



FIRMS Steering Committee Meeting

First Session

Rome, Italy, 2-5 February 2004

**REPORT FROM THE FIRMS SECRETARIAT ON THE
DEVELOPMENT OF THE FIRMS FRAMEWORK**

Author: Secretariat

Report from the FIRMS Secretariat on the development of the FIRMS framework

This document recapitulates the outputs of the activities conducted by FIDI and the FIGIS project on what should now be called the preparation phase of the FIRMS partnership. It also highlights on-going activities and plans for 2004-2005. The preparation phase started in July 2000 (Noumea 19th CWP meeting) with discussions between the future partners on the content of the Partnership agreement, with the development of a prototype, the FIGIS Stocks and Resources module, and with the launching of stocks and fisheries inventories worldwide.

Table 1 summarises the institutions which have been involved in the various activities of the partnership development process since July 2000.

1 Status of the Partnership

The regional institutions which should be FIRMS launching Partners are:

CCSBT

Eurostat

FAO Fisheries Department, with FAO statutory bodies (CECAF, GFCM, WECAFC and RECOFI) as FI collaborative Partners

IATTC

ICCAT

ICES

IOTC

SPC

NAFO, CCAMLR, and SEAFDEC which participated to the elaboration of the agreement are likely to join shortly after. NAFO, SEAFDEC, CCAMLR and SPC will attend the FIRMS first FSC meeting as “active” observers.

In view of the extension of the Partnership at national level in a near future, discussions have also been held at national level with USA/NMFS, Vietnam/FICEN, Namibia/MFMR, Australia/BRS, Canada/DFO, France/IFREMER

2 FIRMS web-site

A draft FIRMS web-site has been elaborated and is available for review and comments by the FIRMS partners. Presently, the site mainly focuses on presenting the objectives and the background for the Partnership, its membership and institutional arrangements, the outputs of the preparatory phase, and the on-going activities, hence reflects most of the content of this document. The site is hosted by FIGIS and is built upon the FIGIS technology. It should evolve towards providing the FIRMS-FIGIS entry point to information contributions made by FIRMS partners on the status of world fishery resources, on Metadata standards and protocols

agreed upon by the Partners for information exchange, and on training material and guidelines.

3 Inventory of world fisheries, stocks and resources

This activity was launched by the Fishery Department in February 2004 with the understanding that this ambitious inventory should generate the backbone of the Fishery resources monitoring system, following an approach that has to be consistent with the information management policy of the FIRMS Partnership.

The overall goal of the inventory is to provide a complete picture of Fishery resources, their exploitation and management. It should finally enable the identification of gaps in fisheries monitoring and management.

This inventory is proceeding along the following steps:

- **1. Methodology set-up** (done): a desktop study reviewed available documentation, established a preliminary list of fisheries, stocks and resources, while consolidating a template and methodology applicable to a worldwide inventory; the FAO Popdyn data base was amongst the sources used for this pre-inventory;
- **2. Regional approach** (on-going): **a1)** wherever possible, regional fishery organisations and national centres of excellence (for countries of regional geographic scale) are contacted and asked if they agree to review preliminary lists and/or provide their list of fisheries, stocks and resources falling under their monitoring or management mandate (on-going); **a2)** for areas of the world where those regional institutions do not exist, regional experts are contracted to develop lists of national fisheries; **b)** these lists are then inserted in the FIGIS Stocks and Resources module, after which **c)** these “data owners” organisations are asked to validate the content for web-publication.
- **3. National approach** (not started): finally, workshops will be organised at regional level to enable a national validation of the inventories developed through the above steps;

3.1 Inventory of fisheries: status

Annex 1 recapitulates the status of the fisheries inventory as of January 2004. Two main indicators are proposed to monitor the progress:

- 1) Number of [Country x Major fishing area] covered, against number of [Country x Major fishing area] to be covered; at regional level, the [Country x Major fishing area] indicator is substituted by [RFB x Major fishing area]
- 2) Number of fisheries enumerated

During the pre-inventory phase (step 1), a total of 1881 fisheries were identified over 157 [country x Major area]. As of January 2004, a regional validation of the inventories have been conducted on 58 [country x Major area], with 753 fisheries enumerated.

A second set of contracts with regional consultants will be initiated during the first quarter of 2004, and the inventory will be gradually imported in the FIGIS data base during 2004.

3.2 Inventory of stocks and resources: status

Annex 2 recapitulates the status of the stocks and resources inventory as of January 2004. The indicators proposed are the number of stock or resource units by Major FAO fishing area and by data owner.

As of January 2004, an approximate number of 1510 stocks or resources units were enumerated and stored in the FIGIS system, obviously at various stages of validation by the data owners.

- 25 Tuna resource/stock under the reporting mandate of 3 agencies are published on FIGIS web;
- 464 resource/stock units under the ownership of 7 regional agencies are available in the FIGIS intranet site and have gone through agencies review processes, but were not cleared yet for internet publication;
- 672 resource/stock units were validated by regional experts over 9 Major FAO areas, and are being loaded in the FIGIS intranet
- 343 resource units mostly from FAO sources are available in the FIGIS test environment but still await a review process

4 FIRMS modules

4.1 The FIGIS Stocks and Resources prototype module

The inventories of fisheries, stocks and resources provide the skeleton upon which reporting on fishery resources status and trends can lean on. Institutions partners to the FIRMS Partnership Arrangement will report on a regular basis on such status. In order to deliver a Fishery Resources Monitoring System matching the needs expressed by these partners, the FIGIS Stocks and Resources module was developed as a prototype version using inventories and “reporting” case studies supplied by the foreseen partners.

This prototype renders a harmonised access and presentation of reports provided by the various institutions involved. The FIGIS-FIRMS prospective partners were asked to provide feedback on the prototype during the July 2002 FIGIS-FIRMS methodological workshop in Rome, attended by 27 external participants representing 20 external organisations

On-going activities

Requirements for the FIRMS production software: in order to achieve a final agreement on FIRMS requirements and on standards for the stocks, resources, fisheries, management units, and management systems concepts, a series of activities were started:

- 1) an electronic forum was set-up in November 2002 to enable on-line discussion.
- 2) on-going training sessions with prospective partner agencies also provide essential feedback to refine metadata standards and application requirements. During 2004, the following agencies were trained: ICCAT, IATTC, and RFIS (a project in support to SADC).
- 3) during 2004, validation of inventories in close interaction with FIRMS partners (ICCAT, IOTC, IATTC, SPC, and CCSBT) also provided a wealth of requirement, in particular on the distinction to be made between stocks, resources and management units, on the issues of joint ownership, and on stocks naming conventions.

- 4) during the same year, discussions on system's requirements were held with NMFS and DFO, in the perspective of implementing interoperability between FIRMS-FIGIS and these National Centers of Excellence's systems.

Development of the online editing module: in order to enable distributed inputs, the FIRMS operational module will build upon the generic FIGIS upload and online editing application. This application went through different development steps during 2002 and 2003 and should be placed under user testing during the first quarter of 2004.

During 2004, these specifications will be validated as part of the FIRMS Partnership activities, and the stocks and resources prototype transformed into a FIRMS production software handling Stocks, Resources, Fisheries, Management units and Management Systems modules.

4.1.1 Sub-output: the Species module

A new version of the species module is under final stages of development, and will contain about 500 species fact sheets, selected on the basis of their importance to fisheries (global or regional importance), or their endangered status. It is planned that the new version will be released during the first quarter of 2004.

4.1.2 Sub-output: the Fishing area module

Metadata for handling knowledge about fishing areas was developed in 2002 and related templates for the presentation and dissemination of FAO fishing areas, and more recently for SPC statistical and assessment areas were implemented. This information domain will ultimately be upgraded as an integral FIGIS module.

4.1.3 Sub-output: the Organisations module

Metadata for handling knowledge about Institutions, Programmes and Projects was developed in 2002 and related templates for the presentation and dissemination of Regional Fishery Body summaries were implemented. During the first semester of 2004, this information domain will be upgraded as an integral FIGIS module.

5 Development of standards

Metadata standards developed for FIRMS are currently disseminated as part of the general FIGIS metadata standards: see FIMES site for the on-going FIMES 3.0 version (developed during 2002), and FISatXML 1.0 site for the proposed XML Metadata standards for fisheries statistical data exchange.

On-going activities

FIMES: during 2003, the experience accumulated by the FIGIS team has been channelled towards the definition of a new version of FIMES, aiming at more standardisation, simplification, and multilingual handling. This FIMES 3.5 version should become operational during the first quarter of 2004, and will provide the Metadata standard for the operational version of FIRMS modules.

FISatXML: during 2003, the FIGIS statistical working system was developed with the FISatXML protocol as import and export format, in order to facilitate the web-based exchange of statistical data. Interfaces were as well developed to allow the exchange formats currently used by FAO and the Regional Fishery Bodies to produce FISatXML files. During 2004, the tools developed will be submitted to users for testing purpose. In parallel, as part of the FAOSTAT2 project, FIGIS will contribute to the elaboration/selection of an XML international standard for statistical data exchange. This standard would later on replace FISatXML.

6 Training

The objectives of the construction of the FIRMS partnership requires getting partners with stock or fishery units under their monitoring/management mandate to report on stock features, status or trends using FIGIS-FIRMS. Such an objective implies training sessions, which started as soon as 2001. The following regional fishery bodies were involved in training sessions:

Organisation	training date
SPC	July 2001
ICES	November 2001
IOTC	September 2002
ICCAT	April 2003
RFIS project	May 2003
IATTC	June 2003

Training session reports are available and provided sources for refining system requirements.

On-going activities

During 2004, it is foreseen that training sessions will be carried on with CCSBT, ICES and NAFO.

Table 1: Status of Institutional participation in the FIRMS development progress

	formal pre-agreement / case studies	case studies without formal pre-agreement	Attendance FIGIS-FIRMS July 2002 workshop	Involved in the elaboration of the Partnership Agreement			Partnership Agreement approved in principle (January 2004)
				2001	2002	2003 Jan Feb July	
CCAMLR			X	X	X	X X	
CCSBT				X	X	X	X
EUROSTAT				X	X	X X X	X
EU-DGFish			X				
FAO / FIRM		2001	X			X	
APFIC			X				
CECAF		2001	X				
GFCM-COPEMED		2001	X				
WECAFC			X				
IATTC	2002		X	X		X X	X
ICCAT	2000		X	X	X	X	X
ICES	2000		X	X	X	X X X	X
IOTC	2000			X	X	X X X	X
NAFO	2000		X	X	X	X X X	
SEAFDEC			X		X	X X	
SADC-RFIS / Namibia / MFMR		2003	X			X	
SPC / OFP	2000			X	X		
SPC / PROCFISH			X				
USA / NMFS	2001		X				
Canada / DFO		2001	X				
Australia / BRS		2001					
France / IFREMER			X				
France / IRD			X				

Annex 1: STATUS OF FISHERIES INVENTORY PROGRAMME AS OF JANUARY 2004

Phases	When						Status		
	2003				2004		What	Number of [Country x Area]	Number of fisheries
Jan	Feb- Mar	Apr- Jun	Jul- Dec	Jan- Jul	Jul-Dec				
Launching meeting - 16 January 2003									
Phase 1 - Design									
Pre- inventory							completed		
							[Country x Area] Total	157	1881
							[Country x Area] with qualified information	90	1293
							[Country x Area] with preliminary information	66	86
							contacted for data exchange from their DBs:		
							31 - 77 - 67 - 21 - USA	4	
							67 - 21 - Canada	2	
							37 - Mediterranean	12	
Phase 2 - Regional validation of the Pre-Inventory									
Phase 2: 8 major fishing areas							completed	58	753
							51 - Gulf & Red sea	14	96
							71 - 77 - Pacific Islands	15	166
							31- Greater Antilles	5	45
							31 - 77 Mexico	2	27
							34 - CE Atlantic	18	343
							41 - S.W. Atlantic	4	76
							on-going	29	
							31 - Lesser Antilles	13	
							57 - Bay of Bengal	8	

			71 - S.E. Asia	8
Phase 2: 9 major fishing areas			to be done	63
			27 - N Atlantic	16
			31 - 77 -Central America	15
			31 - Guyane Brazil	5
			47 - SE Atlantic	3
			51 - S.W. Indian Ocean	11
			57 - Australia	1
			61 - East Asia	6
			81 - South West Pacific	3
			87 - Peru Chile Columbia	3
Phase 2: import of content of foreign DBs			to be done	20
			USA	6
			Canada	2
			Mediterranean GFCM DB	12
Phase 4: Validation at National level				
		... and after 2004		

Annex 2: STATUS OF THE STOCKS AND RESOURCES INVENTORY AS OF JANUARY 2004

	FAO pre-validated FIGIS test environment	Regionally reviewed under loading process	Under agencies review process FIGIS intranet	Approved for internet dissemination FIGIS internet	
tuna and tuna-like species					Total
Global					
FAO				3	3
Atlantic Ocean					
ICCAT		3		6	9
Indian Ocean					
IOTC				16	16
Pacific Ocean					
CCSBT			1		1
IATTC			14		14
SPC			11		11
SPC joint IATTC			5		5
Area 18					
DFO	5				5
Area 21					
FAO- regional scale resources			20		20
DFO			120		120
NAFO			22		22
NOAA (NMFS)			50		50
Area 27					
FAO- regional scale resources		9			9
ICES			131		131
NAFO			1		1
Area 31					
FAO- regional scale resources	8				8
Consultant inventory		63			63
Other sources	46				46
Area 34					
FAO- regional scale resources		2			2
CECAF		140			140
Other sources	6				6
Area 37					
FAO- regional scale resources		19			19
GFCM		22			22
Other sources		133			133

Area 41				
FAO- regional scale resources	3			3
Consultant inventory		19		19
Area 47				
FAO- regional scale resources			6	6
Other sources			25	25
Area 51				
FAO- regional scale resources	5			5
Consultant's inventory		30		30
Other sources	26			26
Area 57				
FAO- regional scale resources	1			1
Other sources	4			4
Area 61				
FAO- regional scale resources	1			1
Other sources	21			21
Area 67				
FAO- regional scale resources			8	8
DFO			53	53
NMFS-Alaska			28	28
Area 71				
FAO- regional scale resources	2			2
BRS	5			5
Other sources	69			69
Area 77				
FAO- regional scale resources	4			4
Consultant inventory		201		201
Other sources	28			28
Area 81				
FAO- regional scale resources	8			8
Other sources	26			26
Area 87				
FAO- regional scale resources	4			4
Other sources	48			48

Area 71-77					
FAO- regional scale resources	3				3
Other sources	13				13
Southern Oceans					
FAO- regional scale resources	4				4
Other sources	9				9
Totals	343	672	464	25	1510