



FIRMS Technical Working Group Meeting

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**OVERVIEW OF PROCESSES AND TOOLS AVAILABLE
FOR CONTRIBUTING INFORMATION TO FIRMS**

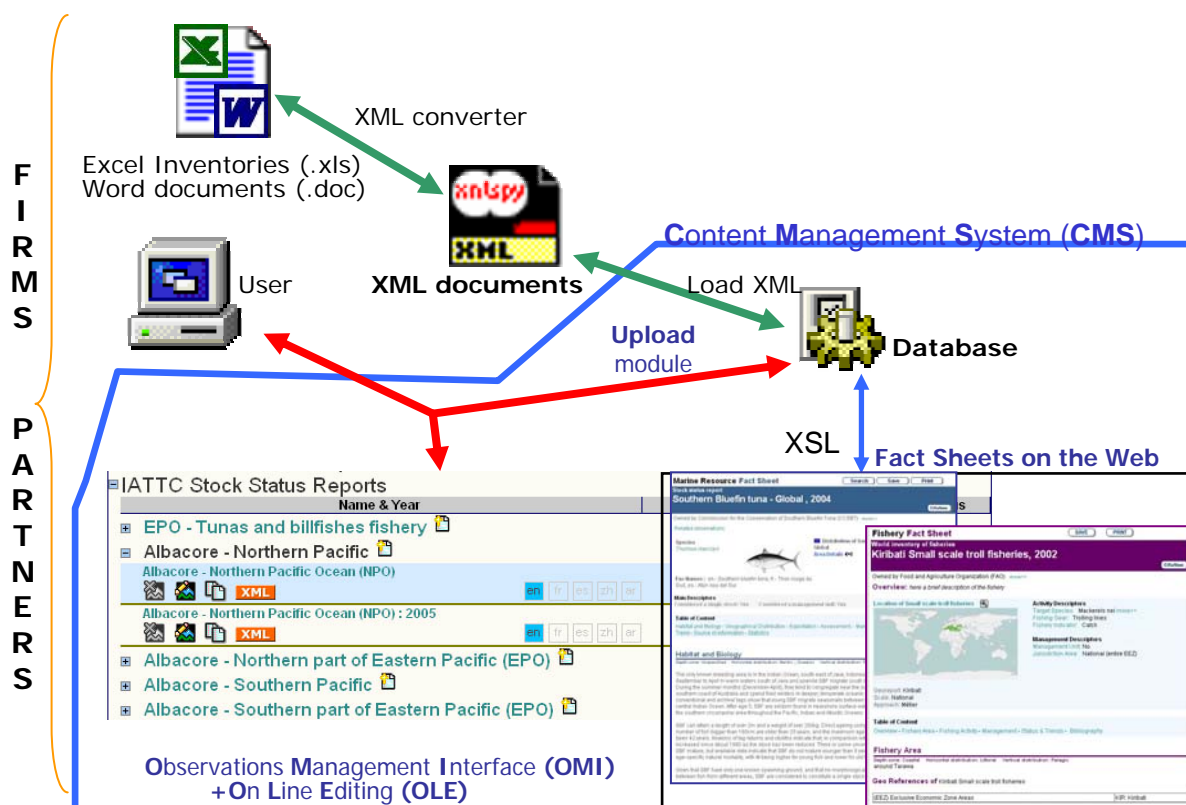
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Overview of processes and tools available for contributing information to FIRMS

FIRMS website is powered by a WEB based system built both for data editing and data dissemination. This system uses the XML language as the native format used to structure, archive and disseminate information.

The Workflow Management System (WMS) component encompasses all steps enabling data owners to contribute, publish and update their information in FIRMS. It covers the on-line Content Management System and the conversion tools used upstream in order to streamline the packaging of documents from their native format (Word or Excel).

Global view of the Workflow Management System



Content Management System (CMS)

The Content Management System (CMS) is the term designating the on-line system allowing to administer data owner's fact sheets through 3 modules: the Observations Management Interface for the management of observations, the Upload module to load new set of information within the system, and the On-line editing for modifying and updating the content of the observations. In this report, an "observation" should be understood as an instance of a status and trends report contributed to FIRMS by a partner.

The overall features and diagram describing the CMS logic are described at this link¹. Furthermore, the addition of a new Observation in FIRMS assumes that the FIRMS system administrator has configured the system with a Data collection, a Cover page, and a Reference observation as described in chapter 1 of document "FIRMS workflow: user manual for marine resources domain"² (also reproduced in annex 1 of this document)

In order to produce data and contribute to FIRMS, the partners have essentially 3 possibilities to provide new set of information through the Workflow Management System.

Converter tools

The first option is to use the converter tools available for processing Word or Excel documents containing pertinent data in order to generate new observations. The use of these converter tools developed on purpose as upstream tools producing compliant XMLs against the FiMES schema, allow the partner to create on the fly set of data ready to be loaded into the Content management System. The Word converter tool is applicable for stock status reports in Word format which are based on a strict template. The Excel converter tool is available for both resource and fishery inventories.

Documents describing these tools were updated for the FIRMS TWG2, and are available at the following links: [Word converter tool](#)³, [Excel converter tool](#)⁴

Skills required: secretarial skills with good understanding of information management and publishing workflow. A 2 to 3 days training in XML is required in order to be able to intervene on the temporary XML files produced.

¹ http://193.43.36.238:8181/fi/figis/firms_test/workflow/workflow_files/frame.htm

² ftp://ftp.fao.org/fi/DOCUMENT/FIGIS_FIRMS/Technical/5a_e.pdf

³ ftp://ftp.fao.org/FI/DOCUMENT/FIGIS_FIRMS/TWG2/4c.pdf

⁴ ftp://ftp.fao.org/FI/DOCUMENT/FIGIS_FIRMS/TWG2/4b.pdf

XML generation through XML editors

The second option for the partner is to directly edit an XML file through the use of an XML editor. This XML file is structured according to the FiMES schema and would usually be filled with previously entered data originating from external sources. It implies that the partner has a good knowledge of the XML language in general and the FiMES schema in particular. Partner using a template XML for describing their data can, in this way, update regularly their existing data in order to always load in the FIRMS system the last up-to-date set of data.

These first 2 options are to be used upstream of the Content Management System to produce valid XML files which will be then loaded into the system.

Both options imply that the XML files are compliant against the FiMES schema. Most of the data contributed that way do not require additional modifications once the files are brought in the Content Management System.

XML language training material is available at the FIRMS training site⁵.

Generating new observation through the CMS

The third option uses directly all the functionalities and some of the modules of the Content Management System to generate new observations to describe a fishery or a resource object. This option doesn't require any specific XML skill, but a good understanding of the FiMES structure and of the on-line editing interface if observations have to be elaborated on-line. This option also assumes that a previous observation for the object (Marine resource, or Fishery) of interest already pre-exists in the system.

In reference to the recommendations from the last FIRMS steering Committee, the previous Technical Working group including results from the FIRMS workflow Usability test held in December 2005, the Content Management System has been improved, on-line help has been completed, bugs have been resolved and the system has been enriched with new functionalities (handle of multilingual observations, clone, create blank, new hierarchy for managing observations: Collection-Object-Observation)

Now, within this upgraded Content Management System, an observation can be created in 3 different ways:

- by cloning an existing observation
- by creating a blank observation
- by uploading a new observation in the case of data stored in a valid XML file.

The clone functionality allows to make a copy of an existing observation and to change parameters such as the reference year and the language. The clone remains in the same collection and could be more specifically used when the new observation is only slightly different from a previous one and requires limited updates.

⁵ http://193.43.36.238:8181/fi/figis/firms_test/training/firms_training.html

Screenshot of the clone interface

XML factsheet copy
Temporary file fishery39353.xml created.

Identifying keys must be set for the new file:

| Key name | Current value | Change value to: |
|----------------|---------------|------------------|
| year: Resource | | 2008 |
| language: en | | English |

Another possibility is to create a blank observation of an existing resource or fishery object. In that configuration, an empty template is used to provide a skeleton which could be filled by the user. In that case, the cover page parameter needs to be set up as well

Screenshot of the blank interface

XML factsheet create
Temporary file fishery39360.xml created.

Identifying keys must be set for the new file:

| Key name | Current value | Change value to: |
|-----------------------|---------------|------------------------------------|
| Corporate cover page: | | Data Quality Assurance Fact Sheets |
| year: Resource | | 2008 |
| language: en | | English |

On-line editing:

Whatever above option is selected, a new observation will be available in the system and the On-Line Editing module could be used by the user for enriching the observation by adding text, images, tables, reference objects and new topics describing resource or fisheries.

The On-Line Editing module based on FiMES schema guides the user to update the observation by listing controlled terms, highlighting mandatory topics and providing user-friendly views to see in real time the effective content of the observation.

CMS driven publishing workflow

When data has been approved, it can be finally published on the Web through the use of the Observation Management Interface.

Screenshot of the Observation management Interface with access to blank/clone functionalities, multilingual descriptors

IATTC Stock Status Reports

| Name & Year | Live | Reference | Factsheet | Status |
|---|---|-------------------------------------|-------------------------------------|--|
| <input checked="" type="checkbox"/> EPO - Tunas and billfishes fishery  | | | | |
| <input checked="" type="checkbox"/> Albacore - Northern Pacific  | | | | |
|    XML | <input checked="" type="checkbox"/>  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="radio"/> yes <input checked="" type="radio"/> no approved |
| Albacore - Northern Pacific Ocean (NPO) | | | | |
|    XML | <input checked="" type="checkbox"/>  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="radio"/> yes <input checked="" type="radio"/> no published |
| Albacore - Northern Pacific Ocean (NPO) : 2005 | | | | |
| <input checked="" type="checkbox"/> Albacore - Northern part of Eastern Pacific (EPO)  | | | | |

Annex 1: System configuration required for adding an observation in FIRMS

What is needed to report on a marine resource?

We describe in logical sequence the main steps and requirements for the preparation of a marine resource report, also called **observation**.

A FIGIS reference to the marine resource

Marine resources inventoried by FIRMS partners are referenced in FIGIS as **marine resource objects**. This task is performed by the system administrator through a specific interface called Reference Table Management System (RTMS). The attributes of a marine resource reference object are:

Attribute Name Attribute description

ID FIGIS internal identifier

Name(en) Name of the marine resource in English, following FIRMS naming conventions

Name(fr) Name of the marine resource in French, following FIRMS naming conventions

Name(es) Name of the marine resource in Spanish, following FIRMS naming conventions

Stock Flag indication if the Marine Resource is considered as a biological stock

Spatial Scale Typology of spatial scale corresponding to the distribution of the marine resource

Share Type Typology of shared stocks

Inventory Identifier External identifier used to identify the source inventory

Local Name Name of the marine resource as provided by the source

The RTMS enables the construction of hierarchies between marine resources objects and group of marine resources. The FIRMS web-base application makes use of these hierarchies to browse and search marine resources objects (figure 1).

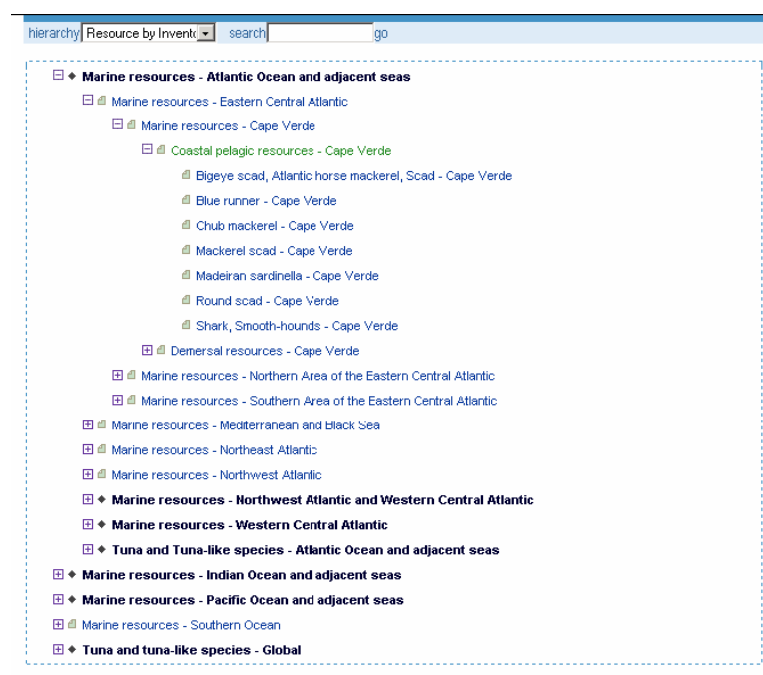


Figure 1 - Marine resources referenced in FIGIS – Tree browser with searching tool

A data collection owned by a data owner and edition rights

A **Data collection** is a set of homogeneous data handled over time by a data owner according to agreed and consistent processes and dissemination formats; as such it may cover data types from different domains (e.g. marine resources, fisheries).

FIRMS partners data collection are referenced in FIGIS as **collection objects**. This task is performed by the system administrator through the Reference Tables Management System (RTMS).

A Data Collection is subject to the publication of a **Data collection fact sheet** providing amongst others quality assurance and data ownership related documentation. In FIRMS, it is called the “Data quality assurance fact sheet”.

A data collection is linked to its owner(s). The **data owner** is the responsible party mandated to report on marine resource or fishery objects. The data owner holds the copyright of the information reported within the data collection. A data owner is modelled in FIGIS as an Institution, a Program or a Project. These 3 entities provide enough flexibility in order to cope with the diversity of FIRMS partners’ organizational structures (e.g. FAO Fisheries Department is considered as a program of the FAO Institution). The ownership of a collection by an organization includes the type of responsibility on the information contributed to FIRMS within the data collection. An organization “owns”, “produces” or “maintains” the information.

The same organization might have different roles; the same roles might also be shared between organizations (e.g. two institutions sharing the reporting on some fish stocks through a joint program). The only constraint is that a collection must be “owned” by a least one organization.

A Data collection is also the primary level of definition of **user rights**. *Edition rights* on a data collection are requested to report on a marine resource under this collection. Other user rights (*Reviewer, Approver*) are described in the section “Approve and publish a marine resource observation”.

The FIRMS administrator is in charge of the creation of the data collection objects, as well as the setting of their ownership, the registration of users and the management of user rights. Users with edition rights on a data collection are entitled to edit the data collection fact sheet and to prepare reports (observations) on marine resources and fisheries objects.

A reference observation

The first report made against a marine resource object defines its data ownership, identified as the owner(s) of the data collection under which the report has been prepared and approved. This report is set as “**Reference Observation**”. This first observation can only be created by the FIRMS administrator and must include key attributes (e.g. species and area of distribution for a marine resource).

A cover page

The cover page is composed by a set of public bibliographic-like information. It is modelled to adapt the traditional paper publishing logic (made of a cover page wrapping a thick intellectual content) to the internet publishing logic (fact sheets can be considered short electronic pages part of a broader virtual book). It provides most of the elements used to cite an observation (see section “The main components of a marine resource observation”).

A cover page is attached to each observation made on a domain object (e.g. marine resource, fishery, etc.). In general, a set of observations issued by the same data owner under the same data collection will have the same cover page, more precisely at least part of their cover page attributes will be the same. This group of shared attributes is called “**Corporate Cover Page**”. Corporate Cover Pages might be referenced in the FIGIS system and managed by the Reference Tables Management System (RTMS). Each observation made on a domain object (e.g. on a marine resource) has a corporate cover page, but this cover page might not be a FIGIS referenced corporate cover page.

The FIGIS system manages a relationship between referenced corporate cover pages and data Collection. Once the editor has selected the data collection under which we want to report on a domain object, he may select one of the corporate cover pages referenced for the data collection or define a custom cover page.