



<b>FIRMS Steering Committee meeting</b>
<b>Third Session</b>
<b>Madrid, Spain, 13 - 15 February 2006</b>
<b>FIRMS Information Management Policy (IMP):</b>
<b>Revised Standard Proposals for Fisheries Naming Conventions (from FSC2)</b>
<b>Author: FSC Secretariat</b>

#### ***Preamble for FSC3***

*On the substance:* For the sake of clarity in FIRMS system, in order to have a homogeneous presentation or to facilitate search, the naming of a Fishery has to follow some conventions. At the same time, data owners have their own ways of naming fisheries, more or less formalized, which they wish to be reflected within FIRMS.

*The purpose of this document is to present the criteria to be used as FIRMS naming convention for Fisheries.*

*On the revision history:* a first proposal was made at FSC2 in document (FSC2/2005/6 [ftp://ftp.fao.org/fi/DOCUMENT/FIGIS\\_FIRMS/2005/6e.pdf](ftp://ftp.fao.org/fi/DOCUMENT/FIGIS_FIRMS/2005/6e.pdf)). FSC2 generally accepted the proposal with some comments. A revised version based on a comprehensive review of the inventory of fisheries to date was developed for consideration at TWG1 (TWG1/2005/4c2 [ftp://ftp.fao.org/fi/DOCUMENT/FIGIS\\_FIRMS/Technical/4c2\\_e.pdf](ftp://ftp.fao.org/fi/DOCUMENT/FIGIS_FIRMS/Technical/4c2_e.pdf)). This proposal constituted a substantial revision of the standards proposed at FSC2: in addition to the Title strito sensus, it introduced two additional components required for a complete name (Geo-reporting standpoint, and parent fishery title). TWG1 endorsed the general approach while recognizing that this procedure would follow a learning curve. The Secretariat also told that this document would require more thoughts and that a new version would be drafted before FSC3.

*Status of the present document:* the present version was reworked concurrently with the development of the functional specifications for the fishery module, and the revision of the guidelines for the inventory of fisheries. On the style, it strives to focus on the aspects directly related to the Naming convention (the other aspects being treated in the other documents). On the substance, it maintains the need for the Geo-reporting standpoint, but drops that of the parent fishery title. It is therefore a mid-way between the two versions previously presented. Therefore, paragraph 1 has been completely revised providing background for and explaining the rational behind the proposed naming conventions. In Paragraph 2 (naming conventions), sections highlighted in green represent changes in substance since last document presented to FSC2.

## **1. Working definition and concepts related to the identification of Fisheries in an inventory**

Understanding the fisheries inventory process whereby fisheries are identified provides a useful background to the proposed naming conventions.

### 1.1 Working definition

A Fishery is an activity leading to the harvesting of fish, within the boundaries of a defined area. The Fishery concept fundamentally gathers indication of human fishing activity, including from economic, management, biological / environmental and technological viewpoints.

### 1.2 Process of identifying fishery units in an inventory

Inventories are carried out at different scales (either Global, Regional, National or Sub-national), each time from a specific geographic standpoint. In a reporting system like FIRMS, this [scale x geographic] standpoint is herewith defined as the Geo-reporting standpoint. Examples of Geo-reporting standpoint are Western Central Pacific Ocean (an SPC1 regional Geo-reporting standpoint), Senegal (a national Geo-reporting standpoint), or Florida (a USA sub-national Geo-reporting standpoint). This Geo-reporting standpoint defines the space within which fisheries are identified during an inventory.

Species or harvested resources, seabeds, fishing practices (or métiers), vessels, people or households are the elements which people perceive as fisheries. The task of the inventory is to partition (or segment) these elements in a set of Fishery units. Depending on the disciplinary viewpoint, this partitioning process would lead to different results, and accordingly five thematic approaches have been recognized: Resource, Fishing technique, Métier, Production system and Management system. Key attributes of a fishery unit depend on the thematic approach considered during the fishery identification process. We present in table 1 the five approaches and key attributes generally encountered in each case.

Table 1: the 5 thematic approaches to fisheries identification, disciplinary view point prevailing for each thematic approach, and set of keys characterizing a fishery according to the thematic approach.

---

<sup>1</sup> SPC: Secretariat of the Pacific Community

Thematic approach	disciplinary view point	Set of criteria / keys prevailing possible
<p>1. <b>Resource:</b> when focus for the definition of the fishery is on the resource (s) targeted.</p> <p><u>example:</u> "Deep-sea shrimp fishery"</p> <p><i>where reference is made to the resources of shrimps in deep-sea waters off Angola</i></p> <p><u>example:</u> "Shrimp and groundfish fishery – Gulf of Paria"</p> <p><i>where reference is made to the resources of shrimps and groundfish in gulf of Paria, in Trinidad and Tobago waters</i></p>	biologist	Environment; Target Species; Fishing Area;
<p>2. <b>Fishing technique:</b> when focus for the definition of the fishery is on the fishing technique and related technology used.</p> <p><u>example:</u> " Semi-industrial Mediterranean purse seining fishery ",  <i>where reference is made to the fishing technique deployed for catching and storing fish on board medium size purse seiners in the Mediterranean context.</i></p>	technologist	Vessel type, and/or Fishing Gear, and/or Fishing technique Target Species  Fishing area Exploitation form
<p>3. <b>Metier<sup>2</sup>:</b> when focus for the definition of the fishery is on the category of fishing activity implemented by a fishing fleet or fishermen community.</p> <p><u>example:</u> " offshore flatfish trammel netting", <i>where reference is made to the fishing practice making use of trammel net for catching flatfish in offshore waters of French continental shelf.</i></p>	biologist  socio-economist	Vessel type, and/or Fishing Gear, and/or Fishing technique; Target Species Fishing area  Exploitation form
<p>4. <b>Production system:</b> when focus for the definition of the fishery is on the socio-economic category of enterprise (for industrial / commercial fisheries) or household (for artisanal / subsistence fisheries).</p> <p><u>example:</u> "Coastal trawlers - Italian Adriatic coast", <i>where reference is made to the fleet of coastal trawlers based in the various ports of the Italian Adriatic coast and operating according to same enterprise strategies</i></p> <p><u>example:</u> "family-scale fishing and rice field fisheries", <i>where reference is made to household communities in Cambodia basing their subsistence strategies on mixed fishing and rice culture activities</i></p>	socio-economist	Exploitation form; Vessel type or Fishermen community; Country, Province, Village  Environment Fishing area
<p>5. <b>Management system:</b> when focus for the definition of a fishery is on the unit of reference for organizing a Management system, ie a set of governing rules formally agreed within a recognized legal framework for the management a fishery or group of fisheries.</p> <p><u>example:</u> "Commonwealth fisheries" (Australia)</p>	jurist, managers	Jurisdiction Other geographic area,   other attributes reflecting the mode

<sup>2</sup> The concept of Métier: "A métier is usually defined by the use of a given fishing gear in a given area, in order to target a single species or group of species, e.g. inshore shrimp trawling, offshore flatfish trammel netting ... (Mesnil and Shepherd, 1990; Laurec et al., 1991).

Thematic approach	disciplinary view point	Set of criteria / keys prevailing possible
<p>where reference is made to Australia fisheries managed at federal level (as opposed to those managed at state level)</p> <p>example: "Alaska fisheries", where reference is made to the NPFMC management system for USA Alaskan fisheries</p> <p>example: "Municipal fishery - Philippines", where reference is made to the municipal management system whereby state delegates to local municipal and city government responsibility to manage fisheries within a jurisdiction area of 15 kms coastal waters strip.</p>		<p>of management, eg "comanaged"</p>

### 1.3 Structuring an inventory

Hierarchical organization: in many situations, it is also found that different set of criteria might be successively applied to decompose *fisheries* into fisheries of a sub-level: each partitioning stage is usually driven by a distinct *thematic approach* and the resulting set of *fisheries* constituting the inventory is organised in a tree like way, or *hierarchy* (see figure 1).

- └ Fisheries title 1 (Approach: resource)
  - └ Fishery title 2 (Approach: métier)
  - └ Fishery title 3 (Approach: métier)
- └ Fisheries title 4 (Approach: resource)

Figure 1 – Hierarchy of fisheries identified from different approaches.

It should be noted that successive partitioning stages driven by distinct thematic approaches would be the cause of overlapping between fisheries, which raises issues of consistency. This issue is addressed by the software application managing the inventory in different ways, making use of knowledge of hierarchical relationships, thematic approach, reporting levels, and consistent names at each level.

## 2. Proposed naming conventions

### 2.1 Issues and objectives of naming conventions

In "naming conventions", the term "naming" covers a broader concept than the fishery title *stricto sensu*. It covers the set of key identifiers which altogether provide an unequivocal understanding of the concerned entity.

The concerns driving the development of naming conventions are ensuring manageable/presentable titles, as well as consistency through:

- unequivocal identification of a fishery thanks to a set of key naming identifiers;
- harmonised names for fisheries part of the same inventory, with regard to parent relationships or/and thematic approaches;

## 2.2 Unequivocal identification of a fishery

In order to name a fishery unequivocally, the two following identifiers should be systematically presented together:

- its Geo-reporting standpoint: it defines the space within which fisheries are identified during an inventory and is critical for the unequivocal identification of a fishery;
- a Title composed with keywords reflecting the key criteria used for the definition of the fishery;

We present herewith the naming conventions for these two components.

## 2.3 Naming conventions

### 2.3.1 for Geo-reporting standpoint

- i. It is composed of a Land Area, or Water area. The Area should be a name, which means that the use of codes or acronyms should be avoided, or put at the end in parenthesis. Where ever possible, the name of the Area should refer to standard international or regional naming classifications and conventions, primarily from the ASFIS list of geographical terms or from CWP handbook.

Note: as seen in section 1, the scale associated with the Geo-reporting standpoint in the definition of the fishery is implied but is not part of the Fishery name.

### 2.3.2 for a manageable/presentable Title

As introduced in section 1, the identification of a fishery in an inventory is the result of a segmentation usually operated according to a thematic approach. Depending on this thematic approach, the segmentation criteria will differ (see table 1) and consequently the type(s) of keywords used to establish a fishery title is variable. Furthermore, when successive segmentations are applied for the identification of a fishery, the number of keywords necessary to define a meaningful title increases.

Therefore following naming conventions are further proposed for the title:

- 
- ii. The FIRMS Title *stricto sensu* of a fishery is established as follow:  
list of <key words> Fishery – <Area name>.  
where Area name is optional (see point ix)
- iii. In order to avoid too long fishery names, the number of <keywords> for a fishery should be limited to the main criteria and should not exceed 3 (excluding Area name). In addition when presenting a fishery, the software will provide a facility to display the name of the other related fisheries (“parent” fisheries, “children-fisheries”). This facility should not prevent from repeating in the child fishery title a keyword which already appears in the parent fishery title.
- iv. The set of keywords used generally reflect the thematic approach prevailing for the identification of a fishery, as per table 1. These keywords (regardless of the thematic approach) should be ordered as follows:
- Jurisdiction
  - Sea environment (habitat of the target species)
  - Production system: exploitation form, flag state, fisherman community, etc...
  - Fishing technique (vessel type, gear),
  - Target species (or [ecological] group of species).
- v. When an international or regional classification is available, the keyword selected for a criterion should be taken from this classification (e.g. The International Standard Statistical Classification of Fishing Gear for fishing gears).
- vi. When compatible, the keywords included in the local title should be kept in the FIRMS title.
- vii. The term “Fishery” which follows the set of keywords can be replaced when more appropriate by terms such as “Management Unit”, or “Operational unit”, etc...
- viii. The <Area name> describes the location of the fishery. It may be a water area if it describes the area where fishing takes place, or a land area if it describes where the production system is located. The <Area name> is optional since it may be redundant with the geo-reporting standpoint. It is present if it complements this geo-reporting standpoint, specifying further the location. With regard use of international or regional standard names the rule adopted for the Geo-reporting standpoint also applies to the area name.
- ix. Finally, in accordance with the language policy adopted in FIRMS IMP, the fishery name composed by Geo-reporting standpoint and Title can be handled in the 5 Official FAO languages: English, French, Spanish, Arabic and Chinese. It is here recalled that the local name can be in any language.

Annex 1 illustrates the application of the naming convention to different regional and national inventories.

**Annex 1: some examples of the application of naming conventions to a set of fisheries extracted from the current global inventory of fisheries**

Jamaica (national)  
 Mexico (national)  
 Western Central Pacific Ocean Tuna fisheries (regional)  
 Brazil (national)  
 Italy Adriatic sea (sub-national)  
 Trinidad and Tobago (national)  
 French Guyana (national)  
 Venezuela (national)  
 Morocco (national)  
 Mauritania (national)  
 Gambia (national)

**Legend**

R: Resource thematic approach	P: Production system thematic approach
M: Métier thematic approach	MS: Management System thematic approach
FT: Fishing Technique thematic approach	

		n/a (title)	title introduced for clarity in the inventory hierarchy (not considered as a fishery for reporting, hence naming convention non applicable)
--	--	-------------	---

## Annex 1: some examples

Inventory of Fisheries – Jamaica (Source FAO)

	<b>Original inventory</b>	<b>FIRMS standardisation</b>		
	<b>Local Name</b>	<b>Geo-reporting standpoint</b>	<b>FIRMS English name</b>	<b>Thematic approach</b>
1	Coastal pelagic fisheries	Jamaica	Coastal small pelagic fishery	R
2	Large pelagic fishery	Jamaica	Large pelagic fishery	R
3	Coral reefs finfish fishery	Jamaica	Coral reefs finfish fishery	R
4	Crustacean fisheries			n/a (title)
5		Jamaica	Spiny lobster fisheries	R
6	Artisanal lobster fishery	Jamaica	Spiny lobster fisheries Artisanal spiny lobster fishery	P or M
7	Industrial spiny Lobster Fishery	Jamaica	Spiny lobster fisheries Industrial spiny lobster [pots] fishery	P or M
8	Shrimp fishery	Jamaica	Shrimp fishery	R
9	Industrial Queen Conch fishery	Jamaica	Industrial queen conch fishery	R

## Annex 1: some examples

Inventory of Fisheries – Mexico (Source FAO)

<b>Original inventory</b>		<b>FIRMS standardisation</b>		
	<b>Local Name</b>	<b>Geo-reporting standpoint</b>	<b>FIRMS English name</b>	<b>Thematic approach</b>
1	Pacific Ocean Shrimp fishery	Mexico	Shrimp fishery - Pacific Ocean	R
2	Industrial fishery	Mexico	Shrimp fishery - Pacific Ocean Industrial Shrimp fishery - Pacific Ocean	P or M
3	Artisanal fishery	Mexico	Shrimp fishery - Pacific Ocean Artisanal Shrimp fishery - Pacific Ocean	P or M
4	Purse Seine Anchovy fishery	Mexico	Purse Seine Anchovy fishery - Pacific Ocean	M
5	Artisanal abalone fishery	Mexico	Artisanal Abalone fishery - Pacific Ocean	M or P
6	Gulf of Mexico and Carribbean Shrimp fishery	Mexico	Shrimp fishery - Gulf of Mexico and Carribbean	R
7	Gulf of Mexico Industrial Shrimp fishery	Mexico	Shrimp fishery - Gulf of Mexico and Carribbean Industrial Shrimp fishery - Gulf of Mexico	P or M
8	Gulf of Mexico Artisanal Shrimp fishery	Mexico	Shrimp fishery - Gulf of Mexico and Carribbean Artisanal Shrimp fishery - Gulf of Mexico	P or M
9	Carribbean Sea Industrial Shrimp fishery	Mexico	Shrimp fishery - Gulf of Mexico and Carribbean Industrial Shrimp fishery - Carribbean Sea	P or M

## Annex 1: some examples

Inventory of Tuna Fisheries – Western Central Pacific Ocean (WCPO) (Source SPC )

	Original inventory	FIRMS standardisation		
	Local Name	Geo-reporting standpoint	FIRMS English name	Thematic approach
1	Western Central Pacific Tuna fishery	Western Central Pacific Ocean	<b>Tuna fishery</b>	R
2	Albacore fishery	Western Central Pacific Ocean		N/a (title)
4a	Trolling line fishery	Western Central Pacific Ocean	Tuna fishery <b>Distant waters Trolling line Albacore fishery</b>	M
5a	Longline fishery	Western Central Pacific Ocean	Tuna fishery <b>Distant waters Longline Albacore fishery</b>	M
6	Offshore waters longline swordfish fishery	Western Central Pacific Ocean	Tuna fishery <b>Offshore waters longline swordfish fishery</b>	M

## Annex 1: some examples

Inventory of Fisheries – Brazil (Source FAO)

Original inventory		FIRMS standardisation		
	Local Name	Geo-reporting standpoint	FIRMS English name	Thematic approach
1	Northern fishery	Brazil		n/a (title)
2	Industrial fishery	Brazil	Northern fishery Industrial fishery - Northern Brazil	P
3	Artisanal fishery	Brazil	Northern fishery Artisanal fishery - Northern Brazil	P
4	Pelagic fish fishery	Brazil	Northern fishery Pelagic fish fishery - Northern Brazil	R
5	Artisanal nets and lines catfish and sciaenid fishery	Brazil	Northern fishery Artisanal nets and lines catfish and sciaenid fishery - Northern Brazil	M
6	Artisanal lines snapper and grouper fishery	Brazil	Northern fishery Artisanal lines snapper and grouper fishery - Northern Brazil	M
7	Trawl shrimp fishery	Brazil	Northern fishery Trawl shrimp fishery - Northern Brazil	M
8	Crab collection fishery	Brazil	Northern fishery Crab collection fishery - Northern Brazil	R
9	Pairtrawl catfish fishery	Brazil	Northern fishery Pairtrawl catfish fishery - Northern Brazil	M

## Annex 1: some examples

Inventory of Fisheries in the Adriatic Sea (Source FAO)

	<b>Original inventory</b>	<b>FIRMS standardisation</b>		
	<b>Local Name</b>	<b>Geo-reporting standpoint</b>	<b>FIRMS English name</b>	<b>Thematic approach</b>
1	Italian pelagic fishery	Italy	Pelagic fishery – Adriatic Sea	R
2	Northern Adriatic midwater pair trawl fishery	Italy	Pelagic fishery – Adriatic Sea Mid water pair trawl pelagic fishery – Northern Adriatic	P or M
3	Northern Adriatic Purse seine fishery	Italy	Pelagic fishery – Adriatic Sea Purse seine pelagic fishery – Northern Adriatic	P or M
4	Italian demersal fishery	Italy	Demersal fishery – Adriatic Sea	R
5	Northern Adriatic Italian demersal fishery	Italy		n/a (title)
6	Hydraulic mec-dredge fishery	Italy	Demersal fishery – Adriatic Sea Hydraulic mec-dredge demersal fishery - Northern Adriatic	M
7	Minor gear fishery	Italy	Demersal fishery – Adriatic Sea Minor gear demersal fishery - Northern Adriatic	M
8	Bottom otter trawl fishery	Italy	Demersal fishery – Adriatic Sea Bottom otter trawl demersal fishery - Northern Adriatic	M
9	Southern Adriatic Italian demersal fishery	Italy		n/a (title)
10	etc...	Italy	Demersal fishery - Southern Adriatic etc...	M

## Annex 1: some examples

Inventory of Fisheries in the Northern part of South America (Source FAO)

	Original inventory	FIRMS standardisation		
	Local Name	Geo-reporting standpoint	FIRMS English name	Thematic approach
1	Demersal Resources of the Guianas-Brazil Continental Shelf	Trinidad & Tobago		n/a (title)
2	Artisanal Trawl Fishery of the Gulf of Paria	Trinidad & Tobago	Demersal fisheries - Guianas-Brazil Continental Shelf Artisanal Trawl shrimp and groundfish Fishery - Gulf of Paria	M
3	Semi-industrial Trawl Fishery of the Gulf of Paria	Trinidad & Tobago	Demersal fisheries - Guianas-Brazil Continental Shelf Semi-industrial Trawl shrimp and groundfish Fishery - Gulf of Paria	M
4	Artisanal Gillnet Fishery of the Gulf of Paria and Columbus Channel	Trinidad & Tobago	Demersal fisheries - Guianas-Brazil Continental Shelf Artisanal Gillnet groundfish Fishery - Gulf of Paria and Columbus Channel	M
5	Coastal Pelagic Resources of the Guianas-Brazil Continental Shelf	Trinidad & Tobago		n/a (title)
6	Artisanal Gillnet and Line Fishery for Mackerels	Trinidad & Tobago	Coastal Pelagic fisheries - Guianas-Brazil Continental Shelf Artisanal Gillnet and Line Mackerels Fishery	M
7	etc....	Trinidad & Tobago	etc...	
8	Demersal Resources of the Guianas-Brazil Continental Shelf	French Guyana		n/a (title)
9	Offshore Industrial (Trawl Fishery) - Japanese Trawlers Penaeid Shrimp Fishery	French Guyana	Demersal fisheries - Guianas-Brazil Continental Shelf Offshore Industrial Japanese Trawlers Penaeid Shrimp Fishery	M

## Annex 1: some examples

Original inventory		FIRMS standardisation		
	Local Name	Geo-reporting standpoint	FIRMS English name	Thematic approach
10	Offshore Industrial (Trawl Fishery) - Local Trawlers Penaeid Shrimp Fishery	French Guyana	Demersal fisheries - Guianas-Brazil Continental Shelf Offshore Industrial Domestic Trawlers Penaeid Shrimp Fishery	M
11	Offshore Industrial (Trawl Fishery) - Seabob/Finfish Fishery	French Guyana	Demersal fisheries - Guianas-Brazil Continental Shelf Offshore Industrial <u>Domestic Trawlers</u> Seabob/Finfish Fishery	M
12	Inshore Artisanal (Trawl Fishery) - Pin Seine Fishery	French Guyana	Demersal fisheries - Guianas-Brazil Continental Shelf Inshore Artisanal Pin Seine Fishery	M
	etc...			
13	Demersal Resources of the Guianas-Brazil Continental Shelf	Venezuela		n/a (title)
14	Industrial Shrimp Trawl Fishery of the Atlantic Zone of Venezuela	Venezuela	Demersal fisheries - Guianas-Brazil Continental Shelf Industrial Shrimp Trawl Fishery - Atlantic Zone of Venezuela	M
15	Artisanal Shrimp Trawl Fishery of the Orinoco Delta	Venezuela	Demersal fisheries - Guianas-Brazil Continental Shelf Artisanal Shrimp Trawl Fishery - Orinoco Delta	M
16	Artisanal Beach Seine Fishery for Shrimp	Venezuela	Demersal fisheries - Guianas-Brazil Continental Shelf Artisanal Beach Seine Shrimp Fishery	M
17	Demersal Resources of Northern Venezuela	Venezuela		n/a (title)
18	Trawl Fishery of the western Zone of Venezuela	Venezuela	Demersal fisheries - Northern Venezuela Trawl Fishery - Western Zone of Northern Venezuela	M

**Annex 1: some examples**

	<b>Original inventory</b>	<b>FIRMS standardisation</b>		
	<b>Local Name</b>	<b>Geo-reporting standpoint</b>	<b>FIRMS English name</b>	<b>Thematic approach</b>
19	Trawl Fishery of the Eastern Zone of Northern Venezuela	Venezuela	Demersal fisheries - Northern Venezuela Trawl Fishery - Eastern Zone of Northern Venezuela	M
20	Inshore Artisanal (Trawl Fishery) - Pin Seine Fishery	Venezuela	Demersal fisheries - Northern Venezuela Inshore Artisanal Trawl Pin Seine Fishery - Northern Venezuela	M

## Annex 1: some examples

Inventory of Fisheries in the Eastern-Central Atlantic (Source FAO)

Original inventory		FIRMS standardisation		
	Local Name		FIRMS English name	Thematic approach
1	Maroc - Pêcherie de poissons démersaux	Morocco	Demersal fishery – Atlantic Ocean	R
2	Maroc - pêche artisanale de poissons démersaux à la palangre	Morocco	Demersal fishery – Atlantic Ocean Artisanal longline fishery – Atlantic Ocean	M
3	Mauritanie - Pêcherie pélagique côtière	Mauritania	Coastal pelagic fishery	R
4	Gambie - Pêcherie pélagique cotière	Gambia	Coastal pelagic fishery	R
5	Gambie - Pêche industrielle pélagique côtière	Gambia	Coastal pelagic fishery Coastal industrial pelagic fish fishery	M or P
6	Gambie - Pêche artisanale pélagique côtière	Gambia	Coastal pelagic fishery Coastal artisanal pelagic fish fishery	M or P
7	Gambie - Pêcherie de poissons démersaux	Gambia	Demersal fish fishery	R
8	Gambie - Pêche artisanale au filet maillant à sole	Gambia	Demersal fish fishery Artisanal driftnet sole fishery	M