



Food and Agriculture
Organization of the
United Nations

WECAFC Data Collection Reference Framework

DRAFT

Version history

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9	Final draft version for distribution to and feedback by Member countries includes: - Consensus on prioritization of species and update list of species - Revision and enrichment of socio-economics task - Add fishing modes and enrich vessel type classification	Jennifer Gee June Masters Nancie Cummings Marc Taconet Yann Laurent Yvette DieiOuadi	29/10/2018

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Acronym and Abbreviations

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

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

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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.

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 two resolutions on: 1) sea cucumber fisheries management and aquaculture, and 2) Marine Protected Areas as fisheries management tool in the Caribbean.

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 session¹ agreed to launch a process to establish a Regional Fisheries Management Organization (RFMO) in the WECAFC area of competence, being the Western Central Atlantic (area 31) and the Northern part of the South West Atlantic (area 41) and to collaborate in fisheries management and conservation in the Areas Beyond National Jurisdiction (ABNJ) of straddling stocks, deep sea fish stocks and highly migratory species that are not under the mandate of ICCAT (International Commission for the Conservation of the Atlantic Tunas). The Commission discussed intersessional

¹ <http://www.fao.org/3/a-bo086e.pdf>

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 Need for fisheries data and statistics in the WECAFC region - Process to build this proposal for a DCF

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. As a consequence, WECAFC regional scientific working groups on fisheries statistics, stock assessments and fisheries policies and planning, were discontinued after the 2014 Scientific Meeting. 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 are postponed. Consequently, the stocks of many shared and highly migratory species, such as billfishes, continue to be heavily exploited and increasingly targeted for harvest even though they are already depleted well below biomasses that could achieve maximum sustainable yields.² As recent as 2015 it was estimated that 54% of the species or species groups were considered overfished or over-to-fully fished in the WECAFC region³. Furthermore, the commitment of CARICOM States to improving evidence based decision-making through regional cooperation has been clearly articulated in several regional policy documents including the “Strategic Action Programme for the Caribbean Large Marine Ecosystem”, the CARICOM Strategic Plan, 2015 -2019, the Caribbean Community Common Fisheries Policy (CCCFP) and the CRFM Strategic Plan, 2013-2021. Concrete action in this direction led to the establishment of the WECAFC-FIRMS partnership in 2014 which among other results led to the establishment of WECAFC Data and Statistics Working Group in 2016. Moreover, data and information on some key commercial fisheries target species (Spiny lobster, Queen conch, Flying fish) are being shared between the members of CRFM, OSPESCA and WECAFC, through joint working groups on these specific fisheries.

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

1. Increase and improve information content on fisheries data and statistics

² <http://www.fao.org/3/a-i6204e.pdf>

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

2. Increase accuracy of data and statistics via utilizing agreed practices in data collection
3. Develop and implement agreed practices for data sharing
4. Identify feasible stock assessment models for the region

As a decisive step into this focus area, the WECAFC 15 agreed to enter into a collaboration with the FAO, Fishery Resource Monitoring Program (FIRMS), thus formally engaging the WECAFC-FIRMS Partnership recognizing the need to make these regional improvements in the basic fisheries data. This Partnership was successfully implemented in 2015 and 2016 during the WECAFC-FIRMS Regional Database project (phase I). The three main outputs successfully achieved respectively were: output 1: FIRMS regional inventories published⁴ 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-line⁵.

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 validation of best practices for logbooks and data sharing policies and guidelines.

The WECAFC Data Collection Reference Framework (DCRF) is a key document drafted under WECAFC-FIRMS Phase II and lays the foundation of fisheries data and statistics collection and collation 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) (2016 GFCM Data Collection Reference Framework⁶) and from International Commission for the Conservation of the Atlantic Tunas (ICCAT)⁷.

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

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

2 Definitions

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

2.1 Working definitions

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

Species: The term ‘species’ is also used herein in the broad sense and refers to both individual species (e.g.: *Epinephelus striatus*, Nassau grouper) and 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 collection⁹)

2.2 DCRF related definitions

Fishery fleet (CWP¹⁰): The term "fishery fleet" or "fishery vessels" refers to mobile floating objects of any kind and size, operating in freshwater, brackish water and marine waters which are used for catching, harvesting, searching, transporting, landing, preserving and/or processing fish, shellfish and other aquatic organisms, residues and plants.

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

Non-fishing vessel (CWP⁸): 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 (FAO¹¹): Equipment used for fishing according to the international standard classification revised version (ISSCFG Rev1, 2013¹²). Each gear can have multiple configurations.

Catch and landings: These guidelines follow the advice of the CWP on catch and landings¹³. 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 1). There are fisheries where the number of individuals caught is also required to be reported.

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

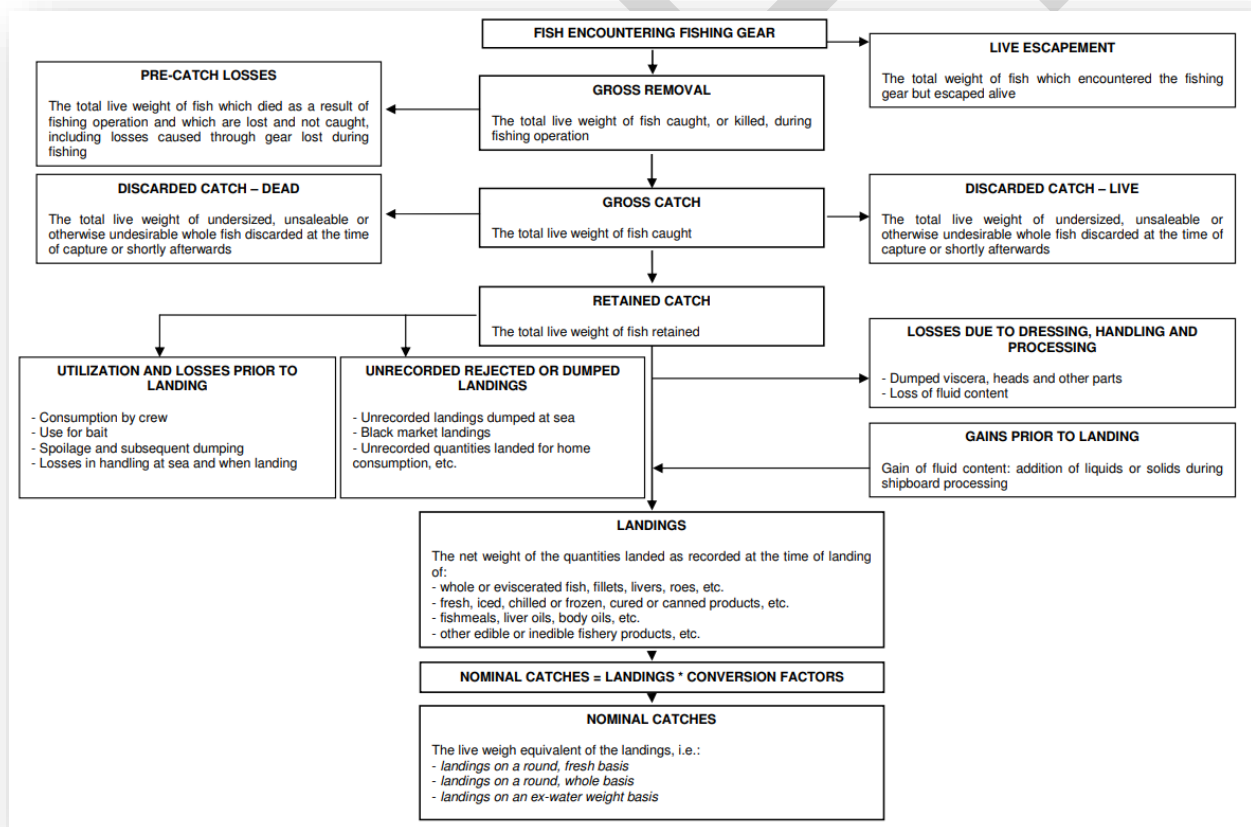


Figure 1: CWP diagrammatic representation of catch concepts. From CWP Handbook¹⁴

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

¹⁴ <http://www.fao.org/3/bt981t/bt981t.pdf>

Retained catch (CWP¹⁵): 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.

Discarded catch (CWP¹⁵): The term ‘discarded catch’ (or discards) refers to the component of the catch which is discarded overboard (refer to the catch concept diagram, Fig. 1). The discarded catch is the total live weight of undersized, unsaleable or otherwise undesirable for economic, legal or personal considerations of whole fish discarded at the time of the capture or shortly afterwards. Discarded fish and other organisms may be discarded dead or alive, and may include species taken as bycatch.

Bycatch (FAO): Discarded catch plus 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 catch¹⁶: Retained catch of non-targeted species

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

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

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

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

Nationality of catch and landings (CWP¹⁵): For the purpose of reporting national fishery statistics, the catch and landings is generally assigned to the country of the flag flown by the fishing vessel. However, the CWP recommended that this may be over-ridden only when one of the following arrangements between a foreign flag vessel and the host country exists: the vessel is chartered by the

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](#).

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.

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

1. The "International Standard Statistical Classification of Fishery Vessels by GRT Categories" (ISSCFV), based on the Gross Register Tonnage of the vessels, approved by the CWP in 1977. See ISSCFV GRT classification 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 1984¹⁸.

Fishing effort (CWP¹⁹): The term ‘fishing effort’ refers to the amount of fishing gear of a specific type used on the fishing grounds over a specified unit of time e.g. number of hours trawled per day, number of hooks set per day or number of hauls of a beach seine per day. The impact of an effort unit on the fish populations and the ecosystem in general differs with the vessel that deploys the gear and effort statistics need to be qualified by vessel type and size/motor power.

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

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

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

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

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/>

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 stakeholder 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.

To respond to these different needs, the WECAFC data collection framework is divided in six (6) tasks

- 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)
 - **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.
- 2 **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.
- 3 **Task IV: Biological information:** provide essential information for stock assessment (e.g., size frequencies of the samples (retained or discarded) measured for each species classified by fishing fleet, species, gear, sample units, time strata, area strata or reproductive state of individuals).
- 4 **Task V: Incidental catches:** provide more detailed information on fisheries impacts on the ecosystem.
- 5 **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.

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

3.3 Components of the Data Collection Framework

3.3.1 Task I: Regional Statistics

Description

This task aims to provide to WECAFC 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
<i>Quarter</i>	<i>Optional (if available in the member country)⁽²⁾</i>
Fleet Segment	See appendix 2.1 for fleet segment definition
<i>Fishing mode</i>	<i>Optional (if available and when relevant for the member country) See appendix 2.1 for fishing mode definition</i>
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).

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)

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 WECAFC IUU working in its second meeting (Barbados, Sept 2017):

Vessel information	Mandatory / Optional	Definition
Unique identifier		WECAFC vessel unique identifier
Name	M	Current Vessel Name
Registration Number	M	National Vessel Registration Number
Home Port (Registration Port)	M	Vessel Home Port Name
Owner(s)	M	Name of the current vessel owners
Flag	M	Current Vessel Flag (country of vessel registration)
Operational status	M	Is the status of the vessel: active, decommissioned, sunk etc...
IMO (*)	O	International Maritime Organization Number
IRCS (*)	M	International Radio Call Sign
LOA (m) (*)	M	Length OverAll is 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
<i>Geartype (detailed)</i>	<i>(Optional) could be added as a dimension if the classification is defined (see question below)</i>
Fishing mode	See appendix 2.1 for fishing mode definition
Area	See appendix 2.2 for regional subareas' definition
Source of data	Source of data: Port sampling from scientists (PS) or Scientific Research Survey (SU), Observer (OBS), Self-reported
Species	See appendix 2.3 for the main commercial species (Scientific name)
Total Retained Catch (weight)	Weight of retained species, for the commercial species

Field	Definition
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...).

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

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

3.3.4.2 Task IV.2: Catch at Size data

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
<i>Geartype (detailed)</i>	<i>(Optional) could be added as a dimension if the classification is defined (see question below)</i>
Fishing mode	See appendix 2.1 for fishing mode definition
Area	See appendix 2.2 for regional subareas' definition
Species	See appendix 2.3 for the main commercial species (Scientific name)
Length Class/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 (<i>needs definition per species, see below</i>)
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.

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

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

Description

These 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: Participation in fishing activities

Description

First draft: 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)

3.3.6.3 Task VI.3: Value of catches

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

Description

The value of Capture fisheries production at first sale after landing, in US\$, converted from local currencies using appropriate average annual exchange rates

Countries involved

All WECAFC countries

Data to be reported

(to be defined – very first draft)

Field	Definition
Country	The M49 UN code for the country (see appendix 1)
Year	Reference year for reporting
Species	See appendix 2.3 for the main commercial species (scientific name)
Value	Monetary value of total landed fish for the given species (converted into US\$)

Frequency and deadline of transmission

(to be defined)

Data access and sharing (see section 3.2)

(to be defined)

4 Appendix

Appendix 1: List of WECAFC countries codes (M49²³)

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

Name	M49 code
Anguilla	660
Antigua and Barbuda	028
Bahamas	044
Barbados	052
Belize	084
Brazil	076
Colombia	170
Costa Rica	188
Cuba	192
Dominica	212
Dominican Republic	214
France	250
Grenada	308
Guadeloupe	312
Guatemala	320
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 definition²⁴. 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-FDS²⁵:

²⁴ http://www.iccat.int/Documents/Comply/vessels_ENG.pdf

²⁵ Add 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	STAND. 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 like diving. The proposal for FAD is taken from the recommendation of the March 2018 tuna RFMOs meeting in Rome²⁶.

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

²⁶ Add link to report – not yet published.

3. Fleet Segment mapping for WECAFC Member countries

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

Instructions:

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

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

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

Template for vessel mapping with the regional classification

COUNTRY :			Length class +D: decked +U: undecked				
CODE	STAND. 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 first FDS-WG. It will be revised in a forthcoming version with the results of investigations to be conducted as per the directions provided by FDS-WG1.

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

2 options could be considered:

- Option 1 is the definition of FAO sub areas for the Major Fishing Area 31. The appendix 2.4 recalls below the proposals made in 1978 and 1994 for such sub areas.
- Option 2 is a grid on the model of NOAA (1°x1° grid for the southeast Coastal fisheries Trip Report²⁷ or 2.5°x2.5° for US Caribbean fisheries) or RFMOs such as IOTC (5°x5° or 1°x1° depending on species²⁸).

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

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

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

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

From the 1978 report: “

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

Bahamas

Barbados

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

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

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

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

- (ii) the coast from this point westward to Panama
- (iii) waters around the islands of Providencia and San Andrés and the various oceanic cays under Colombian jurisdiction in that vicinity.

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

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

Dominican Republic

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

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

Grenada

Guatemala

Guyana

Haiti

Honduras

Jamaica

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

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

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

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

Nicaragua

Panama

Suriname

Trinidad and Tobago

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

- (i) Anguilla, 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

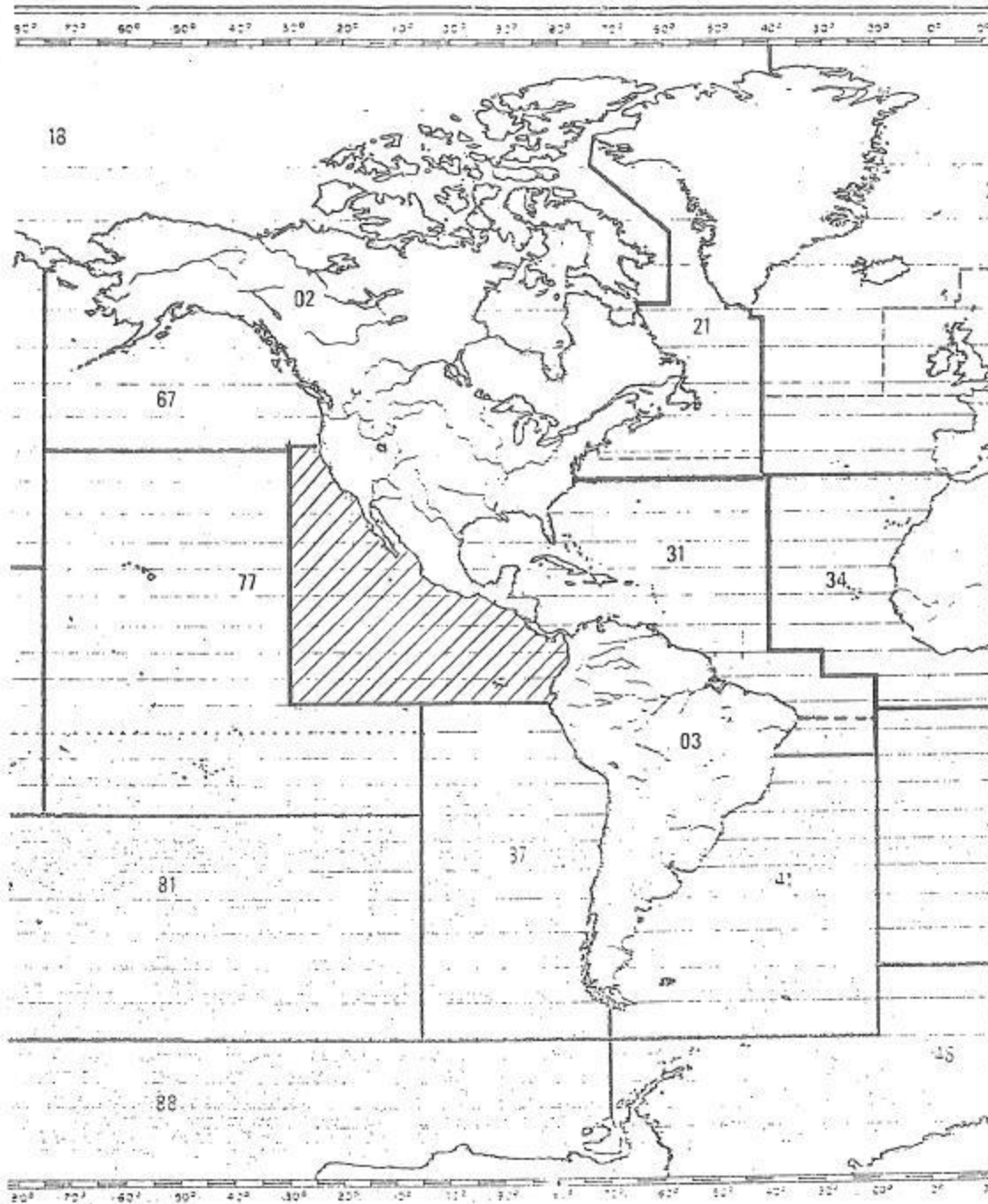
- (ii) from this point, around the coast of Florida to 87°w, this meridian extending seaward as a boundary
- (iii) from this point westward to the mouth of the Mississippi River (South Pass) at about 89°W , the next boundary
- (iv) from this point, westward to 94°W, the next boundary
- (v) from this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

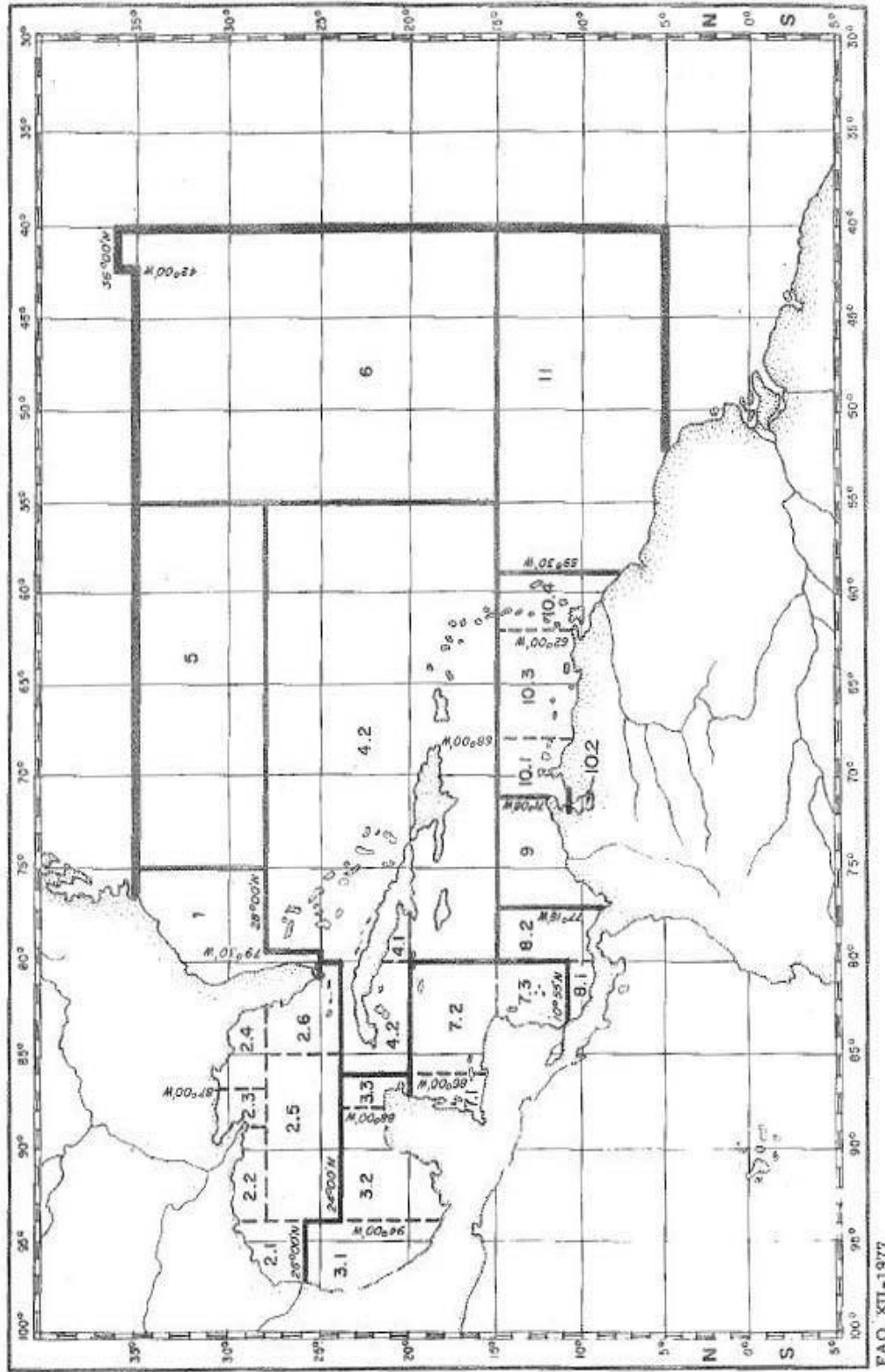
Venezuela: The three subdivisions of the Venezuelan coast recommended previously for shrimp statistics would serve as well for fish. From west to east, these are:

- (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





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

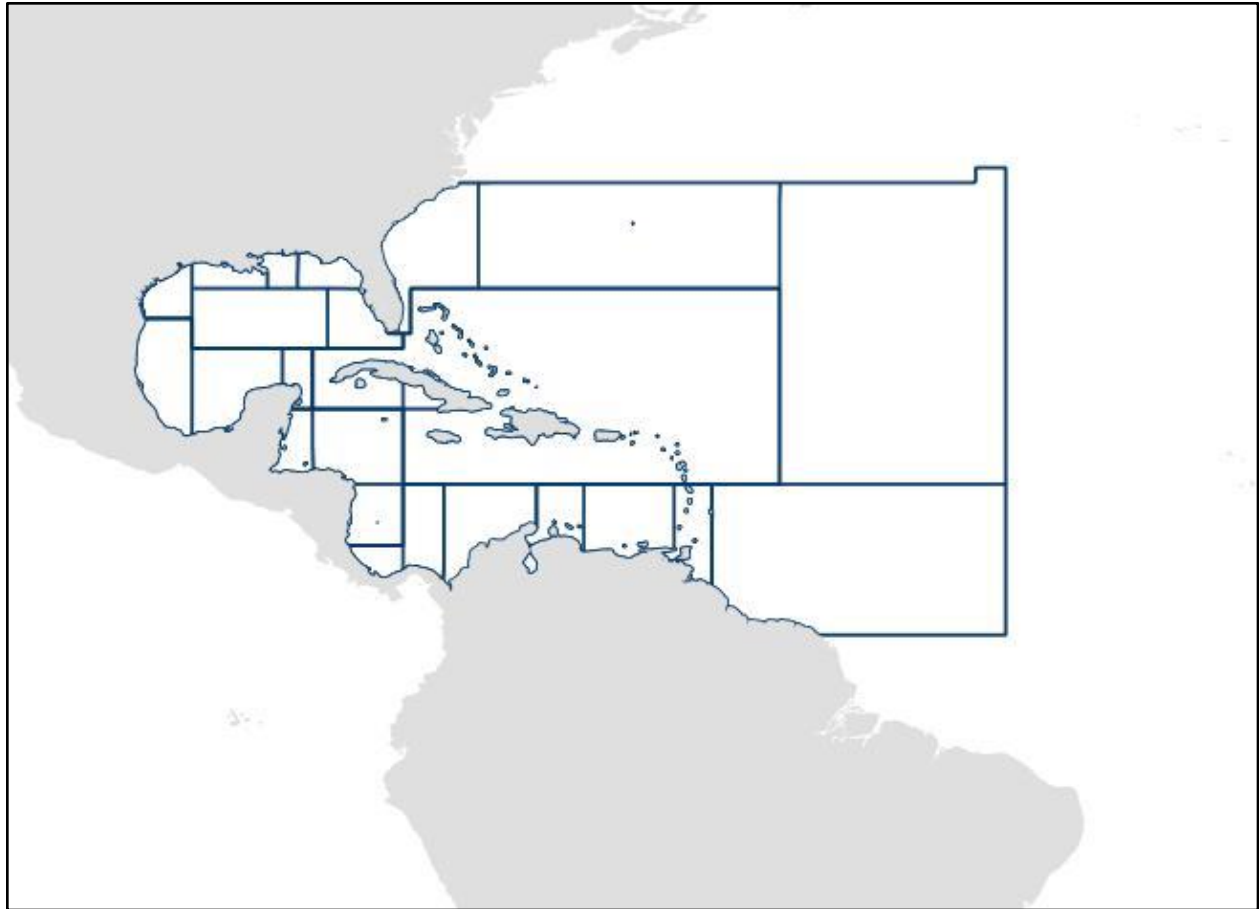
Area 31 sub areas definition (WECAFC, 1990) was refined and proposed by the Working Party on Assessment of Marine Fishery Resources (6th session, 15-19 may 1989).

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

These are in line with the 1978 proposal.

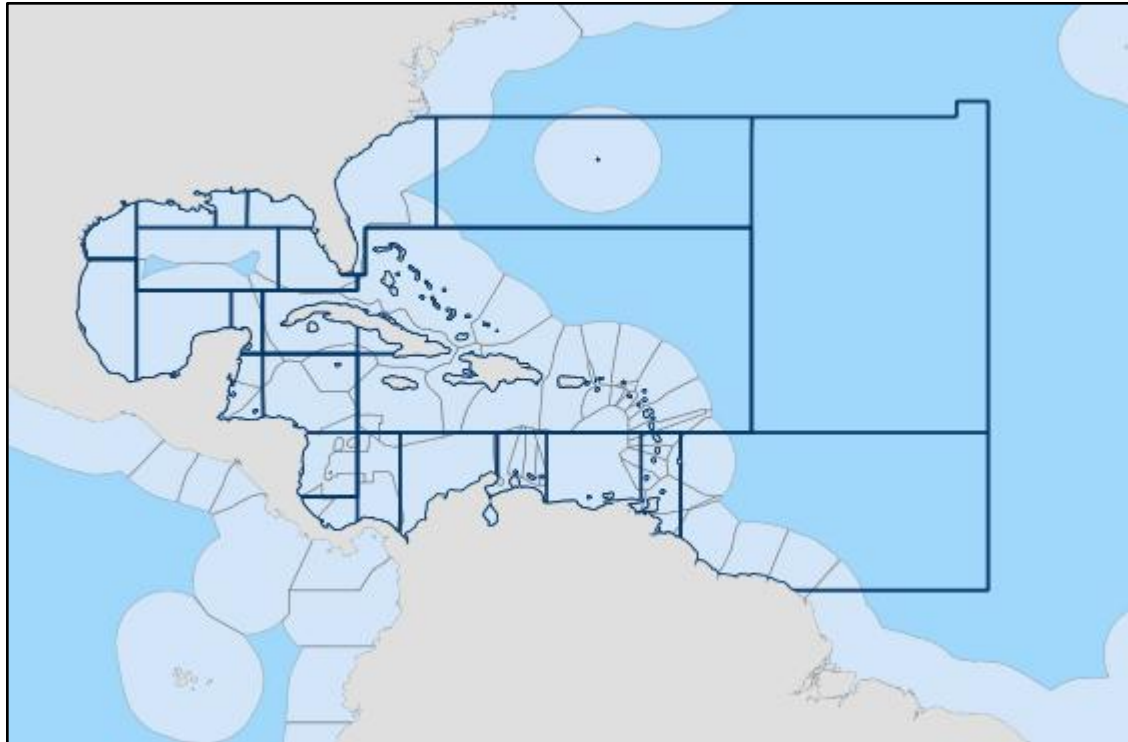
Here is the interactive representation of the WECAFC proposed sub areas:

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



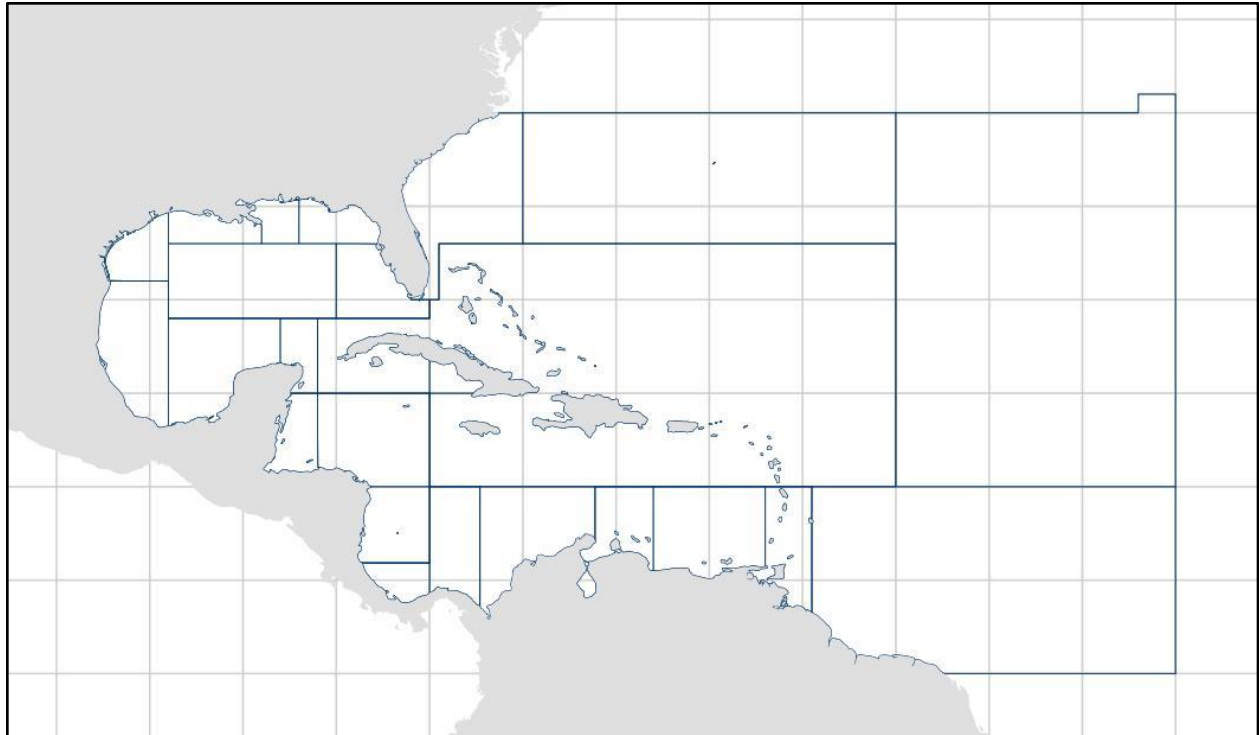
The below figures show a possible implementation with even more detailed sub-areas (reflected EEZ). This is a non-official representation of these possible sub areas as proposal

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



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

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



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

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

4. Discussion on refining subareas

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

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



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

Question for reviewers:

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

Appendix 2.3: WECAFC Reference list of species categorizations

1. Introduction to list of species

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

“All living marine resources, without prejudice to the management responsibilities and authority of other competent fisheries and other living marine resources management organizations or arrangements in the area.”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. As such these listings further support the interim framework agreed by regional fishery bodies as specified by the 2016 Interim Coordination Mechanism (ICM)² to facilitate, support and strengthen the coordination of actions, among the organizations for sustainable fisheries in the Western Central Atlantic. In particular the ICM specified support for the queen conch, spiny lobster, flying fish, shrimp and groundfish fisheries.

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

- to monitor the high seas straddling/migratory/deep sea species in areas beyond national jurisdiction that would correspond to the WECAFC-as-RFMO mandate (as per WECAFC 16³⁰ decision)
- to monitor high seas and deep seas species in preparing for a possible mandate for WECAFC as RFMO, and
- to monitor species identified to other importance to the regional fishery bodies (e.g., CRFM, or OSPESCA), and responding to criteria that would make the sub-regional list distinct from the ICM criteria

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

- **Appendix 2.3.1 Priority species:** these are key species to the region for which States are strongly encouraged to statistical reporting. These key species are defined as follows and are supported on one or more primary bases (i.e., criteria for inclusion):
 - **Basis 1:** Species with endorsed fisheries management plans (Conch, lobster, flying fish) 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 2.3.1.1)

²⁹ <http://www.fao.org/fishery/rfb/wecafc/en>

³⁰ <http://www.fao.org/3/a-bo086e.pdf>

- 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 (here ICCAT- <https://old.iccat.int/en/introduction.htm>): tuna and tuna like species (Appendix 2.3.1.2)
- **Basis 3:** High Seas and Deep Sea Species falling under a possible mandate of WECAFC as RFMO (Appendix 2.3.1.3)
 - WECAFC Working Group on the management of deep-sea fisheries
 - OSPESCA: Working Group on Sharks and Highly Migratory Species
- **Appendix 2.3.2: Other Reference species:** if a list of reference species by countries are available, countries are encouraged to report for these species lists to WECAFC. Included under this category are species categorized according to the following :
 - **Basis 4:** Commercially targeted and threatened sharks and rays (Appendix 2.3.2.1)
 - OSPESCA/WECAFC Working Group on demersal Sharks
 - WECAFC/CITES/OSPESCA/CRFM/CFMC Working Group on Shark Conservation and Management
 - **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.a-c)
 - WECAFC/OSPESCA/CRFM/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
- **Appendix 2.3.3** provides a list of additional species identified in historical WECAFC works.

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:

- 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.

2. 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 2.3.1.1: 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	Supp. Basis
Species with management plan								
SLC	Panulirus argus	Caribbean spiny lobster	Langouste blanche	Langosta común	Caribbean spiny lobster	Langouste blanche	Langosta común del Caribe	1

ASFIS code	Scientific name	Reg En Name	Reg Fr Name	Reg Sp Name	ASFIS en Name	ASFIS Fr Name	ASFIS En Name	Supp. Basis
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)								
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)								

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

ASFIS code	Scientific name	Reg En Name	Reg Fr Name	Reg Sp Name	ASFIS en Name	ASFIS Fr Name	ASFIS En Name	Supp. Basis
Tunas (M.1.2.a)								
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

ASFIS code	Scientific name	Reg En Name	Reg Fr Name	Reg Sp Name	ASFIS en Name	ASFIS Fr Name	ASFIS En Name	Supp. Basis
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

ASFIS code	Scientific name	Reg En Name	Reg Fr Name	Reg Sp Name	ASFIS en Name	ASFIS Fr Name	ASFIS En Name	Supp. Basis
BLT	<i>Auxis rochei</i>	Bullet tuna	Auxide	Melva	Bullet tuna	Bonitou	Melva(=Melvera)	2
BRS	<i>Scomberomorus brasiliensis</i>	Serra Spanish mackerel	Serra Spanish mackerel	Thazard serra	Serra Spanish mackerel	Thazard serra	Serra	2
DOL	<i>Coryphaena hippurus</i>	Mahi Mahi/ Common dolphinfish	Coryphène commune	Lampuga	Common Dolphin fish	Coryphène commune	Lampuga	2
CFW	<i>Coryphaena equiselis</i>				Pompano dolphinfish			
KGX	<i>Scomberomorus Spp</i>	Seerfishes nei	Thazards nca	Carites nep				2
Billfishes (M.1.2.b)								
SAI	<i>Istiophorus albicans</i>	Atlantic sailfish	Voilier de l'Atlantique	Pez vela del Atlántico	Atlantic sailfish	Voilier de l'Atlantique	Pez vela del Atlántico	
BUM	<i>Makaira nigricans</i>	Blue Marlin			Blue Marlin	Makaire bleu	Aguja azul	2
WHM	<i>Kajikia albida</i>	Atlantic white marlin			White Marlin	Makaire blanc de l'Atlantique	Aguja blanca del Atlántico	2
SWO	<i>Xiphias gladius</i>	Swordfish			Swordfish	Espadon	Pez espada	2
SPF	<i>Tetrapturus pfluegeri</i>	Longbill spearfish			Longbill spearfish			2
RSP	<i>Tetrapturus georgii</i>	Roundscale spearfish			Roundscale spearfish			2

- **Appendix 2.3.1.3:** 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

Question for reviewers:

This list is to be filled out – 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 2.3.2.1. 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	Supp. Basis
CIO	Isogomphodon oxyrinchus	Daggernose Shark	Requin bécune	Cazón picudo sudamericano	Daggernose shark	Requin bécune	Daggernose Shark	
OCS	Carcharhinus longimanus	Oceanic whitetip shark			Oceanic whitetip	Requin océanique	Oceanic whitetip	4
RHN 2.1.1.4	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 shark	Requin-taupe commun	Marrajo sardinero	4
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

ASFIS CODE	Scientific Name	Reg En Name	Reg Fr Name	Reg Sp Name	ASFIS en Name	ASFIS Fr Name	ASFIS En Name	Supp. Basis
SPZ	<i>Sphyrna zygaena</i>	Smooth hammerhead			Smooth hammerhead	Requin-marteau commun	Cornuda cruz(=Pez martillo)	4
SPQ	<i>Sphyrna tudes</i>	Smalleye hammerhead			Smalleye hammerhead	Requin-marteau à petits yeux	Cornuda ojichica	4
	<i>Rhizoprionodon porosus</i>	Caribbean sharpnose shark			Caribbean sharpnose shark	Requin aiguille antillais	Cazón picudo antillano	4
	<i>Rhizoprionodon lalandii</i>	Brazilian sharpnose shark			Brazilian sharpnose shark			4
	<i>Carcharhinus porosus</i>	Smalltail shark			Smalltail shark			4
CTI	<i>Mustelus canis</i>	Dusky smooth-hound			Dusky smooth-hound	Émissole douce	Boca dulce	4
RPP	<i>Pristis pectinata</i>	Smalltooth sawfish			Smalltooth sawfish	Poisson-scie tident	Requin-marteau halicorne malltooth sawfish	4
RPM	<i>Pristis microdon</i>	Largetooth sawfish			Largetooth sawfish	Poisson-scie grandent	Largetooth sawfish	4
	<i>Aetobatus narinari</i>				Spotted eagle ray (chucho)			4
	<i>Mobula birostris</i>				Giant Oceanic Manta Ray			4
	<i>Dasyatis americana</i>				Sting ray			4
	<i>Narcine bancroftii</i>	Caribbean Electric Ray			Caribbean Electric Ray			4

- **Appendix 2.3.2.2:** 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**)

- **Appendix 2.3.2.2.a:** Small pelagics species

ASFIS CODE	Scientific Name	Reg En Name	Reg Fr Name	Reg Sp Name	ASFIS en Name	ASFIS Fr Name	ASFIS En Name	Supp. Basis
AVA	<i>Cetengraulis edentulus</i>	Atlantic anchoveta	Anchois queuejaune	Anchoveta rabo amarillo	Atlantic anchoveta	Anchois queue jaune	Anchoveta rabo amarillo	5
SAA	<i>Sardinella aurita</i>	Round sardinella (Spanish sardine)	Allache	Sardinela atlantica	Round sardinella	Allache	Alacha	5
POM	<i>Trachinotus carolinus</i>	Florida pompano	Pompaneau sole	Pámpano amarillo	Florida pompano	Pompaneau sole	Pámpano amarillo	5
LHT	<i>Trichiurus lepturus</i>	Largehead hairtail	Poisson sabre (de l'Atlantique)	Sable	Largehead hairtail	Poisson-sabre commun	Pez sable	5
LOB	<i>Lobotes surinamensis</i>				Atlantic tripletail	Croupia roche	Dormilona	

- **Appendix 2.3.2.2.b:** Reef and Slope species

ASFIS CODE	Scientific Name	Reg En Name	Reg Fr Name	Reg Sp Name	ASFIS en Name	ASFIS Fr Name	ASFIS En Name	Supporting Basis
Groupers								
GPR	<i>Epinephelus morio</i>	Red grouper	Mérou rouge	Mero americano	Red grouper	Mérou rouge	Mero americano	5
GPN	<i>Epinephelus striatus</i>	Nassau grouper	Mérou rayé	Cherna criolla	Nassau grouper	Mérou rayé	Cherna criolla	5
MAB	<i>Mycteroperca bonaci</i>	Black grouper			Black grouper	Badèche bonaci	Cuna bonací	5
EEU	<i>Epinephelus guttatus</i>	Red hind			Red hind	Mérou couronné	Mero colorado	5
EET	<i>Epinephelus itajara</i>	Goliath grouper			Atlantic goliath grouper	Mérou géant de l'Atlantique	Mero gigante del Atlántico	5
CFJ	<i>Cephalopholis fulva</i>	Coney			Coney	Coné ouatalibi	Cherna cabrilla	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
CFL	<i>Cephalopholis cruentata</i>	Graysby			Graysby	Coné essaim	Cherna enjambre	5
EFD	<i>Epinephelus adscensionis</i>	Rock hind			Rock hind	Mérou oualioua	Mero cabrilla	5
MKT	<i>Mycteroperca tigris</i>	Tiger grouper			Tiger groupe	Badèche tigre	Cuna gata	5
MKV	<i>Mycteroperca venenosa</i>	Yellowfin grouper				Badèche de roche	Cuna de piedra	5
EEY	<i>Epinephelus mystacinus</i>	Misty grouper				Mérou brouillard	Mero listado	5
EEL	<i>Epinephelus flavolimbatus</i>	Yellowedge grouper				Mérou aile jaune	Mero aleta amarilla	5
MKN	<i>Mycteroperca interstitialis</i>	Yellowmouth grouper				Badèche gueule jaune	Cuna amarilla	5
Grunts								
HLI	<i>Haemulon plumieri</i>	White grunt				Gorette blanche	Ronco margariteño	5
5HLU	<i>Haemulon album</i>	White Margate				Gorette margate	Ronco jallao	5
HHI	<i>Haemulon sciurus</i>	Bluestriped grunt				Gorette catire		5
Porgies								
CBD	<i>Calamus bajonado</i>	Jolthead porgy				Daubenet trembleur	Pluma bajonado	5
CFE	<i>Calamus penna</i>	Sheepshead porgy				Daubenet bélier		5
	<i>Calamus pennatula</i>	Pluma porgy				Daubenet Plume		5
		Sea bream						5
Squirrelfishes	<i>Holocentrus rufus</i>	Longspine squirrelfish						5
Jacks								
RUB	<i>Caranx crysos</i>	Blue runner				Carangue coubali	Cojinúa negra	5
CVJ	<i>Caranx hippos</i>	Crevalle				Carangue crevalle	Jurel común	5
LIJ	<i>Alectis ciliaris</i>	African Pompano				Cordonnier fil	Pámpano de hebra	5
RRU	<i>Elagatis bipinnulata</i>	Rainbow runner				Comète saumon	Macarela salmón	5
LJN	<i>Lutjanus analis</i>	Mutton snapper	Vivaneau sorbe	Pargo criollo	Mutton snapper	Vivaneau sorbe	Pargo criollo	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
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 bíaiba	Lane snapper	Vivaneau gazou	Pargo bíaiba	5
LTJ	Lutjanus vivanus	Silk snapper	Vivaneau soi	Pargo de lo alto	Silk snapper	Vivaneau soie	Pargo de lo alto	5
	Pristipomoides aquilonaris	Wenchman snapper						5
UPZ	Pristipomoides macrophthalmus	Cardinal snapper						
RPU	Rhomboplites aurubens	Vermillion snapper				Vivaneau ti-yeux	Pargo cunaro	5
SNY	Ocyurus chrysurus	Yellowtail snapper	Vivaneau queue jaune	Rabirubia	Yellowtail snapper	Vivaneau queue jaune	Rabirubia	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
		Midnight parrotfish						5
USN	Scarus taeniopterus	Princess parrotfish				Perroquet princesse		5
UVT	Scarus vetula	Queen parrotfish				Perroquet périco		5
		Rainbow parrotfish						5
QZV	Sparisoma rubripinne	Redfin parrotfish				Perroquet basto	Loro basto	5
RSY	Sparisoma chrysopterus	Redtail parrotfish						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
	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
	Balistes capriscus	Gray triggerfish						5
Wrasses								
LCX	Lachnolaimus maximus	Hogfish				Labre capitaine	Doncella de pluma	5
	Halichoeres radiatus	Puddingwife						5
BDR	Bodianus rufus	Spanish hogfish				Pourceau espagnol		5
Angelfishes								
	Holacanthus ciliaris	Queen angelfish						5
	Pomacanthus arcuatus	Gray angelfish						5
	Pomacanthus paru	French angelfish						5

○ **Appendix 2.3.2.2.c: Shrimp species.**

ASFIS CODE	Scientific Name	Reg En Name	Reg Fr Name	Reg Sp Name	ASFIS en Name	ASFIS Fr Name	ASFIS En Name	Suppl. Basis
ABS	Penaus aztecus	Northern brown shrimp	Crevette royale grise	Camarón café norteño	Northern brown shrimp	Crevette royale grise	Camarón café norteño	4

ASFIS CODE	Scientific Name	Reg En Name	Reg Fr Name	Reg Sp Name	ASFIS en Name	ASFIS Fr Name	ASFIS En Name	Suppl. Basis
APS	<i>Penaeus duorarum</i>	Northern pink shrimp	Crevette rodché du nord	Camarón rosado norteño	Northern pink shrimp	Crevette rose du Nord	Camarón rosado norteño	4
SOP	<i>Farfantepenaeus notialis</i>	Southern pink shrimp	Crevette rodché du sud	Camarón rosado sureño	Southern pink shrimp	Crevette rose du Sud	Camarón rosado sureño	4
PNT	<i>Litopenaeus schmitti</i>	Southern white shrimp	Crevette ligubam du sud	Camarón blanco sureño	Southern white shrimp	Crevette ligubam du Sud	Langostino blanco sureño	4
PST	<i>Penaeus setiferus</i>	Northern white shrimp	Crevette ligubam du nord	Camarón blanco norteño	Northern white shrimp	Crevette ligubam du Nord	Camarón blanco norteño	4
PNU	<i>Farfantepenaeus subtilis</i>	Southern brown shrimp	Crevette café	Camarón café sureño	Southern brown shrimp	Crevette grise du Sud	Camarón café sureño	4
	<i>Farfantepenaeus brasiliensis</i>	Pink spotted shrimp						
RRS	<i>Pleoticus robustus</i>	Royal red shrimp	Crevette salicoque	Camarón rojo real	Royal red shrimp	Salicoque royale rouge	Camarón rojo real	4
SSH	<i>Plesiopenaeus edwardsianus</i>	Imperial red shrimp		Gamba carabinero	Scarlet shrimp	Gambon écarlate	Gamba carabinero	4
PNB	<i>Penaeus brasiliensis</i>	Redspotted shrimp	Crevette royale rose	Camarón rosado con manchos	Redspotted shrimp	Crevette royale rose	Camarón rosado con manchas	4
BOB	<i>Xiphopenaeus kroyeri</i>	Atlantic seabob	Cevette seabob	Camarón siete barbas	Atlantic seabob	Crevette seabob atlantique	Camarón siete barbas	4
RSH	<i>Sicyonia brevirostris</i>	Rock shrimp	Crevette ovetgernade	Camarón de piedra	Rock shrimp	Boucot ovetgernade	Camarón de piedra	4

Question for reviewers:

Identify the key shrimps 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 above table under 2.3.1.1

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
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	
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 Caraïbes	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
YNA	Cynoscion acoupa	Acoupa weakfish	Acoupa toeroe	Corvineta amarilla	Acoupa weakfish	Acoupa toeroe	Corvinata amarilla
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
	Cynoscion jamaicensis	Jamaican weakfish					
YNV	Cynoscion virescens	Green weakfish	Acoupa cambucu	Corvinata cambucú	Green weakfish	Acoupa cambucu	Corvinata cambucú

ASFIS CODE	Scientific Name	Reg En Name	Reg Fr Name	Reg Sp Name	ASFIS en Name	ASFIS Fr Name	ASFIS En Name
	Arius sp.	Sea catfish					
SPT	Leiostomus xanthurus	Spot croaker	Tambour croca	Verrugato croca	Spot croaker	Tambour croca	Verrugato croca
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 mullet	Mulet blanc	Lisa criolla	White mullet	Mulet blanc	Lisa blanca
MUB	Mugil liza	Lebranche mullet	Millet lebranche	Lebanche	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	Chicharro ojón	Bigeye scad	Sélar coulisou	Chicharro ojón

ASFIS CODE	Scientific Name	Reg En Name	Reg Fr Name	Reg Sp Name	ASFIS en Name	ASFIS Fr Name	ASFIS En Name
MOA	<i>Selene setapinnis</i>	Atlantic moonfish	Musso atlantique	Jorobado lamparosa	Atlantic moonfish	Musso atlantique	Jorobado lamparosa
	<i>Sphyraena barracuda</i>	Great Barracuda					
BAR	<i>Sphyraena</i> 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 WECAFC need to define one?

Appendix 3: Regional conversion factors

[to be filled later]

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 landings³¹. The CWP advises that the overall aim for statistics on catch and landings is to report on fisheries contribution to the national economy, to the provision of food (subsistence) and on the total removal of fish and other organisms from the sea. Catch statistics are internationally reported as nominal catch (see definition below) which refers to the landings converted to a live weight basis. However, fisheries impact on the ecosystem goes beyond the landed fish and other organisms and includes species impacted by the gear. Some of these species are brought on deck and later discarded. The various components of the catch are described in the CWP catch concept diagram (Cf. Figure 1). There are fisheries where the number of individuals caught is also required to be reported.

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

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

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

³¹ <http://www.fao.org/cwp-on-fishery-statistics/handbook/capture-fisheries-statistics/catch-and-landings/en/>

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 (CWP³²): 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 gear (draft, based on FAO³³): The term ‘fishing gear’ refers to specialized equipment used for catching fish and defined according to the international standard classification revised version (ISSCFG Rev1, 2010³⁴). 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 (CWP⁸): The term "fishing vessel" refers to a vessel which is engaged only in catching operations.

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

1. The "International Standard Statistical Classification of Fishery Vessels by GRT Categories" (ISSCFV), based on the Gross Register Tonnage of the vessels, approved by the CWP in 1977. See ISSCFV GRT classification ³⁵
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 1984³⁶.

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

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

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

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

³² <http://www.fao.org/cwp-on-fishery-statistics/handbook/capture-fisheries-statistics/fishery-fleet/en/>

³³ <http://www.fao.org/cwp-on-fishery-statistics/handbook/capture-fisheries-statistics/fishing-gear-classification/en/>

³⁴ <http://www.fao.org/3/a-bt987e.pdf>

³⁵ <http://www.fao.org/3/a-bt982e.pdf>

³⁶ <http://www.fao.org/3/a-bt983e.pdf>

Length class: to be defined

Maturity: to be defined

Nationality of catch and landings (CWP¹¹³⁷): For the purpose of reporting national fishery statistics, the catch and landings is generally assigned to the country of the flag flown by the fishing vessel. However, the CWP recommended that this may be over-ridden only when one of the following arrangements between a foreign flag vessel and the host country exists: the vessel is chartered by the host country to augment its fishing fleet; or the vessel fishes for the country by joint venture contracts or similar agreements (as opposed to the ad-hoc practice of a vessel selling catches to a foreign vessel or landing catches at a foreign port) and the operation of such vessel is an integral part of the economy of the host country. In either case, the assignment of nationality to catch and landings data should be specified in the charter or joint-venture agreements.

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

Nominal Effort: to be defined

Non-fishing vessel (CWP⁸³⁸): The term "non-fishing vessel" applies to vessels performing other functions related to fisheries, such as supplying, protecting, rendering assistance or conducting research or training.

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

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

Sample design: to be defined

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

Source of data: to be defined

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

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

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

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

Vessel IMO number (draft): International Maritime Organization Number

Vessel IRCS (draft): International Radio Call Sign

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

Vessel GRT (draft): Gross Registered Tonnage

Vessel GT (draft): Gross Tonnage

Vessel LOA (draft): Length OverAll is the total length 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

³⁷ <http://www.fao.org/cwp-on-fishery-statistics/handbook/capture-fisheries-statistics/catch-and-landings/en/>

³⁸ <http://www.fao.org/cwp-on-fishery-statistics/handbook/capture-fisheries-statistics/fishery-fleet/en/>