WECAFC Data Collection Reference (DCRF) Framework




DCRF Version 2019.0.3

Version history

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0.4	*Incorporate SAG review* *Ready for presentation to WECAFC 17*		

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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 *Species*
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
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
SPAW	Specially Protected Areas and Wildlife
SU	Scientific sUrvey
t-RFMO	tuna Regional Fishery Management Organization
UN	United Nations
WECAFC	Western Central Atlantic Fishery Commission
WGFDS	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. In contrast with Regional Fishery Management Organizations (RFMOs) RFB's 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).

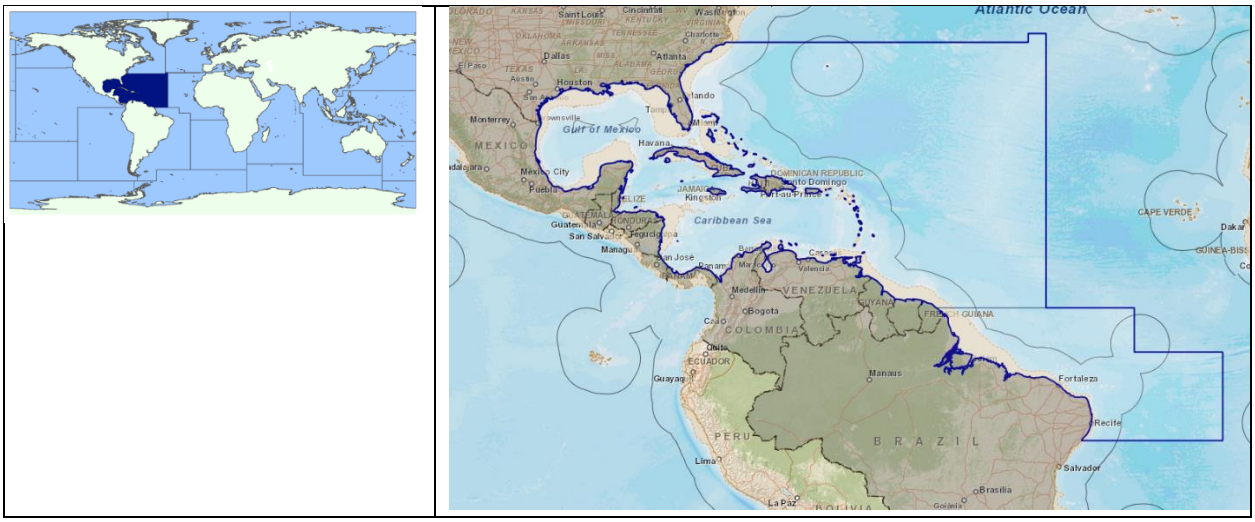

Figure 1:WECAFC area

Currently the Commission has 34 members, including the European Union. The latest session (16th) convened in 2016 in Guadeloupe, France with 28 members participating. Observers from four Regional Fishery Bodies (RFBs) and four intergovernmental organizations also participated. The Commission

adopted five regional fisheries management recommendations respectively on: 1) the regional plan for the management and conservation of Queen conch, 2) spiny lobster management and conservation, 3) the sub-regional fisheries management plan for flyingfish, 4) the management of deep sea fisheries in the high seas, and 5) the management of shrimp and groundfish of the Brazil-Guyana shelf resources. The Commission also adopted three resolutions on: 1) sea cucumber fisheries management and aquaculture, 2) Marine Protected Areas as fisheries management tool in the Caribbean and 3) strengthening implementation of international fisheries instruments relating to: a) 1993 FAO Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas (FAO Compliance Agreement); b.1995 United Nations Agreement for the Implementation of the Provisions of the UN Convention on the Law of the Sea of 10 December 1982 Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (UN Fish Stocks Agreement); c.2009 FAO Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (Port State Measures Agreement); d.2003 FAO Technical Guidelines on the Ecosystem Approach to Fisheries; e.2008 FAO International Guidelines for the Management of Deep-sea Fisheries in the High Seas; and f.2010 FAO International Guidelines on Bycatch Management and Reduction of Discards.

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.

1.2 Towards becoming a RFMO

The Commission during its 16th session[1] 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).

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

The WECACF 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 required by any RFMO. The ultimate aim of the DCRF is to provide a path for

[1] http://www.fao.org/3/a-bo086e.pdf

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 region[3].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:

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*

[2] http://www.fao.org/3/a-i6204e.pdf
[3] http://www.fao.org/fi/static-media/MeetingDocuments/WECAFC/WECAFC17/3Reve.pdf

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 achievements respectively were: output 1: FIRMS regional inventories published[4] and capacity built for national inventories in a few pilot countries, output 2: National and sub-regional capacity strengthened in data collection and data sharing in support to WECAFC fishery management plans, and output 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-line[5].

WECAFC-FIRMS phase II is a continuation of the WECAFC-FIRMS Phase 1 project and is primarily supporting 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 of best practices for logbooks and data sharing policies and guidelines.

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

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 RFMO. In that regard, inspiration was sought from other RFMOs DCFs (e.g., the General Fisheries Commission for the Mediterranean (GFCM) through the 2016 GFCM Data Collection Reference Framework[6] and from International Commission for the Conservation

[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
[5] http://www.fao.org/3/a-i5789e.pdf
[6] http://www.fao.org/gfcm/data/dcrf/en/

of the Atlantic Tunas (ICCAT)[7]. Improvements on this first version were accomplished form 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 of importance (5 in this version) - Identification of relevant operational units (e.g., fleet/vessel mapping schema, mode of fishing, gear, spatial unit of fishing) - Conversion factors - Questionnaires - Glossary of terms

[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 - PSMA[8])

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 species groups (e.g.,: *Epinephelus* spp., Groupers).

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 collection[9])

2.2 DCRF related definitions

Fishery fleet (CWP[10]): The term "fishery fleet" or "fishery vessels" refers to mobile floating objects of any kind and size, operating in freshwater, brackish water or 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 (CWP[8]): The term "fishing vessel" refers to a vessel which is engaged only in catching operations.

Non-fishing vessel (CWP[8]): 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.

Fishing gear (FAO[11]): Equipment used for fishing according to the international standard classification revised version (ISSCFG Rev1, 2013[12]). Each gear can have multiple configurations.

Catch and landings: These guidelines follow the advice of the CWP on catch and landings[13]. The CWP advises that the overall aim for statistics on catch and landings is to report on fisheries contribution

[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/fishery-fleet/en/
[11] http://www.fao.org/cwp-on-fishery-statistics/handbook/capture-fisheries-statistics/fishing-gear-classification/en/
[12] http://www.fao.org/3/a-bt987e.pdf
[13] http://www.fao.org/cwp-on-fishery-statistics/handbook/capture-fisheries-statistics/catch-and-landings/en/

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 2). There are fisheries for which the number of individuals caught is also required to be reported.

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.

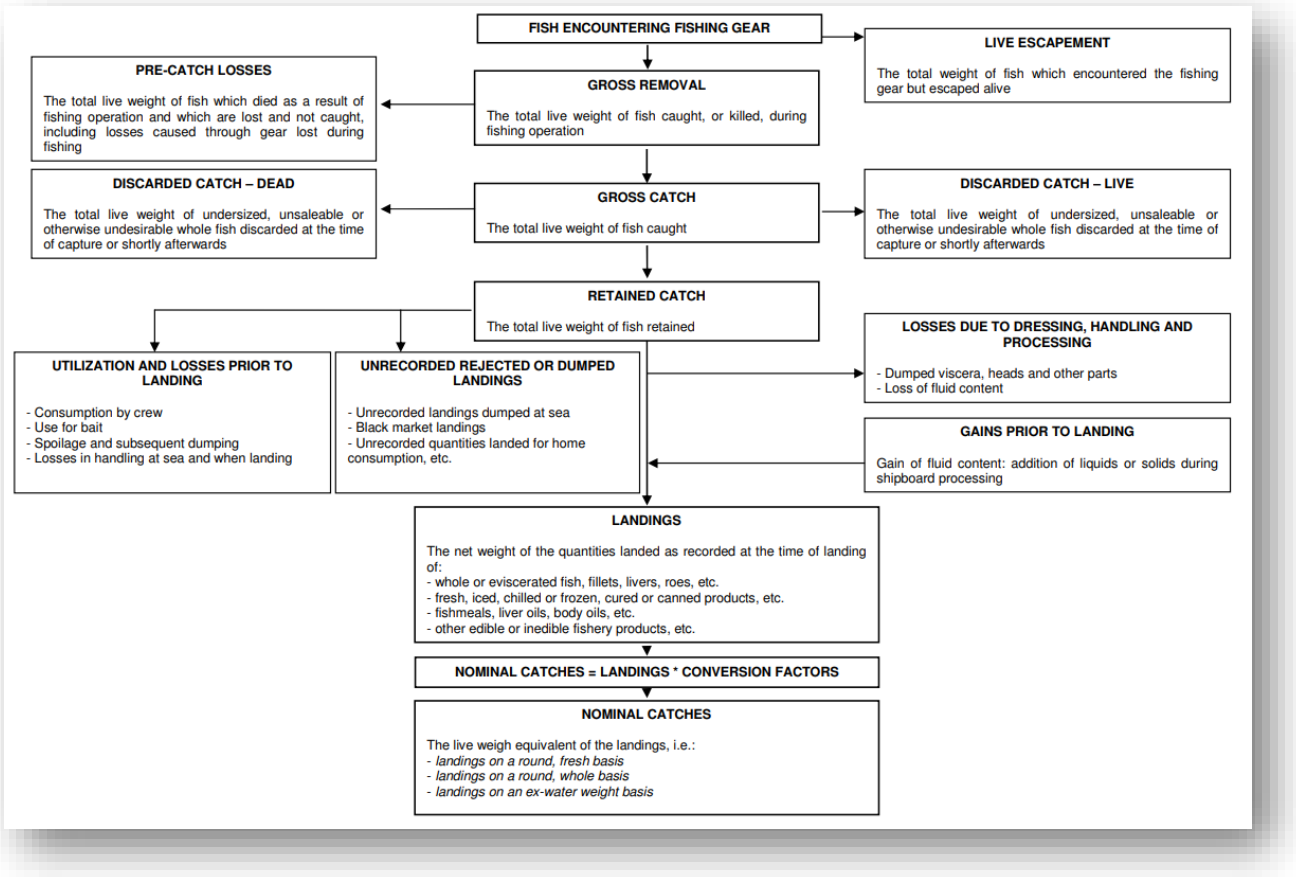

Figure 2: CWP diagrammatic representation of catch concepts. From CWP Handbook[14]

[14] http://www.fao.org/3/bt981t/bt981t.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.

Retained catch (**CWP**[15]): 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. 2). 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.

Discarded catch (**CWP**[15]): The term 'discarded catch' (or discards) refers to the component of the catch which is discarded overboard (refer to the catch concept diagram, Fig. 2). 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 and other organisms may be discarded dead or alive, and may include species taken as bycatch.

Bycatch (FAO): The term "bycatch" refers to the part of a catch taken incidentally during fishing, or associated with the catch of 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). The catch taken incidentally is also referred to as incidental catch. [note that this is a broad definition which includes incidental catch]..

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.

Incidental catch[16]: Retained catch of non-targeted species

Landing (CWP[15]**)**: 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 (CWP[15]**):** 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).

Nominal catch (CWP[15]**):** 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. 2). Often, in further

[15] http://www.fao.org/cwp-on-fishery-statistics/handbook/capture-fisheries-statistics/catch-and-landings/en/

[16] 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.

processing the data, conversion factors are applied to the individual products which express the weight in a more homogenous way.

Nationality of catch and landings (CWP[15]): 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.

To cover the nationality of catch and landings, the Handbook includes a list of countries and areas (http://www.fao.org/3/bt978e/bt978e.pdf) with ISO Alpha 2 codes, ISO Alpha 3 codes and the M49 standard ('Standard Country or Area Codes for Statistical Use' originally published as Series M, No. 49).

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.

In order to assess fleet capacity, it is necessary as a bare minimum to have estimates of vessel numbers and main vessel characteristics. If the fleet consists of only one type of vessel, the number of fishing vessels may be used to express the total fishing power or capacity of the fishing fleet. If the fleet consists of vessels of different types, any survey to determine the capacity of a given fishing vessel would need to collect information on a number of vessel characteristics. Vessel type, gross tonnage, length and engine power would be amongst the most important characteristics. The exact fishing capacity indicator used will depend on the characteristics of the fishery or fleet and the availability of reliable data.

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 [17]
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 1984[18].

Fishing effort (CWP[19]): generally defined as the sum of the time spent searching for fish (search duration) and/or the amount of fishing gear of a specific type used on the fishing grounds over a given unit of time e.g. a fishing operation, fishing activity, day or fishing trip. The measure of effort (unit of fishing effort) depends on the fishery and type of gear used. The impact of a unit of

[17] http://www.fao.org/3/a-bt982e.pdf
[18] http://www.fao.org/3/a-bt983e.pdf
[19] http://www.fao.org/cwp-on-fishery-statistics/handbook/capture-fisheries-statistics/fishing-effort/en/

fishing effort on the fish populations and the ecosystem in general differs amongst vessels and depends on the gear deployed. As a result, effort statistics need to be qualified by vessel type and size and engine power. When two or more kinds of gear are used or when the same gear is used by different classes of vessel, the respective efforts must be adjusted to some common standard before being aggregated across all classes. This common standard is sometimes referred to as effective fishing effort. Standard measures of effort for each ISSCFG category of fishing gear are listed in Table 1.

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** **Haul-by-haul data**	**Aggregated 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 CWP[20] for standard reporting timelines.

[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 and resources considered overfished and/or threatened. 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 species, including discards and incidental catches. Additionally, it is recognized that socio-economic data is also needed to characterizing fishing operations, enterprises and employment trends. 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.

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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 in the region (e.g., total nominal catches, total effort, and total capacity by 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, species, year, gear, region, fishing waters; Effort by fleet segment.
3. **Task III: Fleet**: Provide additional information for fisheries monitoring, management and assessment with the fleet capacity 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 assessment (e.g., size frequencies of the samples (retained or discarded) measured for each priority 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**	**Description**	**Resolutions**
I	Regional Statistics		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 in the following tasks	To be completed after WECAFC 17
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 per species, area, fleet segment for the given year	To be completed after WECAFC 17
		II.2. Effort by fleet segment	Days Fishing Nominal Effort Fishing Vessel Count	Effort will reflect the national fleet effort deployed during the reporting period to catch the above reported catches (and landings).	To be completed after WECAFC 17
III	Fleet				
		III.1. Fleet by primary gear	Number of active vessels	Number of vessels engaged in the fishery (i.e. active) by year, by primary gear and by fishing area and time unit	To be completed after WECAFC 17

DCRF Tasks					
ID	**Task**	**Sub-task**	**Data**	**Description**	**Resolutions**
		III.2. Vessel registry	Vessel descriptors	Regional vessel registry fed by the national vessel records or registries	To be completed after WECAFC 17
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	To be completed after WECAFC 17
		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)	To be completed after WECAFC 17
V	Endangered, Threatened, Protected (ETP) species catches		Landings (in numbers or weight as appropriate) Number of discards alive (in numbers or weight as appropriate) Number of discards dead (in numbers or weight as appropriate)	The discards resulting from endangered, threatened or protected species catches are reported.	To be completed after WECAFC 17
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	To be completed after WECAFC 17
		VI.2: Engagement in Fisheries	Count of fisherfolks Count of fisherfolks x days fishing	Number of fisherfolks actively taking part to fishing activities, and the intensity of such involvement	To be completed after WECAFC 17
		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$,	To be completed after WECAFC 17

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 defined in the document "WECAFC fisheries data sharing policies and guidelines"[21].

[21] Current version:
https://data.d4science.org/shub/E_bnQrUVIwdFRSRUpuTUhwdkVzTnlEaFZ3MUluekJGVGt0REk0ZUZGQ0tBdlMrVk1zT25kNzV1Q20vc2ZZOVFpQg==

3.3 Components of the Data Collection Framework

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

DCRF Task Components

- Description
- Countries Involved
- Data to be Reported for Priority Species
- Frequency and Deadline of Reporting
- Data Access and Sharing Policies

3.3.1 Task I: Regional Statistics

Description

This task aims to provide to WECAFC members a general summary overview of the fishery sector in the wider Caribbean region. Data reported in this task are a sum of other indicators available in the following tasks. Totals must be aligned between tasks for nominal catches and effort.

Countries involved

All WECAFC countries

Data to be reported (Recommended for all priority species)

Field	**Definition**
Country	The M49 UN code for the country (see appendix 1)
Year	Reference year for reporting
Quarter	*Optional (if available in the member country)*[(2)]
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
Operating Fishing Vessel Count	Total number of operating fishing vessels during the reference year by fleet segment
Total Nominal Catch	Total Nominal Catch Landings converted to live

	weight, or landed species target and bycatch species from all fishing vessels during the reference year
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
Total Engine Power (kW)	Total main engine power, in kilowatt (kW) [(1)], of all operating fishing vessels 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 (first quarter) of the following year.

Data access and sharing (see section 3.2)

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

3.3.2.1 Task II.1: Catch

Description

Catches are defined in units of numbers as all the removed fish during the fishing activities whether targeted or taken as by-catch.: 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 for the given year.

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

The reporting of Catch is recommended for all priority species; if additional data are available for other species, these may be reported using the scientific name and the ASFIS 3 alpha code.

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).

Special note for value: *this item, <u>not presented nor discussed at the first FDS-WG</u>, is added for the purpose of completeness and to solicit feedback from WECAFC stakeholders on relevance of capturing value data as part of the DCRF. There is increasing global policy demand for this data, and the CWP is in the process of adding this variable as part of minimum data requirement for*

socio-economic statistics. Value information can inform economic aspects of management decisions and to inform species and/or fleets contribution to GDP. It is noted that reporting frequency for value data may not need to be per annum. It is also noted that methodologies allowing to calculate the monetary value of total landing fish for a given species are required.

Countries involved

All WECAFC countries - and where relevant, Countries of distant fleet fishing as flagged vessels of member countries in WECAFC area

Data to be reported (Recommended for all priority species)

Field	**Definition**
Country	The M49 UN code for the country (see appendix 1)
Year / Month	Reference year for reporting
Fleet Segment	See appendix 2.1 for fleet segment definition
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, for the commercial species
Discarded Catch	Weight of discarded species, for the commercial species
Nominal Catch	Weight of total landed fish for the given species in live weight equivalent (in metric tonnes)
Value	*Monetary value of total landed fish for the given species (converted into US$)*

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 (see section 3.2)

3.3.2.2 Task II.2: Effort by fleet segment

Description

Effort will reflect the national fleet effort deployed during the reporting period to catch the above reported catches (and landings).

Countries involved

All WECAFC countries

Data to be collected (Recommended for priority species)

Field	**Definition**
Country	The M49 UN code for the country (see appendix 1)
Year / Month	Reference year and month for reporting
Fleet Segment	See appendix 2.1 for fleet segment definition
Fishing Mode	See appendix 2.1 for fishing mode definition
Area	See appendix 2.2 for regional subareas' definition
Target species	See appendix 2.3 for the main commercial species (scientific name)
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
Fishing Vessel Count	Total number of vessel operating for this fleet segment during the reference year

Frequency and deadline of transmission

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

Data access and sharing (see section 3.2)

3.3.3 Task III: Fleet

3.3.3.1 Task III.1: Fleet by primary gear

Description

Number of vessels engaged in the fishery (i.e. active) by year, by primary gear and by fishing area and time unit

Countries involved

All WECAFC countries

Data

Field	Definition
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
Area	See appendix 2.4 for regional subareas' definition
Number	Number of active vessels for the considered gear during the reference year

Frequency and deadline of transmission

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

Data access and sharing (see section 3.2)

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 2nd Meeting of the WECAFC IUU Working Group (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	Currrent 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 maximum length of a vessel's hull measured parallel to the waterline[22]
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)
Hull type	O	Type of the watertight body of the vessel (steel, aluminum, fiber glass, wood,
Vessel Type	M	Type of fishing vessel according the regional classification
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

[22] *Launer, Donald (2006). Dictionary of Nautical Acronyms and Abbreviations. 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

3.3.4 Task IV: Biological information

3.3.4.1 Task IV.1: Size data

Description

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.

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 data for some portion of the numbers discarded as they are key for stock assessment and monitoring.

Countries involved

All WECAFC countries when data are available

Data to be reported (Recommended for all priority species)

Field	Definition
Country	The M49 UN code for the country (see appendix 1)
Year / Month/Quarter	Reference year for reporting and by month if available
Fleet Segment	See appendix 2.1 for fleet segment definition and 2.2 for gear
Geartype (detailed)	*(Optional) could be added as a dimension if the classification is defined (see question below)*
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 commercial species
Total discarded catch	Total number of discarded species, for the commercial species
Total weight of samples	Weight of sampled species and number in the sample
Length class /sex/maturity	Length class in 1 cm units and sex with the stage of maturity where appropriate
Number of individuals at length	Total number of fish for the given length class and sex (for selected species)
Total weight of Individuals	Total weights of individuals in length class + 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 (see section 3.2)

Question for reviewers:
Geartype is added as an optional dimension if classification of geartype by characteristics can be provided (gillnet net by mesh size, longline by group of number of hooks etc…).
Should metadata be requested for 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

Description

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)

Countries involved

All WECAFC countries

Data to be reported (Recommended for all priority species)

Field	**Definition**
Country	The M49 UN code for the country (see appendix 1)
Year/Month	Reference year for reporting and by month if available
Fleet Segment	See appendix 2.1 for fleet segment definition
Geartype (detailed)	*(Optional) could be added as a dimension if the classification is defined (see question below)*
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/Sex/Stage of Maturity	Total catch by length class in 1 cm units and sex Length class in 1 cm units and sex with the stage of maturity where appropriate *(needs definition per species, see below)*
Total Weight of Individuals	Total weight of Individuals in length class, indicate units (e.g. grams or kilograms).
Total Catch	Total number individuals (raised to task II catch) for length of the entire catch by fleet, gear, 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 (see section 3.2)

Question for reviewers:
same question regarding geartype as above.
It is recognized of the need to define a regional reference list of stage of maturity per species. Advice requested from the Species Working Groups

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

Description

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

Countries involved

All WECAFC countries when data are available

Data to be reported (Recommended for all priority species)

Field	Definition
Country	The M49 UN code for the country (see appendix 1)
Year / Month or Quarter	Reference year for reporting
Fleet Segment	See appendix 2.1 for fleet segment definition
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 (see section 3.2)

3.3.6 Task VI: Socio economics

3.3.6.1 Task VI.1: Employment

Description

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.

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

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	Male or Female
Age Group	0-18 / 18 - 65 / >65
Category	Full-time fisher / part-time fisher
Count of fishers	Number of fishers for the specified gender / category / secondary workers

Frequency and deadline of transmission

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

Data access and sharing (see section 3.2)

3.3.6.2 Task VI.2: Engagement in Fisheries

Description

Number of fisherfolks actively taking part to fishing activities, and the intensity of such involvement

Countries involved

All WECAFC countries

Data to be reported

Field	Definition
Country	The M49 UN code for the country (see appendix 1)
Year / Month	Reference year and month for reporting
Fleet Segment / Gear	See appendix 2.1 for fleet segment definition
Fishing mode	See appendix 2.1 for fishing mode definition
Area	See appendix 2.2 for regional subareas' definition
Count of fisherfolks	Number of fisherfolks actively taking part to fishing activities
Count of fisherfolks x days fishing	Number of fishers multiplied by number of fishing days (intensity of fisherfolks involvement in fishing activities)

Frequency and deadline of transmission

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

Data access and sharing (see section 3.2)

4 Appendix

Appendix 1: List of WECAFC countries codes (M49[23])

FAO and CWP advise 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
Guinea	324
Guyana	328

[23] https://unstats.un.org/unsd/methodology/m49/
CWP FAO countries code list: http://www.fao.org/3/bt978e/bt978e.pdf

Name	M49 code
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 Kitts and Nevis	659
Saint Lucia	662
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 vesseltype 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 definition[24]. 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-FDS[25]:

[24] http://www.iccat.int/Documents/Comply/vessels_ENG.pdf
[25] Reference to report when published

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

VESSEL TYPE			LENGTH CLASS				
CODE	**STANDARD. ABB.**	NAME	<6m (19 ft.)	6 m – 18 m (19 – 59 ft.)	18 to 20 m (59 – 65 ft.)	20 to 24 m (65 – 78 ft.)	>24 m (78 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	LOX-2	LOX-3	LOX-4	LOX-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
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

Question for the reviewers:
Need for non-fishing vessel ?

2. **Fishing Modes**

Fishing mode classification will complement the vessel type to consider use of FAD or certain fishing techniques such as diving. The proposal for FAD is taken from the recommendation of the March 2018 *Joint Meeting of tuna Regional RFMOs* meeting in Rome[26].
The proposed classification is the following.

Code	**Name**	**Description**
ALL	All	All fishing modes reported together
FREE	Free	No FAD use
ASSO	Associated	Use of FAD
DIVE	Diving	Fishing with one or more divers

3. **Fleet Segment mapping for WECAFC Member countries**

[26] Add link to report – not yet published.

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 vessel mapping with the regional classification

COUNTRY :			**Length class +D: decked +U: undecked**				
CODE	**STANDARD ABB.**	**VESSEL TYPE**	<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 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					
10.2	MTW	Multi-gear trawler vessels					
10.3	MLG	Multi-gear non-trawler vessels					
19	OV	Other fishing vessels					
19.9.1 (1)	OVN (1)	Non-motorized Vessels					

(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 1st Meeting of the WECAFC FDS-WG (Barbados May 2018). It will be revised in a forthcoming version with the results of investigations to be conducted as per the directions provided by FDS-WG1.

It is recognized that the definition of the spatial units for fishing zones is a challenge at this stage in the development of the DCRF.

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 Report[27] or 2.5'x2.5' for US Caribbean fisheries) or RFMOs such as IOTC (5°x5° or 1°x1° depending on species[28]) or other grid at suitable scale.

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 (Working Party on Statistics meeting 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 in 1978. This has to be understood in the light of the 1978 geopolitical context (Please note that some of the Bristish 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:

[27] https://www.sefsc.noaa.gov/docs/2015_coastal_logbook.pdf - page 6
[28] www.iotc.org/sites/default/files/documents/data/Guidelines%20Data%20Reporting%20IOTC.pdf pages 12-15

(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
(iii) waters around the islands of Providencia and San Andrés s 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 8o°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 isla.11ds 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, Sombrero
(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:

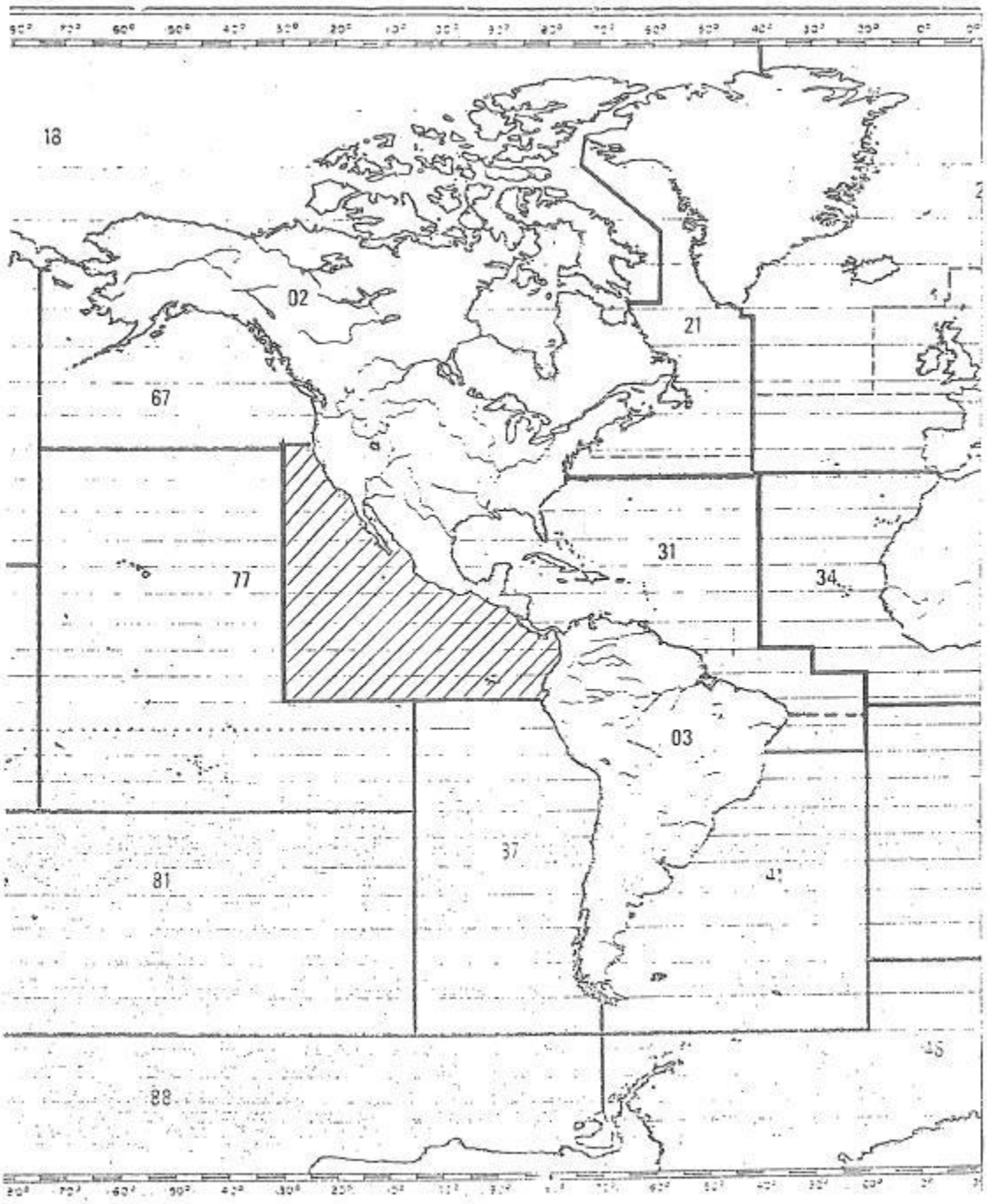
(i) the mainland coast from the northern boundary of the WECAFC region at 35°N southward to 26°N on the east coast of Florida, this parallel extending seaward as a boundary
(ii) from this point, around the coast of Florida to 87°w, this meridian extending seaward as a boundary
(iii) from this point westward 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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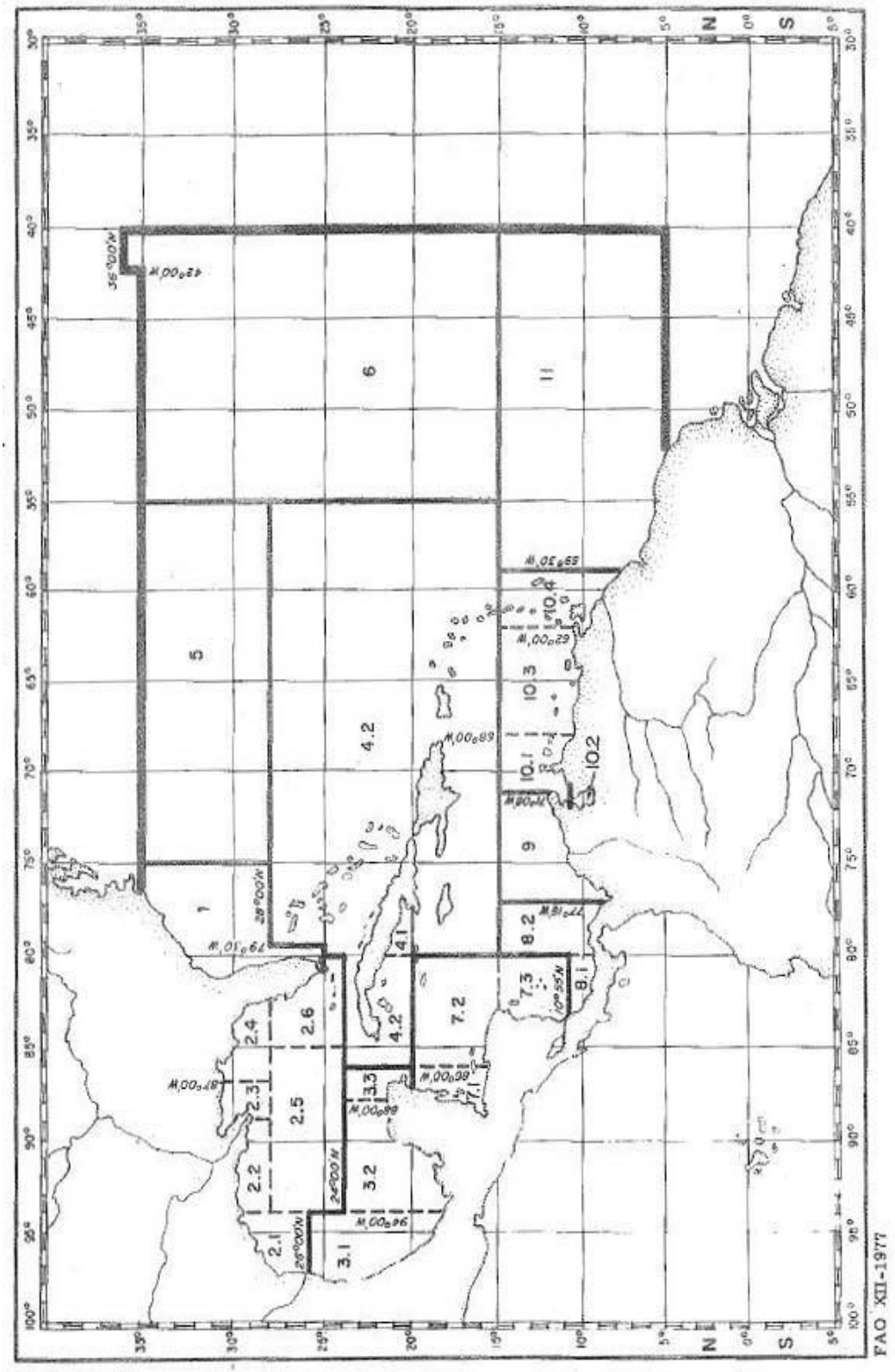
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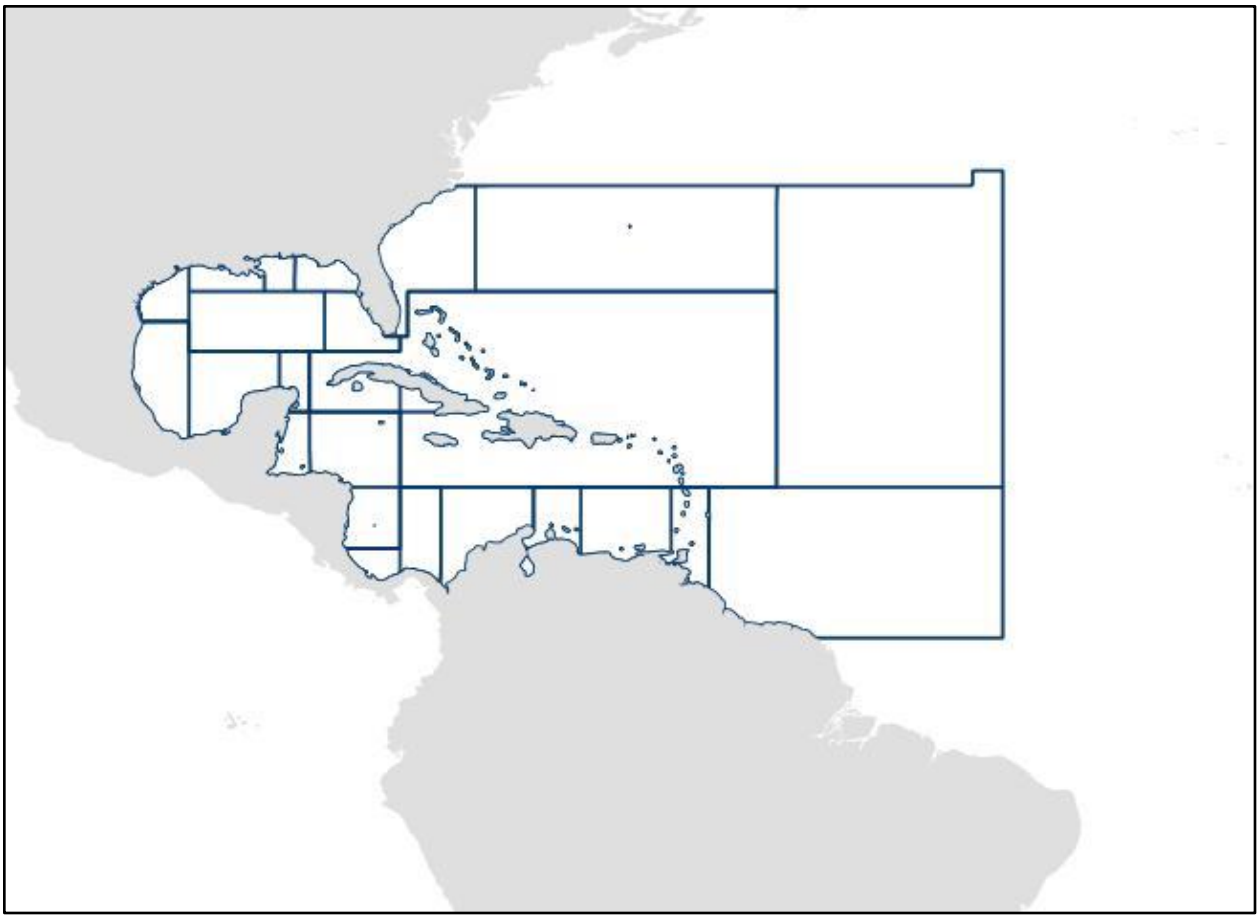
2. WECAFC Working Party on Assessment of Marine Fishery Resources (WPAMSR) proposal for sub areas

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

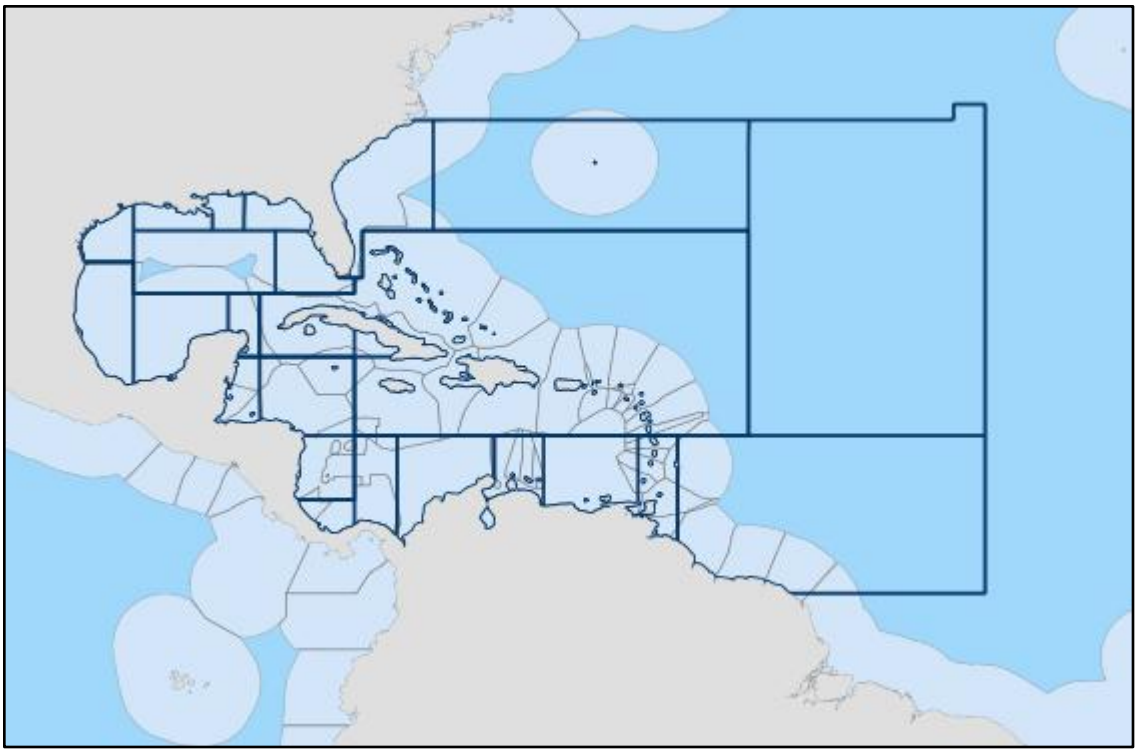
31.1	USA Atlantic Coast
31.2	Northern Gulf of Mexico
31.3	Southern Gulf of Mexico
31.4	West Indies
31.5	Bermuda
31.6	Oceania
31.7	Yucatan / Nicaragua
31.8	Costa Rica/Panama
31.9	Colombia
31.10	Venezuela
31.11	Guyana

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_AREA=31;INCLUDE

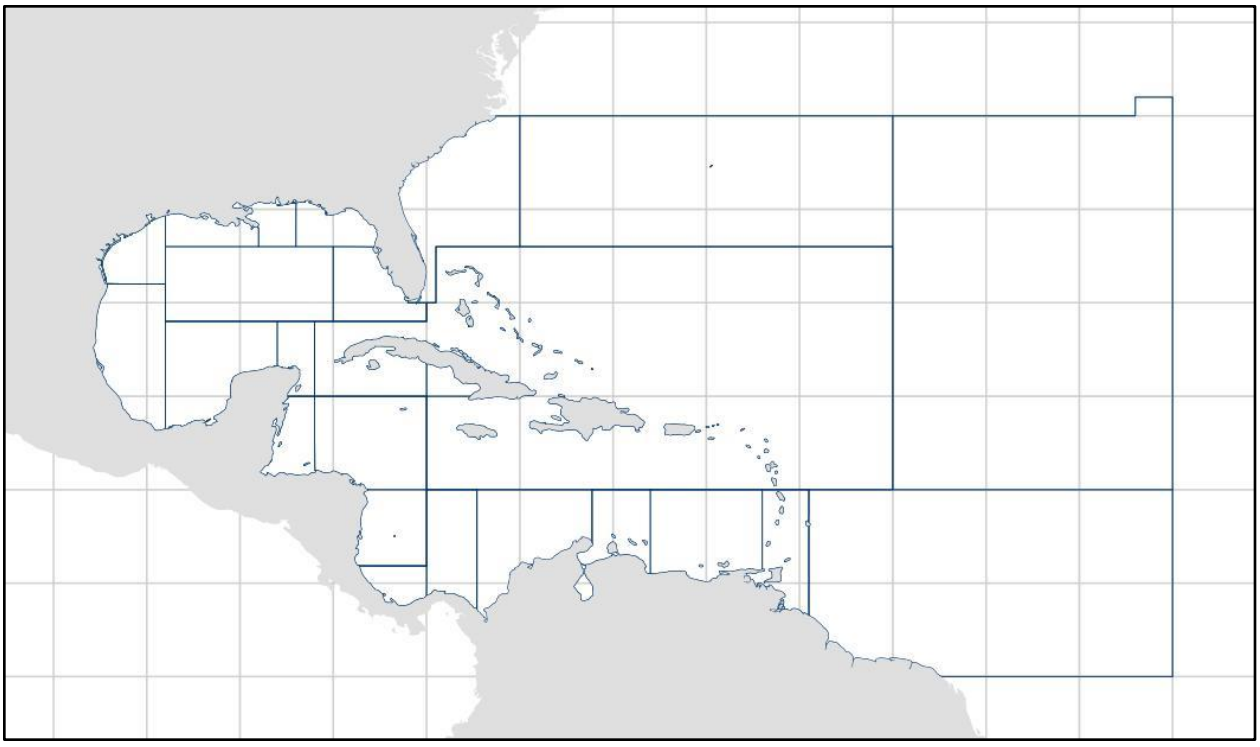


The below figures show a possible implementation with even more detailed sub-areas (reflected EEZ). This is a non-official representation of these possible sub areas as proposal http://www.fao.org/figis/geoserver/fifao/wms?service=WMS&version=1.1.0&request=GetMap&layers=fifao:VLIZ_EEZ_HS,fifao:FAO_AREAS_ERASE,fifao:UN_CONTINENT2&styles=&bbox=-100.0,-10.0,-35.0,40.0&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



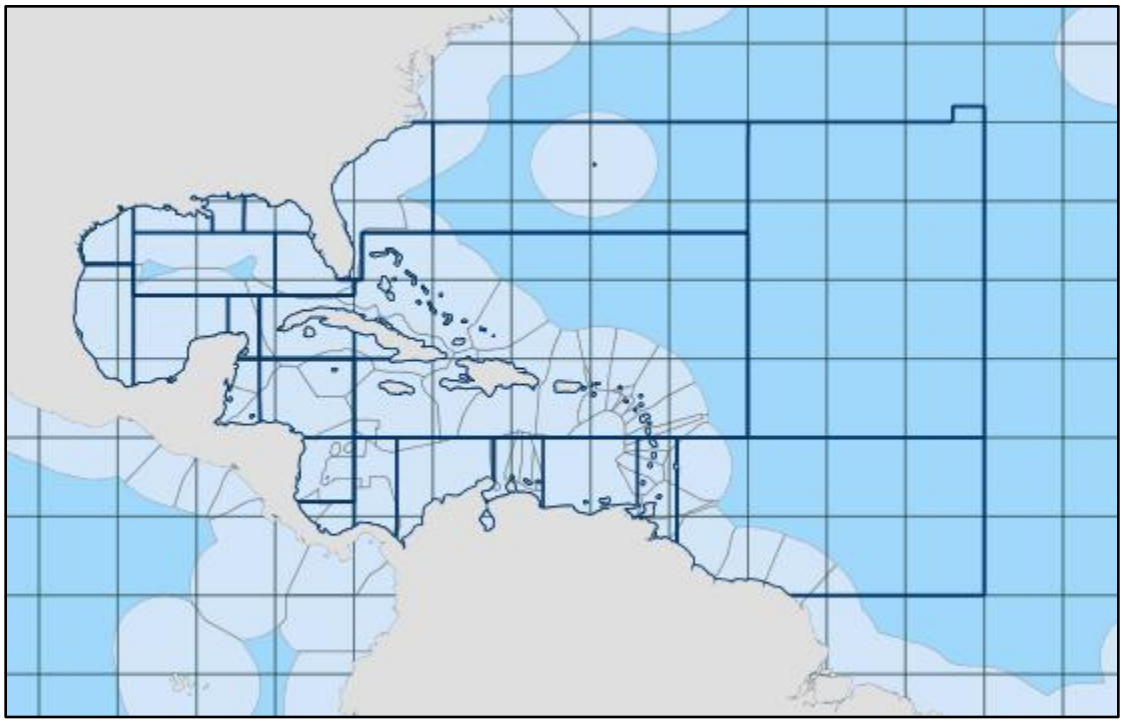
The grid will provide more detailed information especially for the West Indies. Differences between Bahamas, Dominican Republic, Jamaica, and smaller islands (a group of Montserrat / Guadeloupe / Dominica, another with only Barbados and the last one with Martinique / St Lucia / St Vincent and the Grenadines / 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? (re-use 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, WECACF 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*."[29]

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 initial priority 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 and as such are relevant to the main objectives of these management bodies relating to conservation, management and development. Further, 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 categorizations can derive from interest:

- to encourage monitoring of the high seas straddling/migratory/deep sea species in areas beyond national jurisdiction that would correspond to the WECAFC-as-RFMO mandate (as per WECAFC 16[30] decision)
- to encourage monitoring of high seas and deep seas species in preparing for a possible mandate for WECAFC as RFMO, and
- to encourage monitoring of 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
- to encourage monitoring of species with existing mandatory reporting to RFMO (e.g., ICCAT tuna and tuna-like species)

2. Thus, the concept of two main levels of priority importance for species reporting is defined for countries:

[29] http://www.fao.org/fishery/rfb/wecafc/en
[30] http://www.fao.org/3/a-bo086e.pdf

Group 1: Reporting for Priority species (Appendix 2.3.1). These are key species to the region for which member States are strongly encouraged to statistical reporting. These key species are defined as follows and are supported on one or more of the following 3 supporting bases (i.e., supporting criteria for inclusion):

- **Basis 1:** Species with endorsed fisheries management plans (Conch, lobster, flying fish) and/or for which species working groups have been established by the sub-regional fishery bodies (e.g., Conch, lobster and Flyingfish, shrimp and Groundfish, and sharks and Highly Migratory) (Appendix 2.3.1a)
  - CFMC/OSPESCA/WECAFC/CRFM Queen Conch Working Group
  - OSPESCA/WECAFC/CRFM/CFMC Working Group on Spiny Lobster
  - CRFM/WECAFC Flying fish in the Eastern Caribbean Working Group;
  - WECAFC/CRFM/IFREMER Working Group on shrimp and groundfish of the Northern Brazil-Guianas shelf
- **Basis 2**: Species with existing mandatory reporting to RFMO (e.g., ICCAT-https://old.iccat.int/en/introduction.htm): tuna and tuna like species (Appendix 2.3.1b
- **Basis 3:** High Seas and Deep Sea Species falling under a possible mandate of WECAFC as RFMO (Appendix 2.3.1c)
  - WECAFC Working Group on the management of deep-sea fisheries
  - OSPESCA: Working Group on Sharks and Highly Migratory Species

And

Group 2 : Reporting of Other Reference species (Appendix 2.3.2). These are species for which, 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 two basis levels of reasoning:

- **Basis 4:** Commercially targeted and threatened sharks and rays (Appendix 2.3.2a)
  - OSPESCA/WECAFC Working Group on demersal Sharks
  - WECAFC/CITES/OSPESCA/CRFM/CFMC Working Group on Shark Conservation and Management
  - "Recommendation by ICCAT on ON IMPROVEMENT OF COMPLIANCE REVIEW OF CONSERVATION AND MANAGEMENT MEASURES REGARDING SHARKS CAUGHT IN ASSOCIATION WITH ICCAT FISHERIES [31]
- **Basis 5:** 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 (Appendices 2.3.2.2.b):

[31] « **RECOMMENDATION BY ICCAT ON IMPROVEMENT OF COMPLIANCE REVIEW OF CONSERVATION AND MANAGEMENT MEASURES REGARDING SHARKS CAUGHT IN ASSOCIATION WITH ICCAT FISHERIES " (https://www.iccat.int/Documents/Recs/compendiopdf-e/2016-13-e.pdf)**

  - Recreational, Pelagic fisheries, FADS, Reef and slope fisheries, continental shelf fisheries, data/methods/training, and IUU [32]
- **Appendix 2.3.3** provides a list of additional species identified in historical WECAFC works**.**

3. **The preliminary WECAFC complete species categorization is defined as followed:** The **WECAFC reference list of species** will categorize WECAFC species as part of the 'Priority species' list or the 'other Reference species' list.

The WECAFC priority and 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:

Species Listing Structure
- **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)**

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 priority species list (especially for the definition of the shrimp and groundfish species list) and are included under Basis 5.

[32] WECAFC/ CRFM/ OSPESCA CFMC Working Group on Recreational Fisheries, CRFM Pelagic Fisheries Working Group (PWG) – small & large pelagics, sport & recreational fishery, CRFM/IFREMER/WECAFC/JICA Working Group on Fisheries using Fish Aggregating Devices (FADs) ,CRFM Reef and Slope Fisheries Working Group (RSWG),CRFM Continental Shelf Fisheries Working Group (CSWG), CRFM Data, Methods and Training, DMTWG),CRFM/OSPESCA/WECAFC-FAO Regional Working Group on Illegal, Unreported, and Unregulated Fishing (RWG IUU), CFMC Draft Island Based Fishery Management Plans, CFMC/WECAFC Spawning Aggregations Working Group[32]

WECAFC Reference Species list

The list of **WECAFC 'Priority' 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. Stakeholders are invited to consult this list and confirm among the species which ones should be categorized as Priority species or as Other Reference species

- ## Appendix 2.3.1: WECAFC Priority species

  - *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	Supporting Basis	WECAFC Sub-area of Reporting
Species with management plan									
SLC	*Panulirus argus*	Caribbean spiny lobster	Langouste blanche	Langosta común	Caribbean spiny lobster	Langouste blanche	Langosta común del Caribe	1	
FFV	*Hirundichthys affinis*	Flying Fish	Exocet hirondelle	Volador golondrina	Fourwing flyingfish	Exocet hirondelle	Volador golondrina	1	
COO	*Lobatus gigas*	Queen conch	Strombe rose	Cobo rosado	Queen conch	Lambi	Caracol reina	1	
Ground fish (species to be promoted as Priority species upon advice from Species WGs and other Reviewer Stakeholders, can be found in the Other Reference Species listing)									
YNA	Cynoscion acoupa	Acoupa weakfish	Acoupa toeroe	Corvineta amarilla	Acoupa weakfish	Acoupa toeroe	Corvinata amarilla		Northen Brazil Shelf
SNC	Lutjanus purpureus	Southern red snapper	Vivaneau rouge	Pargo colorado	Southern red snapper	Vivaneau rouge	Pargo colorado	1	Northen Brazil Shelf
Shrimps (species to be promoted as Priority species upon advice from Species WGs and other Reviewer Stakeholders, can be found in the Other Reference Species listing)									
PNU	Farfantepenaeus subtilis	Southern brown shrimp	Crevette café	Camarón café sureño	Southern brown shrimp	Crevette grise du Sud	Camarón café sureño	1	Northen Brazil Shelf

Question for reviewers:
Identify the key shrimp and ground fish 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 subregional fishery bodies and/or mandatory reporting required by an RFMO (e.g., ICCAT) (basis 2)*

Tunas (M.1.2.a)									
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	*Thunnus thynnus*	Northern bluefin tuna	Thon rouge	Atún	Atlantic bluefin tuna	Thon rouge de l'Atlantique	Atún rojo del Atlántico	2	
YFT	*Thunnus albacares*	Yellowfin tuna	Thon albacore	Rabil	Yellowfin tuna	Albacore	Rabil	2	
ALB	*Thunnus alalunga*	Albacore	Germon	Atún blanco	Albacore	Germon	Atún blanco	2	
BET	*Thunnus obesus*	Bigeye tuna	Patudo	Patudo	Bigeye tuna	Thon obèse(=Patudo)	Patudo	2	
SKJ	*Katsuwonus pelamis*	Skipjack tuna	Listao	Listado	Skipjack tuna	Listao	Listado	2	
BLF	*Thunnus atlanticus*	Blackfin tuna	Thon à nageoire noire	Atún aleta negra	Blackfin tuna	Thon à nageoires noires	Atún aleta negra	2	
LTA	*Euthynnus alletteratus*	Little tunny	Thonine	Bacoreta	Little tunny(=Atl. black skipj)	Thonine commune	Bacoreta	2	
BON	*Sarda sarda*	Atlantic bonito	Pélamide	Bonito atlántico	Atlantic bonito	Bonite à dos rayé	Bonito del Atlántico	2	
FRI	*Auxis thazard*	Frigate tuna	Auxide	Melva	Frigate tuna	Auxide	Melva	2	

BOP	*Orcynopsis unicolor*	Plain bonito	Palomette	Tasarte	Plain bonito			2	
WAH	*Acanthocybium solandri*	Wahoo	Thazard-bâtard	Peto	Wahoo	Thazard-bâtard	Peto	2	
SSM	*Scomberomorus maculatus*	Spotted Spanish mackerel	Thazard tacheté	Carite pintado	Atlantic Spanish mackerel	Thazard atlantique	Carite atlántico	2	
KGM	*Scomberomorus cavalla*	King mackerel	Thazard barré	Carite lucio	King mackerel	Thazard barré	Carite lucio	2	
CER	*Scomberomorus regalis*	Cero mackerel	Thazard franc	Carite chinigua	Cero	Thazard franc	Carite chinigua	2	
BLT	*Auxis rochei*	Bullet tuna	Auxide	Melva	Bullet tuna	Bonitou	Melva(=Melvera)	2	
BRS	*Scomberomorus brasiliensis*	Serra Spanish mackerel	Serra Spanish mackerel	Thazard serra	Serra Spanish mackerel	Thazard serra	Serra	2	
DOL	*Coryphaena hippurus*	Mahi Mahi/ Common dolphinfish	Coryphène commune	Lampuga	Common Dolphin fish	Coryphène commune	Lampuga	2	
CFW	*Coryphaena equiselis*				Pompano dolphinfish				
KGX	*Scomberomorus Spp*	Seerfishes nei	Thazards nca	Carites nep				2	
Billfishes (M.1.2.b)									
SAI	*Istiophorus albicans*	Atlantic sailfish	Voilier de l'Atlantique	Pez vela del Atlántico	Atlantic sailfish	Voilier de l'Atlantique	Pez vela del Atlántico		
BUM	*Makaira nigricans*	Blue Marlin			Blue Marlin	Makaire bleu	Aguja azul	2	

WHM	*Kajikia albida*	Atlantic white marlin			White Marlin	Makaire blanc de l'Atlantique	Aguja blanca del Atlántico	2	
SWO	*Xiphias gladius*	Swordfish			Swordfish	Espadon	Pez espada	2	
SPF	*Tetrapturus pfluegeri*	Longbill spearfish			Longbill spearfish			2	
RSP	*Tetrapturus georgii*	Roundscale spearfish			Roundscale spearfish			2	

- **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	WECAFC Sub-area of Reporting
BXD	*Beryx decadactylus*	Alfonsino			Alfonsino	Béryx commun	Alfonsino palometón	3	
BSF	*Aphanopus carbo*	black scabbard fish			Black scabbardfish	Sabre noir	Sable negro		
EPI	*Epigonus telescopus*	black cardinal fish			Black cardinal fish	Poisson cardinal	Boca negra(=Pez del diablo)		
WRF	*Polyprion americanus*	wreckfish			Wreckfish	Cernier commun	Cherna		
ARS	*Aristaeomorpha foliacea*	giant red shrimp			Giant red shrimp	Gambon rouge	Gamba española		
RRS	*Pleoticus robustus*	royal red shrimp			Royal red shrimp	Salicoque royale rouge	Camarón rojo real		
NIS	*Penaeopsis serrata*	pink speckled deep sea shrimp			Megalops shrimp	Crevette mégalops	Camarón megalops		
MFI	*Metanephrops binghami*	deep sea lobster			Caribbean lobster	Langoustine des Caraïbes	Cigala del Caribe		
GPX	*Epinephelus spp*				Groupers nei	Mérous nca	Meros nep		
SNA	*Lutjanus spp*				Snappers nei	Vivaneaux nca	Pargos tropicales nep		
RPU	*Rhomboplites aurorubens*				Vermilion snapper	Vivaneau ti-yeux	Pargo cunaro		
n/a	*Erytrochles monody*								
HOF	*Merluccius albidus*				Offshore silver hake	Merlu argenté du large	Merluza blanca de altura		
MVJ	*Lophius gastrophysus*				Blackfin goosefish	Baudroie pêcheuse	Rape pescador		
n/a	*Zenopsis conchifera*								
n/a	*Acanthocaris caeca*								
NFI	*Nephropsis rosea*				Two-toned lobsterette	Langoustine bicolore			
NFU	*Nephropsis aculeata*				Florida lobsterette	Langoustine de Floride	Cigala de Florida		
NFN	*Nephropsis neglecta*				Ruby lobsterette				
n/a	*Aristaemorpha folicea*								
AVD	*Aristeus virilis*				Stout red shrimp	Gambon gaillard	Gambon colorado		

ANJ	*Aristeus antillensis*				Purplehead gamba prawn	Crevette pourprée	Gamba purpurea		
SSH	*Plesiopenaeus edwardsianus*				Scarlet shrimp	Gambon écarlate	Gamba carabinero		
n/a	*Benthesicymus bartletti*								
CRR	*Chaceon quinquedens*				Red crab	Gériocrabe rouge	Geriocangrejo rojo		
ELQ	*Chaceon eldorado*				El Dorado shrimp	Géryon El Dorado	Cangrejo El Dorado		

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 2.3.2:** Other WECAFC reference species
  - **Appendix 2.3.2a.** Commercially targeted sharks and rays to include threatened species (basis 4).

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
SUD	*Squatina dumeril*	Atlantic Angel Shark			Sand devil	Ange de mer de sable	Tiburón ángel	4	
CIO	*Isogomphodon oxyrhynchus*	Daggernose Shark	Requin bécune	Cazón picudo sudamericano	Daggernose shark	Requin bécune	Daggernose Shark	4	
OCS	*Carcharhinus longimanus*	Oceanic whitetip shark			Oceanic whitetuip	Requin océanique	Oceanic whitetip	4	
RHN	*Rhincodon typus*	Whale Shark			Whale shark	Requin baleine	Whale shark	4	
FAL	*Carcharhinus falciformis*	Silky Shark			Silky Shark	Requin soyeux	Tiburón jaquetón	4	
BTH	*Alopias superciliosus*	Bigeye thresher shark			Bigeye thresher	Renard à gros yeux	Zorro ojón	4	
SMA	*Isurus oxyrinchus*	Shortfin mako			Shortfin mako	Taupe bleue	Marrajo dientuso	4	
POR	*Lamna nasus*	Porbeagle shark			Porbeagle shak	Requin-taupe commun	Marrajo sardinero	4	

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
BSH	*Prionace glauca*	Blue shark			Blue shark	Peau bleue	Tiburón azul	4	
SPL	*Sphyrna lewini*	Scalloped hammerhead shark			Scalloped hammerhead	Requin-marteau halicorne	Cornuda común	4	
SPK	*Sphyrna mokarran*	Great hammerhead			Great hammerhead	Grand requin marteau	Cornuda gigante	4	
SPZ	*Sphyrna zygaena*	Smooth hammerhead			Smooth hammerhead	Requin-marteau commun	Cornuda cruz(=Pez martillo)	4	
SPQ	*Sphyrna tudes*	Smalleye hammerhead			Smalleye hammerhead	Requin-marteau à petits yeux	Cornuda ojichica	4	
N/A	*Rhizoprionodon porosus*	Caribbean sharpnose shark			Caribbean sharpnose shark	Requin aiguille antillais	Cazón picudo antillano	4	
N/A	*Rhizoprionodon lalandii*	Brazilian sharpnose shark			Brazilian sharpnose shark			4	
N/A	*Carcharhinus porosus*	Smalltail shark			Smalltail shark			4	
CTI	*Mustelus canis*	Dusky smooth-hound			Dusky smooth-hound	Émissole douce	Boca dulce	4	
MTR	*Mustelus norrisi*	Florida smoothhound			Narrowfin smooth-hound	Émissole veuve	Musola viuda	4	
N/A	*Mustelus sinusmexicanus*	Gulf smoothhound						4	
RPP	*Pristis pectinata*	Smalltooth sawfish			Smalltooth sawfish	Poisson-scie tident	Requin-marteau halicorne malltooth sawfish	4	
RPM	*Pristis microdon*	Largetooth sawfish			Largetooth sawfish	Poisson-scie grandent	Largetooth sawfish	4	
N/A	*Aetobatus narinari*	Spotted eagle ray (chucho)			Spotted eagle ray (chucho)			4	
N/A	*Mobula birostris*	Giant Oceanic Manta Ray			Giant Oceanic Manta Ray			4	
N/A	*Dasyatis americana*	Sting ray			Sting ray			4	
N/A	*Narcine bancroftii*	Caribbean Electric Ray			Caribbean Electric Ray			4	

- **Appendix 2.3.2b:** 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 5)**

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
Small pelagics species									
AVA	*Cetengraulis edentulus*	Atlantic anchoveta	Anchois queuejaune	Anchoveta rabo amarillo	Atlantic anchoveta	Anchois queue jaune	Anchoveta rabo amarillo	5	
SAA	*Sardinella aurita*	Round sardinella (Spanish sardine)	Allache	Sardinela atlantica	Round sardinella	Allache	Alacha	5	
POM	*Trachinotus carolinus*	Florida pompano	Pompaneau sole	Pámpano amarillo	Florida pompano	Pompaneau sole	Pámpano amarillo	5	
LHT	*Trichiurus lepturus*	Largehead hairtail	Poisson sabre (de l'Atlantique)	Sable	Largehead hairtail	Poisson-sabre commun	Pez sable	5	
LOB	*Lobotes surinamensis*				Atlantic tripletail	Croupia roche	Dormilona		
Reef and Slope species									
Grouper									
GPR	*Epinephelus morio*	Red grouper	Mérou rouge	Mero americano	Red grouper	Mérou rouge	Mero americano	5	
GPN	*Epinephelus striatus*	Nassau grouper	Mérou raye	Cherna criolla	Nassau grouper	Mérou rayé	Cherna criolla	5	
MAB	*Mycteroperca bonaci*	Black grouper			Black grouper	Badèche bonaci	Cuna bonací	5	
EEU	*Epinephelus guttatus*	Red hind			Red hind	Mérou couronné	Mero colorado	5	
EET	*Epinephelus itajara*	Goliath grouper			Atlantic goliath grouper	Mérou géant de l'Atlantique	Mero gigante del Atlántico	5	
CFJ	*Cephalopholis fulva*	Coney			Coney	Coné ouatalibi	Cherna cabrilla	5	

CFL	*Cephalopholis cruentata*	Graysby			Graysby	Coné essaim	Cherna enjambre	5	
EFD	*Epinephelus adscensionis*	Rock hind			Rock hind	Mérou oualioua	Mero cabrilla	5	
MKT	*Mycteroperca tigris*	Tiger grouper			Tiger groupe	Badèche tigre	Cuna gata	5	
MKV	*Mycteroperca venenosa*	Yellowfin grouper				Badèche de roche	Cuna de piedra	5	
EEY	*Epinephelus mystacinus*	Misty grouper				Mérou brouillard	Mero listado	5	
EEL	*Epinephelus flavolimbatus*	Yellowedge grouper				Mérou aile jaune	Mero aleta amarilla	5	
MKN	*Mycteroperca interstitialis*	Yellowmouth grouper				Badèche gueule jaune	Cuna amarilla	5	
Grunts									
HLI	Haemulon plumierii	White grunt				Gorette blanche	Ronco margariteño	5	
HLU	Haemulon album	White Margate				Gorette margate	Ronco jallao	5	
HHI	Haemulon sciurus	Bluestriped grunt				Gorette catire		5	
Porgies									
CBD	*Calamus bajonado*	Jolthead porgy				Daubenet trembleur	Pluma bajonado	5	
CFE	*Calamus penna*	Sheepshead porgy				Daubanet bélier		5	
n/a	*Calamus pennatula*	Pluma porgy				Daubenet Plume		5	
n/a	n/a	Sea bream						5	
Squirrelfishes	*Holocentrus rufus*	Longspine squirrelfish						5	
Jacks									
RUB	*Caranx crysos*	Blue runner				Carangue coubali	Cojinúa negra	5	

CVJ	*Caranx hippos*	Crevalle				Carangue crevalle	Jurel común	5	
LIJ	*Alectis ciliaris*	African Pompano				Cordonnier fil	Pámpano de hebra	5	
RRU	*Elagatis bipinnulata*	Rainbow runner				Comète saumon	Macarela salmón	5	
LJN	*Lutjanus analis*	Mutton snapper	Vivaneau sorbe	Pargo criollo	Mutton snapper	Vivaneau sorbe	Pargo criollo	5	
LJP	*Lutjanus apodus*	Schoolmaster snapper	Vivaneau dentchien	Pargo amarillo	Schoolmaster snapper	Vivaneau dent-chien	Pargo amarillo	5	
LJU	*Lutjanus buccanella*	Blackfin snapper	Vivaneau oreille noire	Pargo sesí	Blackfin snapper	Vivaneau oreille noire	Pargo sesí	5	
SNR	*Lutjanus campechanus*	Northern red snapper	Vivaneau campèche	Pargo del Golfo	Northern red snapper	Vivaneau campèche	Pargo del Golfo	5	
LJY	*Lutjanus cyanopterus*	Cubera snapper			Cubera snapper	Vivaneau cubera	Pargo cubera	5	
LJI	*Lutjanus griseus*	Gray snapper			Grey snapper	Vivaneau sarde grise	Pargo prieto	5	
LJJ	*Lutjanus jocu*	Dogteeth snapper			Dog snapper	Vivaneau chien	Pargo jocú	5	
SNC	*Lutjanus purpureus*	Southern red snapper	Vivaneau rouge	Pargo colorado	Southern red snapper	Vivaneau rouge	Pargo colorado	5	
SNL	*Lutjanus synagris*	Lane snapper	Vivaneau gazon	Pargo biajaiba	Lane snapper	Vivaneau gazou	Pargo biajaiba	5	
LTJ	*Lutjanus vivanus*	Silk snapper	Vivaneau soi	Pargo de lo alto	Silk snapper	Vivaneau soie	Pargo de lo alto	5	
n/a	*Pristipomoides aquilonaris*	Wenchman snapper						5	
UPZ	*Pristipomoides macrophthalmus*	Cardinal snapper							
RPU	*Rhomboplites aurorubens*	Vermillion snapper				Vivaneau ti-yeux	Pargo cunaro	5	
SNY	*Ocyurus chrysurus*	Yellowtail snapper	Vivaneau queue jaune	Rabirubia	Yellowtail snapper	Vivaneau queue jaune	Rabirrubia	5	

ASX	*Apsilus dentatus*	Black snapper				Vivaneau noir	Pargo mulato	5	
EEO	*Etelis oculatus*	Queen snapper				Vivaneau royal	Pargo cachucho	5	
SNC	*Lutjanus purpureus*	Red snapper			Southern red snapper	Vivaneau rouge	Pargo colorado	5	
Parrotfishes									
USU	*Scarus coeruleus*	Blue parrotfish						5	
n/a	*Scarus coelestinus*	Midnight parrotfish						5	
USN	*Scarus taeniopterus*	Princess parrotfish				Perroquet princesse		5	
UVT	*Scarus vetula*	Queen parrotfish				Perroquet périco		5	
n/a	Scarus guacamaia	Rainbow parrotfish						5	
QZV	*Sparisoma rubripinne*	Redfin parrotfish				Perroquet basto	Loro basto	5	
RSY	*Sparisoma chrysopterum*	Redtail parrotfish						5	
n/a	*Sparisoma viride*	Stoplight parrotfish			Stoplight parrotfish			5	
RMF	*Sparisoma aurofrenatum*	Redband parrotfish			Redband parrotfish	Perroquet tacheté		5	
USS	*Scarus iserti*	Striped parrotfish				Perroquet rayé		5	
Surgeon fishes									
AQO	*Acanthurus coeruleus*	Blue tang surgeonfish				Chirurgien bayolle		5	
	Acanthurus bahianus	Ocean surgeonfish						5	

	Acanthurus chirurgus	Doctorfish						5	
Triggerfishes									
CZT	*Canthidermis sufflamen*	Ocean triggerfish					Sobaco lija	5	
BLV	*Balistes vetula*	Queen triggerfish				Baliste royal		5	
n/a	*Balistes capriscus*	Gray triggerfish						5	
Wrasses									
LCX	*Lachnolaimus maximus*	Hogfish				Labre capitaine	Doncella de pluma	5	
n/a	*Halichoeres radiatus*	Puddingwife						5	
BDR	*Bodianus rufus*	Spanish hogfish				Pourceau espagnol		5	
Angelfishes									
n/a	*Holacanthus ciliaris*	Queen angelfish						5	
n/a	*Pomacanthus arcuatus*	Gray angelfish						5	
n/a	*Pomacanthus paru*	French angelfish						5	
Shrimp species									
ABS	*Penaeus aztecus*	Northern brown shrimp	Crevette royale grise	Camarón café norteño	Northern brown shrimp	Crevette royale grise	Camarón café norteño	4	
APS	*Penaeus duorarum*	Northern pink shrimp	Crevette rodché du nord	Camarón rosado norteño	Northern pink shrimp	Crevette rose du Nord	Camarón rosado norteño	4	
SOP	*Farfantepenaeus notialis*	Southern pink shrimp	Crevette rodché du sud	Camarón rosado sureño	Southern pink shrimp	Crevette rose du Sud	Camarón rosado sureño	4	
PNT	*Litopenaeus schmitti*	Southern white shrimp	Crevette ligubam du sud	Camarón blanco sureño	Southern white shrimp	Crevette ligubam du Sud	Langostino blanco sureño	4	
PST	*Penaeus setiferus*	Northern white shrimp	Crevette ligubam du nord	Camarón blanco norteño	Northern white shrimp	Crevette ligubam du Nord	Camarón blanco norteño	4	

PNU	*Farfantepenaeus subtilis*	Southern brown shrimp	Crevette café	Camarón café sureño	Southern brown shrimp	Crevette grise du Sud	Camarón café sureño	4	
n/a	*Farfantepenaeus brasiliensis*	Pink spotted shrimp							
RRS	*Pleoticus robustus*	Royal red shrimp	Crevette salicoque	Camarón rojo real	Royal red shrimp	Salicoque royale rouge	Camarón rojo real	4	
SSH	*Plesiopenaeus edwardsianus*	Imperial red shrimp		Gamba carabinero	Scarlet shrimp	Gambon écarlate	Gamba carabinero	4	
PNB	*Penaeus brasiliensis*	Redspotted shrimp	Crevette royale rose	Camarón rosado con manchos	Redspotted shrimp	Crevette royale rose	Camarón rosado con manchas	4	
BOB	*Xiphopenaeus kroyeri*	Atlantic seabob	Cevette seabob	Camarón siete barbas	Atlantic seabob	Crevette seabob atlantique	Camarón siete barbas	4	
RSH	*Sicyonia brevirostris*	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 priority list, while defining the sub-region where each specie is of importance, and fill out in above tables.

Appendix 2.3.3: Other 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

ASFIS CODE	Scientific Name	Reg En Name	Reg Fr Name	Reg Sp Name	ASFIS en Name	ASFIS Fr Name	ASFIS En Name	WECAFC Sub-area of Reporting	Who	Basis for Inclusion
SCC	*Argopecten gibbus*	Calico scallop	Peigne calicot	Peine percal	Calico scallop	Peigne calicot	Peine percal			
RQZ	*Arca zebra*	Turkey wing	Arche zèbre	Arca zebra	Turkey wing	Arche zèbre	Arca cebra			
BIH	*Bairdiella ronchus*	Ground croaker	Mamselle rouio	Corvinata ruyo	Ground croaker	Mamselle rouio				

ASFIS CODE	Scientific Name	Reg En Name	Reg Fr Name	Reg Sp Name	ASFIS en Name	ASFIS Fr Name	ASFIS En Name	WECAFC Sub-area of Reporting	Who	Basis for Inclusion
MHG	*Brevoortia patronus*	Gulf menhaden	Menhaden écailleux	Lacha escarnuda	Gulf menhaden	Menhaden écailleux	Lacha escamuda			
MHA	*Brevoortia tyrannus*	Atlantic menhaden	enhaden tyran	Laoha tirana	Atlantic menhaden	Menhaden tyran	Lacha tirana			
CRB	*Callinectes sapidus*	Blue crab	Crabe bleu	Cangrejo azul	Blue crab	Crabe bleu	Cangrejo azul			
NBR	*Caranx bartholomaei*	Yellow jack	Carangue grasse	Cojinua amarilla	Yellow jack	Carangue grasse	Cojinua amarilla			
CVJ	*Caranx hippos*	Crevalle jack	Carangue crevalle	Jurel comùn	Crevalle jack	Carangue crevalle	Jurel común			
CXR	*Caranx ruber*	Bar jack	Carangue comade	Cojinua carbonera	Bar jack	Carangue comade	Cojinúa carbonera			
OYM	*Crassostrea rhizophorae*	Mangrove cupped oyster	Huître creuse des Caraibes	Ostión de mangle	Mangrove cupped oyster	Huître creuse des Caraïbes	Ostión de mangle			
OYA	*Crassostrea virginica*	American cupped oyster	Huître creuse américaine	Ostión americano	American cupped oyster	Huître creuse/ américaine	Ostión virgínico			
KUI	*Cittarium pica*	West Indian Top Shell			West Indian top shell	Troque des Antilles	Burgado antillano			
SWF	*Cynoscion nebulosus*	Spotted weakfish	Acoupa pintade	Corvinata pintada	Spotted weakfish	Acoupa pintade	Corvinata pintada			
STG	*Cynoscion regalis*	Gray weakfish	Acoupa royal	Corvinata real	Squeteague(=Gray weakfish)	Acoupa royal	Corvinata real			
n/a	*Cynoscion jamaicensus*	Jamaican weakfish								
YNV	*Cynoscion virescens*	Green weakfish	Acoupa cambucu	Corvinata cambucú	Green weakfish	Acoupa cambucu	Corvinata cambucú			
n/a	*Sciades proops*	Crucifix sea catfish						French Guyana		
AWX	*Arius sp.*	Sea catfish								
SPT	*Leiostomus xanthurus*	Spot croaker	Tambour croca	Verrugato croca	Spot croaker	Tambour croca	Verrugato croca			

ASFIS CODE	Scientific Name	Reg En Name	Reg Fr Name	Reg Sp Name	ASFIS en Name	ASFIS Fr Name	ASFIS En Name	WECAFC Sub-area of Reporting	Who	Basis for Inclusion
WKK	*Macrodon ancylodon*	King weakfish	Acoupa chasseur	Pescadilla real	King weakfish	Acoupa chasseur	Pescadilla real			
CKM	*Micropogonias furnieri*	Whitemouth croaker	Tambour rayé	Corvinón rayado	Whitemouth croaker	Tambour rayé	Corvinón rayado			
CKA	*Micropogonias undulatus*	Atlantic croaker	Tambour brésilien	Corvinón brasileño	Atlantic croaker	Tambour brésilien	Corvinón brasileño			
MUF	*Mugil cephalus*	Striped mullet	Mulet cabot	Lisa pardete	Flathead grey mullet	Mulet à grosse tête	Pardete			
MGU	*Mugil curema*	White mulet	Mulet blanc	Lisa criolla	White mullet	Mulet blanc	Lisa blanca			
MUB	*Mugil liza*	Lebranche mullet	Millet lebranche	Leba.nche	Lebranche mullet	Mulet lebranche	Lebranche			
THA	*Opisthonema oglinum*	Atlantic thread herring	Chardin fil	Machuelo hebra atlántico	Atlantic thread herring	Chardin fil	Machuelo hebra atlántico			
NLG	*Panulirus guttatus*	Spotted spiny lobster	Langouste brésilienne	Langosta moteada	Spotted spiny lobster	Langouste brésilienne	Langosta moteada			
NUL	*Panulirus laevicauda*	Smoothtail spiny lobster	Langouste indienne	Langosta verde	Smoothtail spiny lobster	Langouste indienne	Langosta verde			
MSL	*Perna perna*	South American rock mussel	Moule roche sud américaine	Mejillón de roca sudamericano	South American rock mussel	Moule de roche sudaméricaine	Mejillón de roca sudamericano			
BDM	*Pogonias cromis*	Black drum	Grand tambour	Corvinón negro	Black drum	Grand tambour	Corvinón negro			
BLU	*Pomatomus saltatrix*	Bluefish	Tassergal	Anchova de banco	Bluefish	Tassergal	Anjova			
RDM	*Sciaenops ocellatus*	Red drum	Tambour rouge	Corvinón ocelado	Red drum	Tambour rouge	Corvinón ocelado			
BIS	*Selar crumenophthalmus*	Bigeye scad	Selar coulisou	Chic harro ojón	Bigeye scad	Sélar coulisou	Chicharro ojón			
MOA	*Selene setapinnis*	Atlantic moonfish	Musso atlantique	Jorobado lamparosa	Atlantic moonfish	Musso atlantique	Jorobado lamparosa			

ASFIS CODE	Scientific Name	Reg En Name	Reg Fr Name	Reg Sp Name	ASFIS en Name	ASFIS Fr Name	ASFIS En Name	WECAFC Sub-area of Reporting	Who	Basis for Inclusion
GBA	*Sphyraena barracuda*	Great Barracuda								
BAR	*Sphyraena spp*	Barracuda			Barracudas nei	Bécunes nca	Picudas nep			

Question for reviewer:
Are there any species that should be promoted in the WECAFC Other Reference Species list
Do we need to keep this appendix 2.3.3 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, 2013) is available here:
http://www.fao.org/3/a-bt987e.pdf

The WECAFC geartype classification version 1.0 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	06.9
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
Longlines		09.39
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 WECAF need to define one?

Appendix 3: Regional conversion factors

[to be filled later]

Question for the CWP and reviewers:
Request to SAG and expert Working Groups to forward regional/sub-regional conversion factors as available

Appendix 4: Questionnaires

[to be defined later]

Appendix 5: 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: to be defined

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. Fig. 2). There are fisheries where the number of individuals caught is also required to be reported.

Discarded catch (CWP[11]): The term 'discarded catch' (or discards) refers to the component of the catch which is discarded overboard (refer to the catch concept diagram, Fig. 2). 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.

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

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 = live weight / 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 (CWP[34]): 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.

Fishing effort (draft): generally defined as the sum of the time spent searching for fish (search duration) and/or the amount of fishing gear of a specific type used on the fishing grounds over a given unit of time e.g. a fishing operation, fishing activity, day or fishing trip.

Fishing gear (draft, based on FAO[35]**):** The term 'fishing gear' refers to specialized equipment used for catching fish and defined according to the international standard classification revised version (ISSCFG Rev1, 2010[36]). 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 vessel (CWP[8]): 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 classification [37]
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 1984[38].

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.

Landing (CWP[11]): 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

[34] http://www.fao.org/cwp-on-fishery-statistics/handbook/capture-fisheries-statistics/fishery-fleet/en/
[35] http://www.fao.org/cwp-on-fishery-statistics/handbook/capture-fisheries-statistics/fishing-gear-classification/en/
[36] http://www.fao.org/3/a-bt987e.pdf
[37] http://www.fao.org/3/a-bt982e.pdf
[38] http://www.fao.org/3/a-bt983e.pdf

- Other edibles or inedibles fishery products, etc.

Landed weight (CWP[11]): 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).

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 stage: to be defined

Nationality of catch and landings (CWP[1139])**:** 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 (CWP[37]): 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 (CWP[840]): 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 (**CWP**[37]): 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)

[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/

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