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REVIEW OF FIRMS ACTIVITIES DURING THE PAST YEAR: SECRETARIAT REPORT
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1. Developments on inventories of Marine resources, and of fisheries

- CCAMLR: 3 marine resources have been loaded into the system but are not currently published. The fishery inventory with 18 records was revised. 2 case studies for the toothfish fishery were developed.
- WECAFC: the inventory consists of 264 marine resources of which 177 have been already loaded into the system as Reference observations. The fishery inventory including 498 records has been revised.
- EUROSTAT: No inventory for marine resources or fisheries is currently available. 2 case studies for the “European Union-Fishing Fleet” have been implemented based on document provided by EUROSTAT.

2. Reporting on status/trends of Marine resources, and of fisheries

The following table presents a list of the different fact sheets for marine resources published on the Web. The 1st load was mainly implemented by the Secretariat and mainly occurred before the FIRMS launch. Since fall 2006, the partners have started to load the updated information about these resources. The table present the status for these updates as per date of publication of this document:

Partner	1 st load	Update	Partner	1 st load	Update
CCSBT	1	1	ICCAT	16	12
CECAF	86		ICES	148	15
FAO	22		IOTC	5	
GFCM	6	3	NAFO	18	9
IATTC	21		WECAFC	41	

- For NAFO and ICES, the generation of the marine resources is now mainly based on the use of a converter tool from their Word documents to FIRMS XMLs.

3. Development of Applications

Background: the FIRMS website, including its Marine resource module, its dynamic mapping component, and its content management system (CMS) were developed under the FIRMS arrears project (2004-05) and a beta version presented to FIRMS-TWG1 in December 2005. Some user tests were conducted on the CMS and a number of recommendations made by TWG1. Concepts and mock-ups of fisheries fact sheets were also discussed during TWG1.

- Finalisation and release of the Marine resources module

- Activities: During the period January to May 2006, the Marine resources module was thoroughly tested (including its content management system) and finalised as per FSC3's specifications: this includes the development of search tool for status & trends summaries, and the search on FAO main areas through interactive map. The database was loaded with about 500 stocks fact sheets disseminated through the FIRMS website.
- Output: FIRMS was released to the public on the occasion of the UN review conference on fish stock agreement in May 2006.

- Development of mapping application

- Activities: enhanced, cleaner and bug free versions of the dynamic mapping of stocks and of the GeoSelector were developed. This includes extended features in order to

enable new geographic Projections libraries for the ability to display maps centred on Meridian 160 (for Pacific fisheries) and on Antarctic. Due to the natural complexity of this component and the difficult synchronization required with the central units of FAO owning the GIS software, the work was delayed and additional fixes were found necessary before the software can be put into production. Other priorities took over and the work could not be finalised in 2006. As a result the dynamic mapping of the stocks had to be removed temporarily from the fact sheet display.

- Output: Upgrade of the FIRMS website, including layout redesign, new search engine, new Java library underlying the site's navigation, and Multilingual ability (after FIRMS launch).
 - The FIRMS website was completely updated. The design and layout have been deeply modified to ease the navigation. The site's powering engine has been also thoroughly upgraded and FIRMS is now completely based on the Struts technology and the XML-XSL pair. This engine has a lot more potential and flexibility for expanding and maintaining the website: we can now easily and dynamically add additional pages for searches and display of fact sheets of various domains, including marine resources, fisheries, management systems, data collection systems, etc... .
 - In the same time, the database storing all the FIRMS data has migrated to a newer version of Oracle to improve the treatment of XMLs, increase the display speed of the fact sheets and allow the storage of non Western languages.
 - At last the search engine has been changed to Apache Lucene. It is a high-performance, full-featured text search engine library written entirely in Java. Its use has increase the performance of our search engines in FIRMS

- Workflow management system (WMS)

The expression WMS 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).

Finalisation of version 1 of web based Content Management System

- Activities: During the period January through April 2006, the first version of the FIRMS CMS developed during 2005 was thoroughly tested by the FIGIS team while loading the 680 reference observations and 370 published fact sheets. This testing also involved ICCAT which loaded its fact sheets from Madrid.
- Output: version 1 of the CMS. This version had a number of shortcomings in the perspective of fully autonomous partners for data contribution.

Requirements for the full fledged implementation of the workflow management system

- Activities: The above mentioned shortcomings were identified during the testing period and a Requirements document for the full fledged implementation of the content management system was written during summer 2006.
- Output: This Requirements document describes the different enhancements and modules described in this document started to be implemented during the second semester 2006.

Development of the second version of the web based content management system

- Activities: The CMS developed for FIRMS was applied to the new FI website. As part of the new FI website project, a number of the enhancements compiled in the Requirements document were implemented in a second version of the CMS.
- Output: version 2 of the FIGIS CMS, applied to FIRMS website, FI website, GFCM website, Fishcode-STF website. The main added feature is the ability to manage

Multilingual fact sheets for a same resource, a feature indispensable for the new FI website. The organization of the various fact sheets available in the system was also improved in order to facilitate management of the workflow: Fact sheets are now organized based on the COOL model: Collection (partner) / Object (Marine resource) / Observation (Fact sheet) / Language. This version meets about 75% of the requirements identified in the perspective of fully autonomous partners for data contributions.

Development of the User assistant

- Activities: A first version of the user assistant has been implemented in November 2006 in order to ease the use of the workflow management system to partners and has been tested by CCSBT, and modified according to their feedback.
- Output: This assistant describes step by step how to use the workflow management system.

Enhancements in streamlining workflow at Partner level

- Activity: In order to ease the creation of resources XML (format used to structure information within the FIRMS project) for partners, the prototype presented at TWG1 for the automatic transformation of Word reports into XMLs compliant with FIRMS structure was further enhanced.
- Output: This tool initially developed for ICES, is now also used for NAFO resource reports. With the assistance of the FIRMS Secretariat, all ICES 2005 Baltic Sea reports as well as all NAFO 2006 resources reports were converted then loaded in the FIRMS website. The goal in a very short term is to allow partners to create directly their own XMLs.

- Development of the Fisheries module

Background: A draft information architecture template for the fisheries module, illustrated by mock-ups of fisheries fact sheets, was presented to TWG1 in Dec 2005. This template was completed with a proposal for Fisheries naming convention standards. The TWG in principle agreed with the Fisheries Template presented by FIRMS, and recommended that the FIRMS Secretariat proceeds in obtaining more case studies in order to consolidate the structure/schema, and start developing template and live application on each reporting perspective starting with Resource and Métier. FSC3 decided to follow these recommendations, and requested FIRMS Secretariat to further consult with the members of the TWG for additional case studies and necessary clarification and confirmation of issues.

Information architecture

- Activities: during the period March to December 2006, the FIRMS Secretariat has progressively tightened the information architecture of the fisheries module along the following steps: 1) detailed requirements for the fisheries module; 2) processing of additional Fishery case studies received from FIRMS Partners; 3) conversion process from the Excel based Fisheries inventory to FIRMS fisheries XML schema; 4) development of the dynamic FIRMS fisheries application.
- Outputs: at this stage, this tightened information architecture, supported by version 1 of the fisheries XML schema, constitutes the information backbone of the draft version of the FIRMS fisheries module. This information architecture illustrated by a draft template is applied to the 11 case studies developed. A revised version of the Fisheries inventory guidelines, consistent with this schema, was released.

Fisheries module

- Activities: The requirements document for the fisheries web application was written between March and June 2006. The back-end and front end components of the application were developed between July and November.
- Outputs:
 - version 1 of the dynamic Fisheries module is available in FIRMS intranet and has been tested with the few fisheries case studies available for review by FIRMS partners. Some adjustments are still required in order to make it eligible for Production.
 - the 11 case studies of fisheries fact sheets, loaded in and disseminated by the fisheries module, cover various approaches to fisheries, including Resource (SEAFDEC, IATTC, CCAMLR, GFCM, STF), Métier (Fishcode-STF), Production system (Eurostat, Ifremer, STF), and Management system (NEAFC, NAFO). The layout for presentation of the fact sheets, evolving from the one presented to TWG1, highlights two display options: the tree like information architecture, suitable for text heavy fact sheets elaborated from institutions reports; and the table-like layout proposed for fact sheets containing concise information, as is the case for most fisheries fact sheet built from the Excel based inventory of fisheries. (See STF case studies).
 - layout templates tailored to the different thematic approaches (one layout for Resource and Métier, one layout for Production system): these templates, presenting the comprehensive information scope and architecture for a given thematic approach, should be useful to evaluate how a specific case study fits within a wider picture.

- Development of new products

Following the recommendation of TWG1, the Secretariat has developed the ability to dynamically nest Statistical data within Marine resources fact sheets. This development is implemented in the FIRMS Intranet version for the Tuna resources fact sheet: statistical graphs showing catches for the concerned stock, dynamically extracted from the Tuna Nominal catches data base, are presented under the “Statistics” topic of the fact sheet.

A few mock-ups of synoptic products for the Resource module were prepared for presentation to FSC4 with the intention to trigger a think-tank debate during the meeting and to retain a few propositions that would be subsequently published/developed: these mock-ups show how status and trends of a selected set of Marine resources could be tracked visually across time and space and propose a new way to structure information.

4. Status of FIRMS website

From what precedes, this section is a concluding statement on the status of the FIRMS website, highlighting what's done and working well, what's not completed, and what should be started. It includes a summary of the contributions processed and the major difficulties encountered. A summary of the different modifications done or still to do is available in annex 1.

Readers should understand that the FIRMS website is altogether an assemblage of the data loaded in its data base, and of different modules, therefore the status of the FIRMS website as grasped from the user perspective evolves from the status of the sum of its components.

- Database content

The following table shows by Partner:

- Number of inventoried resources loaded / still to load;
- Number of Reference Observations;
- Number of Fact sheets (1st submission, and 2nd submission).

Partner	Resources in the inventory	Ref. Obs. from the Excel inventory loaded/ To load	Secondary observations		
			Sec. Obs. from the Excel inventory loaded/ To load	Sec. Obs. loaded by conversion from Word	Fact sheets published
CCAMLR	3		3 to validate		
CCSBT	1	1 / 0		1	1
FAO	22	22 / 0		22	22
CECAF	220	220 / 0	85 / 0	1	86
GFCM	36	36 / 0	8 / 9		8
WECAFC	264	227 / 37	41 / 0		41
IATTC	37	37 / 0	20 / 0	1	21
ICCAT	22	22 / 0	10 / 0	6	16
ICES	148	148 / 0	142 / 0	6	148
IOTC	15	15 / 0	5 / 9		5
NAFO	18	18 / 0	7 / 0	11	18
TOTAL	786	746 / 37	318 / 9	48	366

- Website Shell

The FIRMS website shell matches FSC3s requests and goes beyond its first priorities. The underlying technology has a multilingual potential and it's in the Secretariat's short term plan to have FIRMS website translated into French and Spanish (request from users and French donor).

In addition to the complete modification of the database, layout, technology and the creation /improvement of new search engines, we are currently implementing the multilingual management in the FIRMS website. In the following weeks, it will be available in English, French and Spanish for the different pages of the website and also for the fact sheets if available.

Modules:

- Marine resources dissemination module

The Marine resources module thoroughly tested is very stable and was completed as per FSC3's specifications including State and Trends summaries. The database has been fed with about 1050 stocks fact sheets disseminated through the FIRMS website. Some layout improvements could be discussed in the way Status and trends are presented within the fact sheet.

- Content Management System

Version 2 of the CMS matches about 75% of the overall specifications aiming at full autonomy for partners to contribute data.

- The current version has been tested by CCSBT, ICCAT, IATTC during the intersession and the interface has been improved and tightened.
- With the COOL model, the structure to organize access to the fact sheets has been enhanced and will soon integrate the use of different domains (resources, fishery).

After the COOL model, we are heading towards the CDOOL (collection, domain, objects, observations and languages).

- The creation of a user assistant also eased the usage of the content management system while implementation of a new development technology has allowed to enhance the management of the resources and the reliability of the system.
- The workflow management system integrates the management of multilingual website.
- We will also develop some applications to create blank observation or to clone an existing observation.
- At last, we will finalise the interface of the system following the requirements defined in the document mentioned previously.

Still to be done:

1. This version is not fully stable and defects are still found at times; know issues are i) accurate handling of user rights for each category of user, ii) proper handling of workflow for multilingual fact sheets.
2. Full implementation of specifications will require to work on one or two additional versions.

- Mapping module

This module covers two mapping applications in FIRMS:

- Geoselector: Version 1 of the FIRMS dynamic Geoselector is available from the FIRMS search page, and a second version offering a friendlier user interface is under beta testing.
- Individual Fact sheets maps: the dynamic map embedded in Marine resources fact sheets showing marine resource location resides in the Intranet. This feature was removed of the internet because of performance issues slowing down the display of fact sheets. This should be fixed through the planned implementation of a caching mechanism but awaits final integration of the latest version of KIDS (the FAO corporate GIS software) which amongst other enhancements include the new projections requested by FIRMS partners. Testing of proper functioning of these new projections is still necessary.

Still to be done:

3. finalisation of the two applications and their release
4. additional map features as requested by TWG1
5. specifications for dynamic maps for the fisheries fact sheets, and development

- Fisheries dissemination module

A draft of the fisheries module is available and it contains 11 case studies for review by FIRMS partners. This module has been extensively developed during 2006 according to the following schedule:

- March-May: Definition of the requirements
- June: Implementation of the Fishery schema
- July: Development of case studies
- October: Definition and validation of the guidelines/structure for the Fishery inventory
- December: implementation of the Fishery module in the GUI and FIRMS website.
- January: GUI refinements to improve the understanding of fishery fact sheets' content.

Still to be done:

- review and feedback by FIRMS partners on the case studies
- validation of the underlying data model, before a massive upload of fact sheets be envisaged
- development of additional tools: Excel to XML conversion process; fisheries dynamic maps
- large scale testing

- Web trends statistics

The monitoring of usage of the FIRMS website has been set up in February 2006 allowing analysis of web trends statistics for the FIRMS website:

- We can determine that FIRMS since its release on the Web between May 2006 and December 2006, has been visited 11576 times by 4102 distinct visitors and 37930 pages have been viewed.
- The most popular months were November (793 visitors), October (708) and June just after the release of the site on the Web and the presentation during the UNFSA (693 visitors).
- North America is the region with the highest level of visits: 27000 pages seen.
- Fact sheets frequently viewed: Southern Bluefin tuna - Global, 2005: 111 times, Tuna and tuna-like species - Global, 2005: 97 times, Marine resources- Northeast Pacific, 2005: 47 times.

It is obvious that the site is not visited enough according to its content and the expertise it provides in the monitoring and the management of fisheries. Basic explanations were sought and two reasons seem obvious: Google doesn't crawl the FIRMS fact sheets and until 1st February 2007 only 2 of 10 FIRMS partners appear to have links to FIRMS from their website. This raises the question of the necessary strategy in order to raise FIRMS as the reference website.

For more complete statistics and detailed data on FIRMS and other websites such as FIGIS-powered websites and OceanAtlas all related to fisheries, please see the annex 2.

5. Training or skills development

- Eurostat: Aureliano Gentile has held an overview of the FIRMS application and outputs in April 2006 to Ms. Steffie Bos (Eurostat - E3 / Fishery Statistics). This session gave the opportunity to start off two EUROSTAT case studies: "European Union: Fishing fleet" and "European Union: Fishing fleet - North Sea, Skagerrak and Kattegat"; together with other case studies these will be used to finalize the Fishery module.
- ICES and NAFO: In order to prepare the ICES/NAFO Marine resources XMLs using the Word to XML converter tool, Sylvain Caillot has regularly interacted with them in 2006 to help them in this process.
- ICCAT, CCSBT and IATTC: the Secretariat has accompanied the preparation of these institutions source XML files, and their upload and publishing in FIRMS.
- ISTAM: A training of 2 days in November 2006 was delivered by Sylvain Caillot to Scientists and software developers involved in the ISTAM project which goal is to Improve Scientific and Technical Advice for fisheries Management. The purpose of this training was to present the different international standards and formats used for the structuring and dissemination of information and to give an overview of the solutions implemented by FAO and particularly FIRMS in these domains.

6. Promotional activities

The launching of FIRMS at UNFSA constituted a major opportunity for the promotion of FIRMS; these included:

- design, printing and dissemination of a FIRMS brochure;
- preparation of a FAO press release
- presentation of FIRMS at a side event of UNFSA, with a board composed of the Secretariat and of 4 FIRMS partners.

FIRMS was also presented by FAO staff at meetings of 3 RFBs and the Advisory Committee on Fisheries Research, with the following results :

- CPPS statistics working group (September 2006): CPPS decided to become an observer to FIRMS
- GFCM SAC (September 2006): the GFCM January 2007 Commission meeting agreed for its Secretariat to work towards status of full FIRMS partner;
- CECAF Commission (October 2006): the FIRMS Secretariat will attend the September 2007 SSC to discuss with CECAF scientists arrangements and responsibilities for data contributions.
- ACFR (October 2007): with congratulations and strong support for pursuing, and recommendation that FAO allocates proper RP support to ensure an active Secretariat's role.

FIRMS was also presented to donors:

- Finland expressed its interest to promote FIRMS framework in a few countries with which it cooperates
- EU which is receptive but advises to await until mid 2007 a situation back to normal (after a set of changes have occurred in DGFish) before organizing a presentation in Bruxelles
- France which currently supports FIRMS with an APO and is expected to provide further support. More discussions will be necessary.

The above mentioned training of ISTAM scientists can also be considered a promotional activity since it was decided that the FIRMS schema be used within the framework of the ISTAM project (this EU project promotes in North West Africa goals similar to the Strategy)

7. Secretariat Resources in support to FIRMS

During year 2006, the time spent by the 13 persons working on various aspects of FIRMS was monitored and the corresponding cost is compiled by major activity in the following table. The total time invested amounts to 4.4 man-years for an equivalent of \$440,000 and in line with the report of activities 58% of the cost was dedicated to core software development. The remaining cost was dedicated to the design and development of the new fisheries module (15%), management and marketing (13%), and data update (FAO inputs or assistance to Partners inputs – 13%).

The financial resources were assured through RP staff, and 2 projects: France supports FIRMS development with one full time APO, and the Fishcode-STF supported by Japan and Norway has substantially contributed to the core software development and the design of the fisheries module.

	Soft. dev (days)	New fisheries module (days)	Data update (days)	Manage ment and marketing (days)	Total days	TOTAL USD
T.Farmer, marketing				2	2	
P. BravodeRueda, admin assistance				22	22	
Fabio Carocci, GIS layers			20		20	
Paola Codipietro, GIS layers			20		20	
E. Balestri			60		60	
M.Taconet	8	20	3	65	96	
A. Gentile	38	87	34		159	
Sylvain Caillot, software development	113	17	35	9	174	
F. Calderini	60	10	10		80	
N.Connell, software development	118	22			140	
Yves Jaques, software development	140				140	
Jose Pleitez, GIS developer	25				25	
Gennaro Laera, GIS developer	10				10	
TOTAL	512 d.	156 d.	182 d.	98 d.	948 d.	\$440,000

9. Difficulties encountered during the intercessional period

The difficulties were of two types:

Budgetary

In order to fulfil its FIRMS commitments, FIES (es FIDI) had to seek financial resources beyond its regular allotments. The necessary resources were finally put together thanks to support from Fishcode-STF project, additional resources negotiated within the Fisheries Department, and the selling of training services. In October 2006, the contract of one of the team members was discontinued due to shortage of funds but the work was pursued striving to keep our level of developments and of expertise. The same challenges have to be faced in 2007, and any additional reduction of the team at work will have repercussions on the quality of FIRMS Secretariat assistance and website maintenance ability.

Scheduling

One single framework (ie FIGIS) to power various websites and information systems offers the strength of economies of scale and reusability of skills and software components across clients. The drawback to this strategy is a delicate, sometimes conflicting, calendar of development schedules across clients. Highly complex software deployment arrangements are designed and implemented, with clients being unaware of all this complexity. FIRMS partners should be aware that this sometimes places the

Secretariat in difficult situations. Although any effort is made to accommodate FIRMS partners' requirements, the Secretariat is at times faced with difficulties to respond immediately to their requests, even when it risks missing Partners' windows of time availability.

10. Planned activities during the coming intercessional period.

The activities of the FIRMS secretariat planned during year 2007 will be articulated around three main areas: the FIRMS modules should be finalised; the assistance to Partners and more specifically to new Partners will be pursued; and a major effort should be initiated on the promotion of FIRMS.

- Finalisation of the FIRMS modules:

With reference to "Still to be done" sections of the FIRMS Status paragraph, the objective is to complete within the six months following FSC4 the developments on the content management system, the mapping software, and the fisheries module. A meeting of the TWG judiciously scheduled would enable a training of partners on a completed Content Management System and validation of the Fisheries module.

Finalization of the Content Management System:

The FIRMS CMS current version2 (Multilingual) will be enhanced in order to address outstanding shortcomings that prevent partners to autonomously contribute their data. In particular needs to be tidied up:

- a user security mechanisms free of defects.
- more controls on the upload and workflow actions
- User friendliness
- additional on-line editing features, such as moving elements up and down
- cloning facility, in order to replicate easily an existing fact sheet to a new one

Fisheries module: validation of the data model, refinement of fact sheet layout

Owing to the fact that fishery descriptions can evolve from various thematic approaches, the design of the fisheries data model is delicate should one want to make it flexible, simple, while consistent.

Before a massive upload of fishery inventory records be started, the validation by a group of expert of the data model proposed by the FIGIS team, together with a refinement of the layout, would be necessary. It is therefore proposed that the FIRMS Technical Working Group meet during the first semester of 2007 together with other interested parties in order to validate this data model.

The module will then be finalised according to the recommendations of the group of expert.

- Development, loading and dissemination of the fisheries inventories

The fisheries inventoried at FIRMS partners level for reporting purpose (CCAMLR, IATTC, ICES, NAFO, NEAFC, SEAFDEC, GFCM at least) will be loaded in the system and disseminated.

- Assistance to Partners:

The assistance will consist of the existing remote assistance prevailing during the publishing workflow, specific training sessions when required by Partners, and the

proposed organization of a training session on workflow management during the proposed TWG meeting.

- Promotion of FIRMS:

It is well understood that FIRMS success will be testified by its level of audience, and that a high audience will strongly encourage data contribution to FIRMS and additional partners to join. It is believed that FIRMS will have increased interest to a broader community of users provided it is able to realise a combination of the following factors:

- more language versions;
- more insights on the home page that the site is active and that the DB grows;
- maps or synoptic products visually showing facts and trends based on standard indicators;
- services to information providers;
- an ever increasing coverage, geographically and thematically;

More language versions:

The Secretariat received some feedback from users willing to link to the FIRMS site provided it is available in the corresponding language. Furthermore a major support is received from France and the least is to have the website in French. Building on the available multilingual ability, it seems now the right moment to make FIRMS website shell available in more languages, starting with French then Spanish.

Insights that the site is active:

The home page could highlight the few latest fact sheets uploaded, or the 3 latest Partners who have updated fact sheets together with a link to the concerned fact sheet.

Maps or Synoptic products visually showing facts and trends

The Secretariat will develop the products according to FSC4's response to the mock-ups which it was presented.

The Secretariat could work, in close collaboration with any interested partner, on the elaboration of synoptic map products.

- Through FIRMS and Fishcode-STF inventories, spatial information on stocks and fisheries are collated together with key information on stocks status and trends and on catch levels. FIRMS could provide guidance on the kind of spatial indexes which one could generate at regional or global level and represent on maps. As example, one could start with definition of a spatial index combining Stock Status information for all stocks belonging to the same trophic level, then build upon different trophic levels' spatial indexes a spatial indicator of the state of the ecosystem.
- the exploratory work could start during 2007 with the envisaged services from a UN volunteer skilled in stock assessments, ecosystems, statistics and GIS processing.

Services to information providers:

During 2006, through training activities or technical discussions for populating fact sheets with content, a few stakeholders (ISTAM project, ICCAT, GFCM) interacting with FIRMS technicians have understood the fantastic potential of the FIRMS information architecture and how it might assist them in fulfilling their own businesses. The FIRMS Secretariat should be able during 2007 to follow-up on these expectations, and more similar

interactions are expected with other Partners. Such an understanding of the FIRMS potential by Partners might realise during discussions of the Technical Working group.

It is in this regard that the Secretariat will introduce FIRMS to the CECAF Scientific-sub Committee in September 2007.

Increasing FIRMS coverage:

New RFB partners: Support will indeed be provided to the new Partners joining FIRMS, in the validation of their inventories and the development of their fact sheets.

Other potential RFB partners: FIRMS will be presented to new potential Partners as per guidance from FSC4. Upon the suggestion of the USA representative to APEC, it is already anticipated that FIRMS will be presented to the next APEC meeting in April 2007.

Towards national membership:

FSC4 will discuss a strategy towards the extension of FIRMS at the national level. This strategy will obviously involve fund raising and the Secretariat, with the collaboration of Partners, intends to promote FIRMS at donors level.

FIRMS should be strongly promoted as the reference website so that the international community naturally matches the FIRMS image to Fishery resources status and trends reporting.

- the first step proposed to improve FIRMS visibility on the Internet is for the Secretariat, with the collaboration of FIRMS partners, to **lead a campaign to promote the FIRMS website** through partner websites and collaborative institutions websites.
- the FIRMS infrastructure and its existing or potential services in support to needs of users notably in the field of Marine resources conservation, Fisheries management, Ecosystems based management should be publicized through the presentation of papers at the next Ocean Biodiversity Informatics international conference (September 2007, Halifax Canada; More details at: http://www.iobis.org/Members/brantonb/obi07/OBI07_poster.htm). FSC could discuss of a strategy, consisting of either the presentation of various papers with some level of convergence, or of a single paper elaborated under joint authorship. The goal at the Conference would be to convey such message that the audience assimilates Status and Trends reporting to FIRMS, and to its related information standards and protocols.

Annex 1: Status of implementation of the recommendations made by TWG1 and FSC3

Recommendations of the FSC3 TWG1	Status
<u>TWG1</u> : The words “fact sheets” in the FIRMS Data Quality Assurance page should be altered to “reports”.	Implemented
<u>TWG1</u> : The icons “Stock Status Summaries” and “Fact Sheets Search” displayed in the FIRMS home page do not adequately describe the function of those links. It was agreed that “Stock Status Summaries” should be changed to “Status and Trend Summaries (extracted from reports)” and that “Fact Sheets Search” should be changed to “Search for Resource and Fishery Reports”. Furthermore, as the stock status and trend summaries are a subset of reports, it was decided that the icon for summaries should be moved to the right, and the icon for full reports moved to the left.	Implemented
<u>TWG1</u> : <i>Partners checking and updating their membership information on an annual basis.</i> To aid this process, it was agreed that the FIRMS Secretariat would create a “check list” page on the private area of the FIRMS website that listed all the FIRMS information that should be checked and/or updated by Partners on a regular basis or when submitting.	Cancelled
<u>TWG1</u> : A Partner can add a sentence to their membership page alerting users that the list of members may not be fully up-to-date and a link to the Partner’s own website can be provided so that users have access to the latest list;	Cancelled
<u>TWG1</u> : It was agreed that the date of last updating date of Partner’s organization information (which appears at the bottom of the front page) should be displayed in a larger font size.	Not started
<u>TWG1</u> : The words “see fact sheet” should be replaced by “see Partner Institution’s summary description”.	Implemented
<u>TWG1</u> : It was also agreed that all “question marks” within FIRMS that serve the purpose of displaying more information be similarly replaced.	Implemented
<u>TWG1</u> : The map label “Area” should be replaced by the text “Distribution of [name of marine resource]”.	Implemented. Visible when maps will be visible.
<u>TWG1</u> : The map label “Area” should be replaced by the text “Distribution of [name of marine resource]”.	Implemented
<u>TWG1</u> : Latitude and longitude coordinates should be added to maps	Not started
<u>TWG1</u> : Maps should be initially displayed at a zoom level appropriate to the extent of the stock distribution as determined by owner, and users should then be able to zoom out to a global level by clicking a “-” button. The global view should include options for polar projection and a Pacific-centered projection.	Not started
<u>TWG1</u> : Maps should be initially displayed at a zoom level appropriate to the extent of the stock distribution as determined by owner, and users should then be able to zoom out to a global level by clicking a “.” button. The global view should include options for polar projection and a Pacific-centered projection.	Implemented
<u>TWG1</u> : It was noted that Partners may report at a higher level of FIRMS standard topic if they did not wish to use the sub structure that existed within the direct/indirect assessment level topics.	Implemented
<u>TWG1</u> : The descriptor “Considered as a stock” should be changed to “Considered a single stock” to remove issues of confusion.	Implemented
<u>TWG1</u> : The descriptor “Management unit” should be changed to “Considered	Implemented

a management unit”.	
<u>TWG1</u> : For the descriptor “Spatial scale”, provide a mouse-over pop-up feature to display definitions associated with the spatial scale. It was noted that this type of feature would also be welcomed for other controlled terms.	Implemented
<u>TWG1</u> : <i>About the browser structure</i> : As default, a marine resource should be placed according to the hierarchy defined in the source inventory. <ul style="list-style-type: none"> • On a Partner’s specific request, a marine resource could be presented under different parents in the tree. 	Implemented
<u>TWG1</u> : <i>About the fact sheet search</i> : The help text for specific search fields needs to be more completely defined. For example, the help text for the species field should indicate that the 3-alpha species codes can be used in the species search.	Implemented
<u>TWG1</u> : <i>About the fact sheet search</i> : Some work should be conducted to provide assistance for species searches so that users do not need to know precise species names/codes, etc. This could include a tool that displays a selection of possible species based on a user’s partial entry. It was decided that it is not practical to provide a pop-up list of all species due to the large list of species involved.	Not started (can be done soon)
<u>TWG1</u> : The default value for all fields used to specify a search, and in particular for “Considered a single stock” and “Considered a management unit” fields, should be “all”, not “yes”.	Implemented
<u>TWG1</u> : the ability of FIRMS to dynamically embed statistics	Implemented (in intranet version)
<u>TWG1</u> : <i>About the editor</i> : A more consistent use of labels, icons and pull down menus was required. <ul style="list-style-type: none"> • A better design of the observation management workflow interface should be provided. • Better explanation should be provided of the multi step process required in loading and validating an XML file. 	Implemented
<u>TWG1</u> : <i>About workflow management</i> : The data collection list should be sorted in a consistent order, e.g. alphabetical order. <ul style="list-style-type: none"> • The possibility of displaying text below icons in addition to the “ALT” (mouse over) function be considered and implemented in selected menus. • A legend of icons and color schemes could be displayed at the top and/or at the bottom of each page. 	Implemented
<u>TWG1</u> : <i>About workflow Management</i> : The tracking eventual bugs by copying the error and sending by mail to the webmaster be implemented for the Partners.	Not started
<u>TWG1</u> : <i>About workflow Management</i> : An additional first level view organizing observations by reporting year [as opposed to by marine resource or fishery object] should be developed.	Cancelled
<u>TWG1</u> : <i>About workflow management</i> : There be ensured consistent use of terminology and that it be common for the language in documentation (e.g. ‘publish’ instead of “set visible on the internet”).	Implemented
<u>TWG1</u> : <i>Area/Map – aims to define geo-reference location of fishery</i> <p>With regards to the Area and Geographical Map, the TWG commented that:</p> <p>In order to avoid confusion to readers, the geographical map should focus on the area where fisheries are conducted. The “area for fishery activity” should therefore be the most prominent colour, compared to other areas.</p>	On-going

<p>It was also noted that one fishery could be composed of more than one fishing area (e.g. subareas A, B, C ...). If no map of these sub-areas can be dynamically generated, then this information could be supplied using static maps, or text.</p> <p>A map should be available on a global perspective, with arrow pointed to the focus area, which could be zoomed in.</p> <p>For dynamically generated maps, Partners should be able to choose default zooming level between local or global map. At a data collection level, a Partner may indicate default projection for all marine resources included under this data collection (e.g. polar view, Pacific Ocean basin centered view, etc.). A legend is required for each shading/colour scheme. In default view, this legend could be displayed in the Fishery area section just below. In the zoom view, this legend should be part of the opening window).</p> <p>The TWG also noted that the approach for displaying area for Fishery FS should be consistent with the approach for Marine Resource FS (e.g. removing FAO area).</p>	
<p><u>TWG1: About Species appearing in the Fact Sheets:</u> Additional description (if any) in text format could be added to further describe the species from the marine resource perspective.</p>	Implemented
<p><u>TWG1: About Fishery fact sheets:</u> Species should not be defined only as target, associated, incidental or discard, but also as “captured” species (Partner’s choice).</p>	Implemented
<p><u>TWG1: About fishery components:</u> Links to other related fisheries should be enabled in a topic called “Related fisheries”.</p>	Implemented
<p><u>TWG1: About the vessel in the fishery FS:</u> The TWG took note that Flag State would be displayed by the official name of the State or fishing entity (instead of code).</p>	Implemented
<p><u>TWG1:</u> Comment was made that if information comes from other sources (e.g. from FAO-FIGIS Species FS), this should be made clear in the FS that this is not information provided by Partners. (e.g. put the word “additional information from Name of Source”).</p>	Implemented
<p><u>TWG1:</u> The TWG agreed that Partners may choose whether or not to include hyperlinks to general reference materials such as FAO-FIGIS species fact sheets, vessel types or gear type fact sheets, etc. with the understanding that the default would be set to “links established”. As well, there should be an option available to the Partner to show/hide the image generated from this link to reference material.</p>	Not started
<p><u>TWG1:</u> Taking into consideration the comments made during the discussion, the TWG in principle agreed with the Fisheries Template presented by FIRMS, and requested FIRMS to proceed in obtaining more case studies in order to consolidate the structure/schema, and start developing template and live application on each reporting perspective starting with Resource and Métier.</p>	Implemented
<p><u>TWG1: About multilingual site:</u> The TWG noted that the accurate definition of terms, titles and references used in FIRMS should be the first priority in the short term.</p>	On-going. Will be implemented soon.
<p><u>FSC3:</u> About “Uncertain” as possible value of attribute “considered a single stock”: It was concluded that the qualifier “uncertain” would not clarify the matter and it should therefore not be adopted.</p>	Implemented

<p><u>FSC3: About Sets of descriptors to describe stock status:</u> As an interim solution, information on Marine resource Status and trends will be composed of 4 columns: "Exploitation rate", "Abundance level", "State of Resource" (which refers specifically to the seven standard FAO descriptors), and "free description text".</p>	Implemented
<p><u>FSC3: About the browser inventory:</u> The webpage "Inventory of marine resources" should be renamed "FIRMS inventory of marine resources" to alert users to this limitation of the information on the website. Further clarification in this respect could also be given in the preamble.</p> <ul style="list-style-type: none"> • Inventories developed outside FIRMS should not be presented on the website; information should be strictly limited to data submitted by FIRMS partners. 	Implemented
<p><u>FSC3: About status and trends search:</u> It was noted that the search engine was currently designed based on organisations. The meeting felt it would be more useful to allow for a choice for searches on species and geographical areas. The search will not allow the selection of Partners.</p>	Implemented
<p><u>FSC3: About status and trends result list:</u> With regard to links, it was decided that the link from the Status and Trends Summary should only lead to the fact sheet, and not to the source document from which the fact sheet is elaborated, by the wording 'see full fact sheet'. The link to the full source report should be presented using the fully developed bibliographic reference (it is also given from the fact sheet). The meeting pointed out that it was important to keep the terminology consistent and clear, e.g. when referring to fact sheets or reports. It should also be made clear to the user that the summary, fact sheet and full report are all the same, i.e. from the original source. On the html search result page, the Partner's acronym will be added on each row of the result list.</p>	Implemented
<p><u>FSC3: About status and trends result list:</u> On the issue of down loads, it was agreed to keep the two download possibilities as designed in the mock-up. However with regard to the second format, instead of referring to an Excel file format download, the correct designation should be 'comma separated text file'.</p>	Not started
<p><u>FSC3: About fishery module:</u> Further work on the fisheries module will be undertaken as soon as other priorities permit.</p>	Implemented
<p><u>FSC3: About translation:</u> Develop FIRMS product in English for the time being and consider translations at a later stage.</p>	Implemented- On-going for other languages
<p><u>FSC3: About FIRMS information Management Policy:</u> In the short citation, the serial "FIRMS reports" should be displayed</p> <ul style="list-style-type: none"> • In both the short citation and the full bibliographic reference, the words "via FIGIS" should be replaced with the words "via FIRMS". 	Implemented
<p><u>FSC3: About Marine Resources data dictionary:</u> "Assessment Methods" should be renamed "Assessment models" with the agreed list of reference terms. The "Assessment model" should be considered together with "Assessment Data".</p>	Implemented
<p><u>FSC3: About Marine Resources data dictionary:</u> The Secretariat will replicate in the Members area the current Concepts and Definition page of the public site, and extend this page with link to the Marine Resource data dictionary.</p>	On-going- will be done soon
<p><u>FSC3:</u> Partners should establish links with FIRMS from their website in order to enhance visibility of the website.</p>	On-Going (Priority)

Annex 2: Web trends statistics for FIRMS

These statistics are compared with statistics obtained from 3 FIGIS-powered websites plus OceanAtlas all related to fisheries management in order to better understand them and see how we can enhance the visibility of FIRMS.

Data Tables

FIRMS website: <http://firms.fao.org>

FIRMS web statistics		Visits	Pages	Unique visitors
2006	May	951	3478	564
	June	1600	5349	693
	July	1426	4082	483
	August	1404	4919	476
	September	1256	4089	532
	October	1888	6357	708
	November	1551	5405	793
	December	1500	4251	670
	Total May-December 2006	11576	37930	4102
	Average per month	1441	4295	556
	Number of visit/visitor	2.8		
	Number of pages per visit	3.3		

	48% of the visitors of the site stay between 2 and 30 minutes (34% of the pages)
	48% of the visitors of the site stay less than 1 minute (6% of the pages)

Fishcode-STF (Strategy for Improving Information on Status and Trends of Capture Fisheries):
<http://www.fao.org/fi/fishcode-stf.htm>

The overall objective of the Fishcode-STF is to provide a framework for the improvement of knowledge and understanding of fishery status and trends as a basis for fisheries policy-making and sustainable management.

STF web statistics		Visits	Pages	Unique visitors
2006	May	629	2073	199
	June	770	3709	230
	July	877	2709	212
	August	872	4371	188
	September	626	3330	241
	October	662	3631	269
	November	798	3475	296
	December	930	2676	279
	Total May-December 2006	6164	25974	1650
	Average per month	770	3264	225
	Number of visit/visitor	3.7		
	Number of pages per visit	4.2		

	40% of the visitors of the site stay between 2 and 30 minutes, 50% less than 1 m
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- FIGIS (FAO Fisheries Global Information System):
<http://www.fao.org/figis/servlet/static?dom=root&xml=index.xml>

FIGIS is a global network of integrated information on aquatic resources and their exploitation. FIGIS allows the user to access a variety of information through domains such as species, biology, fishing technology, high seas vessels record, resources, fisheries, management systems, aquaculture, products, and markets. The dynamic domains concern fact sheets based on the same technology as the one used for FIRMS fact sheets. It includes the Species, Vessels, Gears, Fishing techniques and Topics fact sheets.

Dynamic domains - FIGIS

	Visits	Pages	Unique visitors
2006 May	36279	98894	12085
June	31589	68901	10477
July	32266	110947	10258
August	23225	70092	9949
September	22540	74031	10960
October	24270	87361	11196
November	33928	82279	11961
December	32736	65956	10411
Total May-December 2006	236833	658461	68000
Average per month	29604	82307	9900
Number of visit/visitor	3.4		
Number of pages per visit	2.7		

- 37% of the visitor of the site stay between 2 and 30 minutes, 60% less than 1 m
- 66% of the pages visualized in the dynamic domain are Species fact sheets

- Fishcode website (Global Partnerships for Responsible Fisheries)
http://www.fao.org/figis/servlet/static?dom=org&xml=fishcode_prog.xml

In adopting the Code of Conduct for Responsible Fisheries, FAO member countries requested the Organization to respond to the special requirements of developing countries through an Interregional Assistance Programme for its implementation. FishCode was thus established by the FAO Fisheries department (FI) as a special program of global partnerships to promote responsible fisheries.

Fishcode web statistics		Visits	Pages	Unique visitors
2006	May	1871	5574	645
	June	2059	9253	590
	July	1978	9365	608
	August	2215	12104	718
	September	2155	9180	725
	October	2140	8417	762
	November	2113	8861	746
	December	2277	7520	704
	Total May-December 2006	16808	70274	4900
	Average per month	1990	8269	629
	Number of visit/visitor	3.4		
	Number of pages per visit	4.2		

- 40% of the visitors of the site stay between 2 and 30 minutes, 56% less than 1 m

- Ocean Atlas: <http://www.oceansatlas.org>

The United Nations Atlas of the Oceans is an information system designed for use by policy makers who need to become familiar with ocean issues and by scientists, students and resource managers who need access to underlying data bases and approaches to sustainability.

OceanAtlas web statistics		Visits	Pages
2006	May	104629	245093
	June	75281	176626
	July	64676	147820
	August	65486	165139
	September	98454	221925
	October	105524	275636
	November	101010	236535
	December	77404	177480
	Total May-December 2006	692464	1646254
	Average per month	86558	205781
	Number of visit/visitor	1.3	
	Number of pages per visit	2.3	

11% of the visits on the site last between 2 and 30minutes, 78% less than 30 s.

Comments:

After the release of The FIRMS website in May 2006, we have now reached an average of 556 visitors with 1441 visits and 4295 pages viewed per month.

Compared with websites such as FishCode and Fishcode-STF, we are in the same range of frequency but we could improve it with a better visibility on the Web. (Figures 1 & 2)

Our visitors are loyal with an average of 2.8 visits per visitor and 9.24 pages seen per visitor (figure 3).

48% of the FIRMS visitors have spent less than 1 min seeing 6% of the total number of pages which is normal and in the same range as the other websites. 48% have spent between 2 and 30 minutes seeing 34% of the total number of pages. At last, 78 unique visitors have seen 60% of the total number of pages (Figures 4 & 5)

It means that our frequent visitors spend a lot of time on FIRMS to exploit information available there. We are in the same average as the other FIGIS websites and much more than the OceanAtlas (only 0.6% of the visitors spend more than 1 hour on this website).

The pages more visited are the Home page, the "About FIRMS" section and the search tools with the corresponding Fact sheets (figure 6). The search tools are frequently used by visitors: 30% of the FIRMS visitors have used the Search Fact Sheets tool, 19% the Status & Trends Search tool and 18% the browser.

About Marine Resources fact sheets, they have been seen 3000 times with an average of 4 visitors per fact sheet.

Graphics



