grunt				Gorette catire		4	
Porgies									
CBD	<i>Calamus bajonado</i>	Jolthead porgy				Dauben et trembleur	Pluma bajonado	4	
CFE	<i>Calamus penna</i>	Sheepshead porgy				Dauban et bélier		4	
n/a	<i>Calamus pennatula</i>	Pluma porgy				Dauben et Plume		4	
n/a	n/a	Sea bream						4	
Squirrelfishes	<i>Holocentrus rufus</i>	Longspine squirrelfish						4	
Jacks									
RUB	<i>Caranx crysos</i>	Blue runner				Carangue coubali	Cojinúa negra	4	

CVJ	<i>Caranx hippos</i>	Crevalle				Carangu e crevalle	Jurel común	4	
LIJ	<i>Alectis ciliaris</i>	African Pompano				Cordonn ier fil	Pámpano de hebra	4	
RRU	<i>Elagatis bipinnulata</i>	Rainbow runner				Comète saumon	Macarela salmón	4	
LJN	<i>Lutjanus analis</i>	Mutton snapper	Vivaneau sorbe	Pargo criollo	Mutton snapper	Vivanea u sorbe	Pargo criollo	4	
LJP	<i>Lutjanus apodus</i>	Schoolma ster snapper	Vivaneau dentchien	Pargo amarillo	School master snapper	Vivanea u dent- chien	Pargo amarillo	4	
LJU	<i>Lutjanus buccanella</i>	Blackfin snapper	Vivaneau oreille noire	Pargo sesí	Blackfi n snapper	Vivanea u oreille noire	Pargo sesí	4	
SNR	<i>Lutjanus campechanus</i>	Northern red snapper	Vivaneau campèch e	Pargo del Golfo	Norther n red snapper	Vivanea u campèc he	Pargo del Golfo	4	
LJY	<i>Lutjanus cyanopterus</i>	Cubera snapper			Cubera snapper	Vivanea u cubera	Pargo cubera	4	
LJI	<i>Lutjanus griseus</i>	Gray snapper			Grey snapper	Vivanea u sarde grise	Pargo prieto	4	
LJJ	<i>Lutjanus jocu</i>	Dogteeth snapper			Dog snapper	Vivanea u chien	Pargo jocú	4	
SNC	<i>Lutjanus purpureus</i>	Southern red snapper	Vivaneau rouge	Pargo colorado	Souther n red snapper	Vivanea u rouge	Pargo colorado	4	
SNL	<i>Lutjanus synagris</i>	Lane snapper	Vivaneau gazon	Pargo biajaiba	Lane snapper	Vivanea u gazou	Pargo biajaiba	4	

LTJ	<i>Lutjanus vivanus</i>	Silk snapper	Vivaneau soi	Pargo de lo alto	Silk snapper	Vivaneau soie	Pargo de lo alto	4	
n/a	<i>Pristipomoides aquilonaris</i>	Wenchman snapper						4	
UPZ	<i>Pristipomoides macrophthalmus</i>	Cardinal snapper						4	
RPU	<i>Rhomboplites aurorubens</i>	Vermillion snapper				Vivaneau tiyeux	Pargocunaro	4	
SNY	<i>Ocyurus chrysurus</i>	Yellowtail snapper	Vivaneau queue jaune	Rabirubia	Yellow tail snapper	Vivaneau queue jaune	Rabirrubia	4	
ASX	<i>Apsilus dentatus</i>	Black snapper				Vivaneau noir	Pargomulato	4	
EEO	<i>Etelis oculatus</i>	Queen snapper				Vivaneau royal	Pargocachucho	4	
SNC	<i>Lutjanus purpureus</i>	Red snapper			Southern red snapper	Vivaneau rouge	Pargocolorado	4	
Parrotfishes									
USU	<i>Scarus coeruleus</i>	Blue parrotfish						4	
n/a	<i>Scarus coelestinus</i>	Midnight parrotfish						4	
USN	<i>Scarus taeniopterus</i>	Princess parrotfish				Perroquet princess		4	

UVT	<i>Scarus vetula</i>	Queen parrotfish				Perroquet périco		4	
n/a	<i>Scarus guacamaia</i>	Rainbow parrotfish						4	
QZV	<i>Sparisoma rubripinne</i>	Redfin parrotfish				Perroquet et basto	Loro basto	4	
RSY	<i>Sparisoma chrysopteron</i>	Redtail parrotfish						4	
n/a	<i>Sparisoma viride</i>	Stoptlight parrotfish			Stoptlight parrotfish			4	
RMF	<i>Sparisoma aurofrenatum</i>	Redband parrotfish			Redband parrotfish	Perroquet tacheté		4	
USS	<i>Scarus iserti</i>	Striped parrotfish				Perroquet rayé		4	
Surgeon fishes									
AQO	<i>Acanthurus coeruleus</i>	Blue tang surgeonfish				Chirurgien bayolle		4	
	<i>Acanthurus bahianus</i>	Ocean surgeonfish						4	
	<i>Acanthurus chirurgus</i>	Doctorfish						4	
Triggerfishes									
CZT	<i>Canthidermis sufflamen</i>	Ocean triggerfish					Sobaco lija	4	

BLV	<i>Balistes vetula</i>	Queen triggerfish					Baliste royal		4	
n/a	<i>Balistes capriscus</i>	Gray triggerfish							4	
Wrasses										
LCX	<i>Lachnolaimus maximus</i>	Hogfish					Labre capitaine	Doncella de pluma	4	
n/a	<i>Halichoeres radiatus</i>	Puddingwife							4	
BDR	<i>Bodianus rufus</i>	Spanish hogfish					Pourceau espagnol		4	
Angelfishes										
n/a	<i>Holacanthus ciliaris</i>	Queen angelfish							4	
n/a	<i>Pomacanthus arcuatus</i>	Gray angelfish							4	
n/a	<i>Pomacanthus paru</i>	French angelfish							4	
Shrimp species										
ABS	<i>Penaeus aztecus</i>	Northern brown shrimp	Crevette royale grise	Camarón café norteño	Northern brown shrimp	Crevette royale grise	Camarón café norteño		4	
APS	<i>Penaeus duorarum</i>	Northern pink shrimp	Crevette rodché du nord	Camarón rosado norteño	Northern pink shrimp	Crevette rose du Nord	Camarón rosado norteño		4	
SOP	<i>Farfantepenaeus notialis</i>	Southern pink shrimp	Crevette rodché du sud	Camarón rosado sureño	Southern pink shrimp	Crevette rose du Sud	Camarón rosado sureño		4	

PNT	<i>Litopenaeus schmitti</i>	Southern white shrimp	Crevette ligubam du sud	Camarón blanco sureño	Southern white shrimp	Crevette ligubam du Sud	Langostino blanco sureño	4	
PST	<i>Penaeus setiferus</i>	Northern white shrimp	Crevette ligubam du nord	Camarón blanco norteño	Northern white shrimp	Crevette ligubam du Nord	Camarón blanco norteño	4	
PNU	<i>Farfantepenaeus subtilis</i>	Southern brown shrimp	Crevette café	Camarón café sureño	Southern brown shrimp	Crevette grise du Sud	Camarón café sureño	4	
n/a	<i>Farfantepenaeus brasiliensis</i>	Pink spotted shrimp							
RRS	<i>Pleoticus robustus</i>	Royal red shrimp	Crevette salicoque	Camarón rojo real	Royal red shrimp	Salicoque royale rouge	Camarón rojo real	4	
SSH	<i>Plesiopenaeus edwardsianus</i>	Imperial red shrimp		Gamba carabinero	Scarlet shrimp	Gambon écarlate	Gamba carabinero	4	
PNB	<i>Penaeus brasiliensis</i>	Redspotted shrimp	Crevette royale rose	Camarón rosado con manchas	Redspotted shrimp	Crevette royale rose	Camarón rosado con manchas	4	
BOB	<i>Xiphopenaeus kroyeri</i>	Atlantic seabob	Crevette seabob	Camarón siete barbas	Atlantic seabob	Crevette seabob atlantique	Camarón siete barbas	4	
RSH	<i>Sicyonia brevirostris</i>	Rock shrimp	Crevette ovetgernade	Camarón de piedra	Rock shrimp	Boucot ovetgernade	Camarón de piedra	4	

Question for reviewers:

Identify any key species for the region that should be upgraded to the main species list, while defining the sub-region where each species is of importance, and fill out the above tables.

iDCRF Appendix 2.3.2: Other WECAFC listed species derived from the WECAFC Working Party on Fishery Statistic workshop (1978, Panama) species of high commercial interest. Included in respect of possible interest for certain countries and/or for regional biodiversity considerations.

ASF IS CODE	Scientific Name	Reg En Name	Reg Fr Name	Reg Sp Name	ASFIS en Name	ASFIS Fr Name	ASFIS En Name	Basis for Inclusion	WECAFC Sub-area of Reporting
SCC	<i>Argopecten gibbus</i>	Calico scallop	Peigne calicot	Peine percal	Calico scallop	Peigne calicot	Peine percal	5	
RQZ	<i>Arca zebra</i>	Turkey wing	Arche zèbre	Arca zebra	Turkey wing	Arche zèbre	Arca cebra	5	
BIH	<i>Bairdiella ronchus</i>	Ground croaker	Mamse lle rouio	Corvinata ruyo	Ground croaker	Mamselle rouio		5	
MHG	<i>Brevoortia patronus</i>	Gulf menhaden	Menhaden écailleux	Lacha escarnuda	Gulf menhaden	Menhaden écailleux	Lacha escamuda	5	
MHA	<i>Brevoortia tyrannus</i>	Atlantic menhaden	menhaden tyran	Laoha tirana	Atlantic menhaden	Menhaden tyran	Lacha tirana	5	
CRB	<i>Callinectes sapidus</i>	Blue crab	Crabe bleu	Cangrejo azul	Blue crab	Crabe bleu	Cangrejo azul	5	
NBR	<i>Caranx bartholomaei</i>	Yellow jack	Carangue grasse	Cojinua amarilla	Yellow jack	Carangue grasse	Cojinua amarilla	5	
CVJ	<i>Caranx hippos</i>	Crevalle jack	Carangue crevalle	Jurel comùn	Crevalle jack	Carangue crevalle	Jurel comùn	5	
CXR	<i>Caranx ruber</i>	Bar jack	Carangue comade	Cojinua carbonera	Bar jack	Carangue comade	Cojinúa carbonera	5	

OY M	<i>Crassostrea rhizophorae</i>	Mangrove cupped oyster	Huître creuse des Caraïbes	Ostión de mangle	Mangrove cupped oyster	Huître creuse des Caraïbes	Ostión de mangle	5	
OY A	<i>Crassostrea virginica</i>	American cupped oyster	Huître creuse américaine	Ostión americano	American cupped oyster	Huître creuse/ américaine	Ostión virgínico	5	
KUI	<i>Cittarium pica</i>	West Indian Top Shell			West Indian top shell	Troque des Antilles	Burgado antillano	5	
SWF	<i>Cynoscion nebulosus</i>	Spotted weakfish	Acoupa pintade	Corvinata pintada	Spotted weakfish	Acoupa pintade	Corvinata pintada	5	
STG	<i>Cynoscion regalis</i>	Gray weakfish	Acoupa royal	Corvinata real	Squeteague(=Gray weakfish)	Acoupa royal	Corvinata real	5	
n/a	<i>Cynoscion jamaicensis</i>	Jamaican weakfish						5	
YN V	<i>Cynoscion virescens</i>	Green weakfish	Acoupa cambucu	Corvinata cambucú	Green weakfish	Acoupa cambucu	Corvinata cambucú	5	
n/a	<i>Sciades proops</i>	Crucifix sea catfish						5	
AW X	<i>Arius sp.</i>	Sea catfish						5	
SPT	<i>Leiostomus xanthurus</i>	Spot croaker	Tambour croca	Verrugato croca	Spot croaker	Tambour croca	Verrugato croca	5	

WK K	<i>Macrodon ancylodon</i>	King weakfish	Acoupa chasseur	Pescadill a real	King weakfish	Acoupa chasseur	Pescadill a real	5	
CK M	<i>Micropogoni as furnieri</i>	Whitem outh croaker	Tambo ur rayé	Corvinón rayado	Whitemouth croaker	Tambour rayé	Corvinón rayado	5	
CK A	<i>Micropogoni as undulatus</i>	Atlantic croaker	Tambo ur brésilie n	Corvinón brasileño	Atlantic croaker	Tambour brésilien	Corvinón brasileño	5	
MU F	<i>Mugil cephalus</i>	Striped mullet	Mulet cabot	Lisa pardete	Flathead grey mullet	Mulet à grosse tête	Pardete	5	
MG U	<i>Mugil curema</i>	White mullet	Mulet blanc	Lisa criolla	White mullet	Mulet blanc	Lisa blanca	5	
MU B	<i>Mugil liza</i>	Lebranc he mullet	Millet lebranc he	Leba.nch e	Lebranche mullet	Mulet lebranche	Lebranch e	5	
THA	<i>Opisthonema oglinum</i>	Atlantic thread herring	Chardi n fil	Machuelo hebra atlántico	Atlantic thread herring	Chardin fil	Machuelo hebra atlántico	5	
NLG	<i>Panulirus guttatus</i>	Spotted spiny lobster	Langou ste brésilie nne	Langosta moteada	Spotted spiny lobster	Langouste brésilienn e	Langosta moteada	5	
NUL	<i>Panulirus laevicauda</i>	Smooth tail spiny lobster	Langou ste indienn e	Langosta verde	Smoothtail spiny lobster	Langouste indienne	Langosta verde	5	
MSL	<i>Perna perna</i>	South America n rock mussel	Moule roche sud	Mejillón de roca sudameri cano	South American rock mussel	Moule de roche sudaméric aine	Mejillón de roca sudameri cano	5	

			américaine						
BD M	<i>Pogonias cromis</i>	Black drum	Grand tambour	Corvinón negro	Black drum	Grand tambour	Corvinón negro	5	
BLU	<i>Pomatomus saltatrix</i>	Bluefish	Tassergal	Anchova de banco	Bluefish	Tassergal	Anjova	5	
RD M	<i>Sciaenops ocellatus</i>	Red drum	Tambour rouge	Corvinón ocelado	Red drum	Tambour rouge	Corvinón ocelado	5	
BIS	<i>Selar crumenophthalmus</i>	Bigeye scad	Selar coulisou	Chicharro	Bigeye scad	Sélar coulisou	Chicharro	5	
MO A	<i>Selene setapinnis</i>	Atlantic moonfish	Musso atlantique	Jorobado lamparosa	Atlantic moonfish	Musso atlantique	Jorobado lamparosa	5	
GB A	<i>Sphyraena barracuda</i>	Great Barracuda						5	
BAR	<i>Sphyraena spp</i>	Barracuda			Barracudas nei	Bécunes nca	Picudas nep	5	

Question for reviewer:

Are there any species that should be promoted in the WECAFC Other Reference Species list to the list of main species? Do we need to keep Appendix 2.3.2 and enrich it? Or only a mention is needed indicated that any other species of interest to the country can be reported according to the ASFIS classification?

■ Appendix 2.4: Effort measurement by fleet segment

STANDARD ABBREVIATION	VESSEL TYPE	LOA	Unit of capacity	Unit of Activity	Nominal Effort
TO	Trawlers	All	GT	Fishing days	GT x fishing days
SP	Purse seiners	All	GT	Number of fishing sets	GT x fishing days
SO	Other seiners	All			
GO	Gill netters	All	Net length ⁽¹⁾	Fishing days	Net Length ⁽¹⁾ x fishing days
WO	Trap setters	All	Number of traps / pots	Fishing days	Number of traps / pots x Fishing days
LL	Long liners	All	Number of hooks	Fishing days	Number of hooks x fishing days
LO	Line vessels (other)				
DO	Dredgers	All	GT	Fishing days	GT x fishing days
MTW	Multi-gear trawler vessels	All	Net Length ⁽¹⁾	Fishing days	Net Length ⁽¹⁾ x fishing days
MLG	Multi-gear non-trawler vessels		Number of traps/pots	Fishing days	Number of traps / pots x Fishing days
OV	Other fishing vessels		Number of lines	Fishing days	Number of lines x fishing days
OVN	Non-motorized Vessels				

⁽¹⁾ Length of net expressed in 100-meters units (FAO). If this is not available, can be substituted by GT with mention by the Member Country

■ Appendix 2.5: Gear type

We recalled here the conclusion on geartype of the first Working Party on Statistics meeting (1978): “The Working Party reviewed the International Standard Statistical Classification of Fishing Gear (ISSCFG). While the classification looked to be exhaustive, the Working Party felt that it should be examined in detail to evaluate its scope in the WECAFC area.”

3 main gear type families are used in the Caribbean with main sub gears.

- Traps (or pots)
- Nets (gill, seine, cast nets, trammel nets)

- Lines (long lines, pole line, hand line, trot lines, deep water buoy lines, manual lines - known as hand line, rod and reel)

The revised ISSCFG classification (Rev 1, 20132016) is available here:

The WECAFC geartype classification version 1.01 can be the following from the proposed list above.

Gear Categories	Standard abbreviations	ISSCFG code
Beach seines	SB	02.1
Boat seines	SV	02.2
Gillnet		07
Cast nets	FCN	06.91
Traps		08
Pots	FPO	08.2
Hooks and lines		09
Handlines and hand-operated pole-and-lines	LHP	09.1
Mechanized lines and pole-and-lines	LHM	09.2
Drifting longlines	LLD	09.32
Longlines	LL	09.39
Trolling lines	LTL	09.5
Harpoons	HAR	10.1
Hand implements	MHI	10.2
Electric fishing	MEL	10.4
Diving	MDV	10.8
Gears nei	MIS	10.9
Gear not known	NK	99.9

Question for the CWP and reviewers:

Why no abbreviation for main categories gillnets, traps, hooks and line and longlines?
Does WECAFC need to define one?

■ Appendix 3: Regional conversion factors

[to be filled later]

■ Appendix 4: Questionnaires

[to be defined later]

WECAFC-FIRMS Fisheries inventory template <https://data.d4science.net/4D1B>

■ Appendix 5: WECAFC-FIRMS Fisheries inventory

Under the WECAFC-FIRMS partnership, the WECAFC Member States are contributing to the FIRMS inventories with their national data and information on fisheries. Here follows the list of national fisheries inventoried and published in the FIRMS website (Updated, October 2020).

The full list of stocks and fisheries fact sheets reported for the WECAFC region is available at: <http://firms.fao.org/firms/search/institution/wecafc/en>

Fishery Title	Inventory Identifier	URL
Bahamas Lobster fishery	BHS02	http://firms.fao.org/firms/fishery/970/en
Bahamas Nassau Grouper fishery	BHS03	http://firms.fao.org/firms/fishery/971/en
Bahamas Queen Conch fishery	BHS01	http://firms.fao.org/firms/fishery/969/en
Belize Lobster fishery	BLZ02	http://firms.fao.org/firms/fishery/1005/en
Belize Queen conch fishery	BLZ01	http://firms.fao.org/firms/fishery/1004/en

Dominica Large pelagic handline and trolling fishery	DMA01	http://firms.fao.org/firms/fishery/1035/en
French Guiana Bottom trawl shrimp fishery	GUF01	http://firms.fao.org/firms/fishery/1011/en
French Guiana Coastal fish small scale fishery	GUF03	http://firms.fao.org/firms/fishery/1018/en
French Guiana Handlines red snapper fishery	GUF02	http://firms.fao.org/firms/fishery/1012/en
Jamaica Artisanal spiny lobster - Island shelf and proximal banks	JAM02	http://firms.fao.org/firms/fishery/989/en
Jamaica Industrial spiny lobster - Offshore banks	JAM03	http://firms.fao.org/firms/fishery/990/en
Jamaica Queen conch fishery	JAM01	http://firms.fao.org/firms/fishery/988/en
Saint Kitts and Nevis Caribbean spiny lobster fishery	KNA03	http://firms.fao.org/firms/fishery/983/en
Saint Kitts and Nevis Coastal pelagic fishery	KNA05	http://firms.fao.org/firms/fishery/1038/en
Saint Kitts and Nevis Coral reef and demersal fishery	KNA04	http://firms.fao.org/firms/fishery/1039/en
Saint Kitts and Nevis Oceanic pelagic fishery	KNA02	http://firms.fao.org/firms/fishery/982/en
Saint Kitts and Nevis Queen conch fishery	KNA01	http://firms.fao.org/firms/fishery/981/en
Saint Lucia Flyingfish fishery	LCA01	http://firms.fao.org/firms/fishery/906/en

Saint Lucia Large pelagic fishery	LCA04	http://firms.fao.org/firms/fishery/976/en
Saint Lucia Lobster fishery	LCA02	http://firms.fao.org/firms/fishery/907/en
Saint Lucia Queen conch fishery	LCA03	http://firms.fao.org/firms/fishery/975/en
Saint Lucia Sea urchin fishery	LCA07	http://firms.fao.org/firms/fishery/979/en
Saint Lucia Shark fishery	LCA05	http://firms.fao.org/firms/fishery/977/en
Saint Lucia Whelk fishery	LCA06	http://firms.fao.org/firms/fishery/978/en
Saint Vincent and the Grenadines Large pelagics fishery	VCT03	http://firms.fao.org/firms/fishery/994/en
Saint Vincent and the Grenadines Lobster fishery	VCT02	http://firms.fao.org/firms/fishery/993/en
Saint Vincent and the Grenadines Queen conch fishery	VCT01	http://firms.fao.org/firms/fishery/992/en
Trinidad and Tobago Dolphinfish fishery - Tobago	TTO02	http://firms.fao.org/firms/fishery/974/en
Trinidad and Tobago Gillnet and line flyingfish and associated pelagics fishery - Tobago	TTO01	http://firms.fao.org/firms/fishery/973/en
Turks and Caicos Islands Lobster fishery	TCA02	http://firms.fao.org/firms/fishery/986/en
Turks and Caicos Islands Queen conch fishery	TCA01	http://firms.fao.org/firms/fishery/985/en

■ Appendix 6: Glossary

(Note: this glossary is under development and currently does not include all terms used in the guidelines – definition in blue are draft definition i.e. not CWP definitions)

Active Vessel: vessels that have been engaged in any fishing operation (one day or more) during a calendar year. A vessel that has not been engaged in fishing operations during a year is considered ‘inactive’.

Biological data: The term ‘biological data’ refers to the collection of data on biological characteristics of target species, bycatch and incidental catches associated with fishing (e.g., length, weight, age).

Bycatch (FAO): Part of a catch taken incidentally in addition to the target species towards which fishing effort is directed. Some or all of the bycatch may be returned to the sea as discards, usually dead or dying (i.e. injured).

Catch and landings: These guidelines follow the advice of the CWP on catch and landings³³. The CWP advises that the overall aim for statistics on catch and landings is to report on fisheries contribution to the national economy, to the provision of food (subsistence) and on the total removal of fish and other organisms from the sea. Catch statistics are internationally reported as nominal catch (see definition below) which refers to the landings converted to a live weight basis. However, fisheries impact on the ecosystem goes beyond the landed fish and other organisms and includes species impacted by the gear. Some of these species are brought on deck and later discarded. The various components of the catch are described in the CWP catch concept diagram (Cf. Figure 1). There are fisheries where the number of individuals caught is also required to be reported.

Discarded catch (CWP¹¹): The term ‘discarded catch’ (or discards) refers to the component of the catch which is discarded overboard (refer to the catch concept diagram, Fig. 1). The discarded catch is the total live weight of undersized, unsaleable or otherwise undesirable whole fish discarded at the time of the capture or shortly afterwards. Discarded fish and other organisms may be discarded dead or alive, and may include species taken as bycatch.

Fish Product (draft): the term ‘fish product’ refers to any part of a fish which is handled and processed for food, agricultural, industrial or other uses. Products include whole fish, fillets, trunks, heads, roe and oils. Processing may involve heading, heading and gutting, filleting and mincing.

Fish product conversion factor (draft): the term ‘conversion factor’ (CF) refers to the ratio of the live weight of a fish to its product weight, i.e. $CF = \text{live weight} / \text{product weight}$. A conversion factor applies to a specific product type.

Fish Product Type (draft): the term ‘fish product type’ refers to the type of product which results from processing the fish. Product types include whole fish, fillets, headed and tailed trunks, headed and gutted trunks, heads, roe, meal and oil.

Fishery fleet (CWP³⁴): The term "fishery fleet" or "fishery vessels" refers to mobile floating objects of any kind and size, operating in freshwater, brackish water and marine waters which are used for catching, harvesting, searching, transporting, landing, preserving and/or processing fish, shellfish and other aquatic organisms, residues and plants.

Fishery sector (draft): The term ‘fishery sector’ refers to a subset of a fishery which shares similar technical, regional or socio-economic characteristics, such as a fishing fleet comprised of artisanal, commercial or subsistence fishers, or a fleet operating in domestic/EEZ waters or in the high seas.

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

³³ <http://www.fao.org/cwp-on-fishery-statistics/handbook/capture-fisheries-statistics/catch-and-landings/en/>

³⁴ <http://www.fao.org/cwp-on-fishery-statistics/handbook/capture-fisheries-statistics/fishery-fleet/en/>

economic, management, biological/ environmental and technological viewpoints (FIRMS 2006, modified from FAO glossary of fisheries)”.

Fishing gear (draft, based on FAO³⁵): The term ‘fishing gear’ refers to specialized equipment used for catching fish and defined according to the international standard classification revised version (ISSCFG Rev1, 2010³⁶). Each gear can have multiple configurations.

Fishing Gear Specific effort measure: to be defined

Fishing trip (draft, based on NOAA): The term ‘fishing trip’ refers to a period of time that begins when a fishing vessel departs from a dock, berth, beach, seawall, ramp, or port to carry out fishing activities and that terminates when the vessel returns to a dock, berth, beach, seawall, ramp, or port.

Fishing Unit (FAO, GRSF for unique identification and traceability): A fishing unit is a fishery targeting a single species (or group of species) conducted by a single flag state using a single fishing gear operating in a water area, which is possibly managed by a single empowered management authority or treaty under a unique set of management measures.

Fishing vessel (CWP⁸): The term "fishing vessel" refers to a vessel which is engaged only in catching operations.

Fleet Capacity (draft): the term ‘fleet capacity’ refers to a nominal measure of the capacity of a fishery fleet to conduct fishing activities. For statistical purposes, fleet capacity may be summarized by fishing vessel tonnage or vessel type based on two international classifications adopted by the CWP:

1. The "International Standard Statistical Classification of Fishery Vessels by GRT Categories" (ISSCFV), based on the Gross Register Tonnage of the vessels, approved by the CWP in 1977. See ISSCFV GRT classification³⁷
2. The 'International Standard Statistical Classification of Fishery Vessels by Vessel Types' (ISSCFV), based on the type of gear used by the vessels, approved by the CWP in 1984³⁸.

Fish Aggregating Device (FAD) (draft, based on FAO): The term ‘FAD’ refers to a permanent, semi-permanent or temporary structure or device made from any material and used to lure fish.

Incidental catch (draft): The term ‘incidental catch’ refers to a subset of the bycatch which interacts incidentally with the fishing gear and becomes hooked, netted or entangled, such as incidental catch of marine mammals, seabirds and turtles.

Fishery Inventory (FIRMS): “A Fishery Inventory is a comprehensive list of fishery units identified at an agreed scale and within a defined scope, including consideration of Geographic reference, thematic approach, and purpose”. Geographic reference, thematic approach, and purpose are the main criteria driving the identification of fishery units in an inventory.

Landing (CWP¹¹): The net weight of the quantities landed as recorded at the time of landing, including:

- Whole or eviscerated fish, fillet, livers, roes, etc.
- Fresh, iced, chilled or frozen, cured or canned products etc
- Fishmeals, liver oils, body oils etc
- Other edibles or inedibles fishery products, etc.

Landed weight (CWP¹¹): The term ‘landed weight’ refers to the mass (often referred to as weight) of a product at the time of landing, regardless of the state in which it is landed. That is, the fish may be whole, or gutted or filleted. Consequently this measure is of limited use for further analysis except where it is known that the product is homogenous in nature. Where more detailed analysis of the data is required, the landed weight is generally converted to a more meaningful measure, the most frequently used being the "nominal catch" (see below).

³⁵ <http://www.fao.org/cwp-on-fishery-statistics/handbook/capture-fisheries-statistics/fishing-gear-classification/en/>

³⁶

³⁷ <http://www.fao.org/3/a-bt982e.pdf>

³⁸ <http://www.fao.org/3/a-bt983e.pdf>

Live weight: The term ‘live weight’ refers to the weight of fish or other organisms when brought on board alive and prior to processing.

Length class: to be defined

Maturity: to be defined

Nationality of catch and landings (CWP¹¹³⁹): For the purpose of reporting national fishery statistics, the catch and landings is generally assigned to the country of the flag flown by the fishing vessel. However, the CWP recommended that this may be over-ridden only when one of the following arrangements between a foreign flag vessel and the host country exists: the vessel is chartered by the host country to augment its fishing fleet; or the vessel fishes for the country by joint venture contracts or similar agreements (as opposed to the ad-hoc practice of a vessel selling catches to a foreign vessel or landing catches at a foreign port) and the operation of such vessel is an integral part of the economy of the host country. In either case, the assignment of nationality to catch and landings data should be specified in the charter or joint-venture agreements.

Nominal catch (CWP³⁷): The term ‘nominal catch’ refers to the landings converted to a live weight basis. Nominal catch is often referred to as the "Live weight equivalent of the landings" or shortened to the "Live weight", and in some national publications it is also referred to as "Landings on a round, fresh basis", "Landings on a round, whole basis" or "Landings on an ex-water basis". Care should be taken when referring to the nominal catch as the ‘catch’ since in many situations the catch includes components which are not landed (refer to the catch concept diagram, Fig. 1).

Nominal Effort: to be defined

Non-fishing vessel (CWP⁸⁴⁰): The term "non-fishing vessel" applies to vessels performing other functions related to fisheries, such as supplying, protecting, rendering assistance or conducting research or training.

Primary Gear (draft): the term ‘primary gear’ refers to the fishing gear which is used in greater than or equal to 50% of the fishing activities during a fishing trip.

Retained catch (CWP³⁷): The term ‘retained catch’ refers to the component of the catch which is retained on board the fishing vessel (refer to the catch concept diagram, Fig. 1). The retained catch is reported as total live weight of fish and other organisms retained and in some fisheries the number of individuals retained is also required to be reported.

Sample design: to be defined

Socio-economic data (draft): the term ‘socio-economic data’ refers to the collection of data on social and economic characteristics of fishers, communities and businesses associated with fishing.

Source of data: to be defined

Vessel Beam (draft): is the width of the hull

Vessel Construction location (draft): Location of the vessel shipyard

Vessel Draft (or draught) (draft): Is the vertical distance from the bottom of the keel to the waterline.

Vessel Hull type (draft): type of the watertight body of the vessel (steel, aluminum, fiber glass, wood, etc..)

Vessel IMO number (draft): International Maritime Organization Number

Vessel IRCS (draft): International Radio Call Sign

Vessel Main Engine Power (draft): Power of the vessel main engine (in-board or outboard)

Vessel GRT (draft): Gross Registered Tonnage

Vessel GT (draft): Gross Tonnage

Vessel LOA (draft):: Length OverAll is the totallength from one end to the other

Vessel Type (draft): Type of fishing vessel according the agreed classification (national, regional, international)

Vessel Year of Construction (draft): Year of the original vessel construction

³⁹ <http://www.fao.org/cwp-on-fishery-statistics/handbook/capture-fisheries-statistics/catch-and-landings/en/>

⁴⁰ <http://www.fao.org/cwp-on-fishery-statistics/handbook/capture-fisheries-statistics/fishery-fleet/en/>

