



FIRMS Steering Committee meeting
Third Session
Madrid, Spain, 13 - 15 February 2006
FIRMS Information Management Policy (IMP):
Marine Resources Data Dictionary
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Preamble for FSC3

On the substance: this dictionary combines working definitions (in black italics) for Topics of the Marine resource topic tree, presented within the fact sheet layout together with corresponding XML elements (in red), and complemented with some tutorial notes (in green) and examples (in blue). It really aims at facilitating users' understanding of the semantic behind each topic, while providing insights of the layout rendering. The definitions were collated from different sources, including the FIGIS-FIRMS 2002 workshop, the FAO fisheries glossary, and metadata definitions reused from other FIGIS domains.

On the revision history: an alphabetically ordered, linear version of this dictionary was presented as working document to TWG1 (TWG1/2005/4a - ftp://ftp.fao.org/fi/DOCUMENT/FIGIS_FIRMS/Technical/4a_e.pdf . The fact sheet layout version equivalent, hosted in the FIRMS working site, was presented for the first time to TWG1, and the format was very positively evaluated by the group. TWG1 also noted that the accurate definition of terms, titles and references used in FIRMS should be the first priority in the short term, as well as their translation. Since TWG1, the html version has undergone some cleaning-up and accuracy checks to result in this version presented to FSC2.

On the status: this product is submitted to FSC3 for evaluation. FSC3 should follow-up on the recommendations of TWG1, and decide whether the format is appropriate.

Marine Resource Fact Sheet

[SEARCH](#)
[SAVE](#)
[PRINT](#)

Cover Page Title

Marine Resource FIRMS Name , reporting year

Marine Resource Local Name
[Citation](#)

 Owned by **Owner name (Owner acronym)** [↔?](#)

 Other Observation Sheets: [Owner1 acronym, Year](#) - [Owner2 acronym, Year](#)

Species

Scientific Name 1



Scientific Name 2



Scientific Name 3


 Distribution of Marine Resource Name

[Area details](#) [↔?](#)


Main Descriptors

Considered as a Stock: yes

Management unit: yes

Spatial scale: regional

Jurisdictional distribution: transboundary

Environmental group: demersal

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History [<fi:History>](#)

Historic information related to the element which contains fi:History. e.g. an historical review of the Stock or Resource exploitation, management regimes over time and their effect, and trends.

Habitat and Biology [<fi:HabitatBio>](#)

Climatic zone: e.g. polar **Depth zone:** e.g. oceanic - upper continental slope (200 m - 500 m) **Bottom type:** e.g. soft bottom, muddy or muddy – sand [\(see list of controlled terms\)](#)

Habitat and Biology is a container for information on the biology and ecology of a species in the area of the aquatic resource.

History

(same as above)

Geographical Distribution [<fi:GeoDist>](#)

Jurisdictional distribution: e.g. transboundary

(see list of controlled terms)

Information about the geographical distribution of an entity such as species, aquatic resource, ...

History

(same as above)

Water Area Overview [<fi:WaterAreaOverview>](#)

Spatial scale: e.g. regional

(see list of controlled terms)

"Description of the water area in which the aquatic resource is located, including environmental characteristics, jurisdictional limits, ..." (FIGIS-FIRMS 2002 workshop). Water Area Overview might contain a reference list of areas in which a species or aquatic resource is found or employed .

History

(same as above)

Geo References

Distribution of Marine Resource Name

The system codes/area codes listed in the following table are those listed as primary georeferencing system as part of the Marine resource identity. These codes are used for the dynamic map presented by default in the fact sheet.

ICCAT Albacore Spatial Management Unit	ALB_N: Albacore North
	ALB_S: Albacore South
	ALB_M: Albacore Mediterranean

Additional area codes [<fi:WaterArearef>](#)

The system codes/area codes listed in the following table are those listed as secondary georeferencing system as part of the Water Area overview Topic

Exclusive Economic Zone (EEZ)	THA: Thailand
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More Geo References ¶¶

The system codes/area codes listed in the following table are dynamically retrieved from the data base on the basis that they are global (FAO areas, Large Marine Ecosystems) and are intersecting the distribution of the Marine resource.

FAO Fishing Statistical Areas	21: Atlantic, Northwest
	27: Atlantic, Northeast
	31: Atlantic, Western Central
	34: Atlantic, Eastern Central
Large Marine Ecosystem (LME)	37: Sulu-Celebes Sea
	38: Indonesian Sea

Resource Structure <fi:AqResStruct> fi:AqResRef

Considered as a Stock: e.g. yes

Information about structure of the aquatic resource. This element includes an attribute describing whether Yes or Not the aquatic resource is considered a biological Stock. It might as well introduce one or more subunit(s) of the aquatic resource under consideration (use fi:AqStockRef to positively refer a lower level of aggregation of an aquatic resource). Where possible, a short explanation should be provided to justify the existence of the sub-unit(s).

Cod - Baltic Sea

... is an example on the use of <fi:AqResRef>

History

(same as above)

Exploitation <fi:Exploit>

Information about "the exploitation of the aquatic resource, including typically the description of the various fisheries exploiting the stock, and exploitation indicators such as catches, effort parameters, size of fish caught" ... "(FIGIS-FIRMS 2002 workshop). Use fi:FisheryRef to positively reference the fisheries exploiting this aquatic resource.

Groundfishes fishery - Baltic Sea ICES, 2003

Cod fishery - Baltic Sea ICES, 2003.

... are two examples on the use of <fi:FisheryRef>

[Direct] Assessment Methods <fi:AssessMethods>

Assessment Methods contains the various methods used in performing a stock assessment. It enables the distinction of methods according to the two major classes "direct" and "indirect" assessment methods.

Assumption <fi:Assumption>

Assumption is a description of the underlying assumptions upon which stock assessments, or results are based.

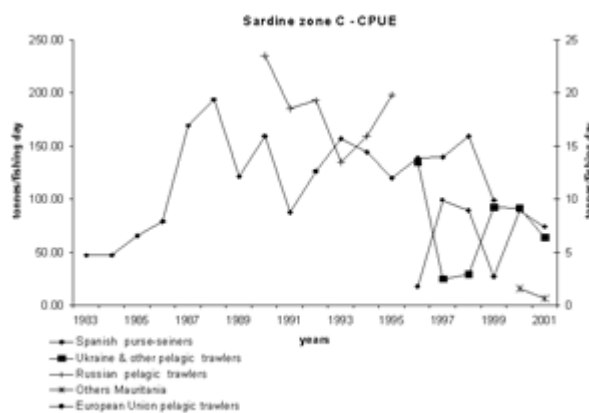


Figure 2: CPUEs of Sardine (*Sardina pilchardus*) from fisheries in Zone C (26°N-20°N)

Methodology <fi:Methodology>

Title *Methodology* is the science behind the method: "a description of how the generic method has been applied in the context of the current assessment, considering shortcomings on the available data, expert knowledge, assumptions, ..." (FIGIS-FIRMS 2002 workshop).

Use the Title attribute in order to display the Methodology title at the start of the paragraph presenting the Methodology.

MethodEntry1 Title <fi:AssessMethodEntry>

Use *fi:AssessMethodEntry* for each method used in performing a stock assessment. "An assessment method is identified by its title, and ideally includes the description of available data, and a summary of the methodology" (FIGIS-FIRMS 2002 workshop).

Assumption <fi:Assumption>

Assumption is a description of the underlying assumptions upon which stock perspectives, assessments, or results are based.

Methodology <fi:Methodology>

(same as above)

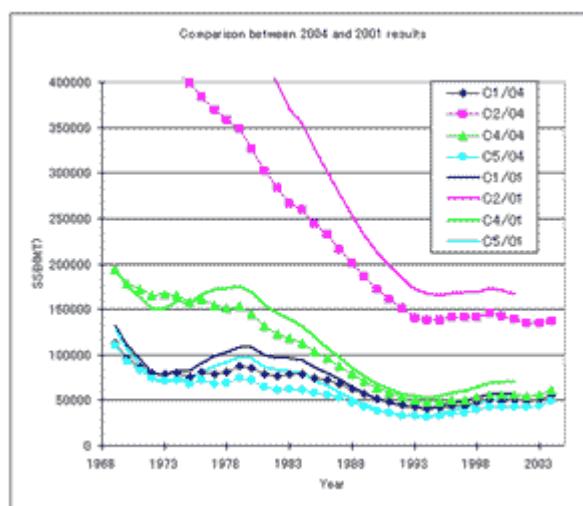
Data <fi:Data>

Data contains data, or information about data, used in the context of this assessment method to generate the exploitation indicators, or presented to the scientific assessment for the calculation of assessment indicators.

Results <fi:Results>

Results is a "description of the outputs of assessment at the level of each assessment method. It provides quantitative and/or qualitative details for each of the noticeable assessment indicators generated during the assessment" (FIGIS-FIRMS 2002 workshop).

Figure x: text legend text legend text legend.



Assessment Indicator <fi:AssessIndic>

Type: e.g. MSY terms)

(see list of controlled

Title *Assessment Indicator contains indicator data commonly generated using stock assessment methods (e.g. fishing mortality, biomass, recruitment, abundance index). According to the FAO Fisheries Glossary, an indicator is "a variable, pointer, or index. Its fluctuation reveals the variations in key elements of a system. The position and trend of the indicator in relation to reference points or values indicate the present state and dynamics of the system. Indicators provide a bridge between objectives and action".*

Use the Title attribute in order to display the Assessment indicator title (if any) at the start of the paragraph.

Projection <fi:Projection>

Projection contains stock projections and policy options.

Reference Point <fi:RefPoint>

Type: e.g. Recruitment terms)

(see list of controlled

Reference Point contains reference point data for a stock or a fishery. According to the FAO Fisheries Glossary, "a reference point indicates a particular state of a fishery indicator corresponding to a situation considered as desirable (Target reference point, TRP) or undesirable and requiring immediate action (Limit reference point, LRP, and Threshold reference point, ThRP)".

MethodEntry2 Title <fi:AssessMethodEntry>

(same as above, but for following iteration of assessment method(s) used)

Assumption <fi:Assumption>

(same as above, but for following iteration of assessment method(s) used)

Methodology <fi:Methodology>

(same as above, but for following iteration of assessment method(s) used)

Data <fi:Data>

(same as above, but for following iteration of assessment method(s) used)

Results <fi:Results>

(same as above, but for following iteration of assessment method(s) used)

Here an alternative option to display tagged text without headers for Assessment Indicator, Projection and reference Point:

<fi:AssessIndic Type="MSY"> </fi:AssessIndic> *Assessment Indicator contains indicator data commonly generated using stock assessment methods (e.g. fishing mortality, biomass, recruitment, abundance index). According to the FAO Fisheries Glossary, an indicator is "a variable, pointer, or index. Its fluctuation reveals the variations in key elements of a system. The position and trend of the indicator in relation to reference points or values indicate the present state and dynamics of the system. Indicators provide a bridge between objectives and action"..* <fi:Projection> *Projection contains stock projections and policy options.* </fi:Projection>, <fi:RefPoint> *Reference Point contains reference point data for a stock or a fishery. According to the FAO Fisheries Glossary, "a reference point indicates a particular state of a fishery indicator corresponding to a situation considered as desirable (Target reference point, TRP) or undesirable and requiring immediate action (Limit reference point, LRP, and Threshold reference point, ThRP)".* </fi:RefPoint>

[Indirect] Assessment Methods <fi:AssessMethods>

Assessment Methods contains the various methods used in performing a stock assessment. It enables the distinction of methods according to the two major classes "direct" and "indirect" assessment methods.

The same topic structure presented in [Direct] assessment methods would apply here.

Assumption <fi:Assumption>

(same as above)

Methodology <fi:Methodology>

(same as above)

MethodEntry1 Title <fi:AssessMethodEntry>

(same as above)

Assumption <fi:Assumption>

(same as above)

Methodology <fi:Methodology>

(same as above)

Data <fi:Data>

(same as above)

Results <fi:Results>

(same as above)

Assessment Indicator <fi:AssessIndic>

Type: e.g. MSY

(see list of controlled terms)

(same as above)

Projection <fi:Projection>

(same as above)

Reference Point <fi:RefPoint>

Type: e.g. Recruitment

(same as above)

[Overall] Assessment Results <fi:Results>

"As an overall synthesis of the different methods, Results is a description of the outputs of assessment, providing a synthesis embracing the set of assessment indicator values generated during the assessment and found meaningful to contribute to state and trends statement" (FIGIS-FIRMS 2002 workshop).

Assessment Indicator <fi:AssessIndic>

Title

(same as above)

Use the Title attribute in order to display the Assessment indicator title (if any) at the start of the paragraph.

Projection <fi:Projection>

Projection contains stock projections and policy options.

Reference Point <fi:RefPoint>

Type: Recruitment

(same as above)

Scientific Advice <fi:SciAdvice>

Advice is a container for "scientific advice provided by the scientists at completion of the assessment. The nature of the advice is of strictly scientific nature, ie clean of any management or political consideration. It may deal with the data to be provided, the assessment tools to be used, or the orientations that should be taken to allow a stock to recover, associated with types of measures, or results of simulation" (FIGIS-FIRMS 2002 workshop).

Management <fi:Management> fi:AqResRef ; fi:FisheryRef ; fi:ManageSystemRef

Management unit: e.g. yes

Information about the management of the fishery or the aquatic resource. This element includes an attribute describing whether Yes or Not the aquatic resource is considered a Management Unit. If Yes, a Jurisdiction area is required as primary or secondary georeferencing system. According to the FAO Fisheries Glossary, Management is "the art of taking measures affecting a resource and its exploitation with a view to achieving certain objectives, such as the maximisation of the production of that resource. Management includes, for example, fishery regulations such as catch quotas or closed seasons. Managers are those who practice management".</> div>

History

Historic information related to the element which contains fi:History. e.g. management regimes over time and their effect, and trends.

Management Objectives <fi:Objectives>

are objectives related to missions, outputs, projects, etc. Use one fi:ObjectiveEntry for each instance of an objective. For management systems, description of main goals/objectives which the governing authority wishes to achieve within the system and strategies applied for that purpose. According to the FAO Fisheries Glossary, "a formally established, more or less quantitative target that is actively sought and provides a direction for management action".

Title <fi:ObjectiveEntry> *Use one fi:ObjectiveEntry for each instance of an objective. For management systems, description of main goals/objectives which the governing authority wishes to achieve within the system and strategies applied for that purpose.*

Use the Title attribute in order to present (if any) the Objective title at the start of the paragraph presenting the Objective entry.

Management Strategies <fi:Strategies>

Management Strategies are strategies related to missions, outputs, projects, etc. Use one instance of fi:Strategy for each instance of a Strategy.

Title <fi:StrategyEntry> *Use one fi:StrategyEntry for each instance of a strategy.*

Use the Title attribute in order to present (if any) the Strategy title at the start of the paragraph presenting the Strategy entry.

Management Methods <fi:Methods>

Management Methods describes the set of methods or measures affecting fisheries, and used to implement management strategies. Use one fi:MethodEntry for each instance of a measure.

Title <fi:MethodEntry> *Use one fi:MethodEntry for each instance of a method. For management systems, description of measures and institutional arrangements applied to manage the system: management measures may be classified under the categories found in fi:MethodEntry (this section should, in addition, describe the performance of the selected measures, i.e. the extent to which goals/objectives have been obtained.)*

Use the Title attribute in order to present (if any) the management Method title at the start of the paragraph presenting the Method entry.

Management Advice <fi:Advice>

"Management advice are those recommendations generally evolving from the assessment addressed to management authorities. It evolves from biological scientific advice (found under assessment results) but takes into account a broader spectrum of issues. Advice may be proposed under different management options, each one including a risk assessment element" (FIGIS-FIRMS 2002 workshop).

Management Resolutions <fi:Resolutions>

It contains management resolutions decided upon by Management authorities.

Title <fi:ResolutionEntry> *Use one fi:ResolutionEntry for each instance of a resolution.*

Use the Title attribute in order to present (if any) the Resolution title at the start of the paragraph presenting the Resolution entry.

Problems <fi:Problems>

It contains information about management problems.

Title<fi:ProblemEntry> *Use one fi:ProblemEntry for each instance of a problem.*

Use the Title attribute in order to present (if any) the Problem title at the start of the paragraph presenting the Problem entry.

Cod - Baltic Sea (western part), ICES, 2000

North Western Atlantic: Hake fishery - Baltic Sea, ICES, 2003

... are 2 examples of the use of respectively <fi:AqResRef> and <fi:FisheryRef>

Biological State and Trend <fi:AqResStatusTrends>

State: e.g. over exploited

(see list of controlled terms)

AqResStatusTrend is a container for Aquatic Resource Status and Trend information entries. "This element includes a short statement (which should be understandable by the public) summarising the current observation made on the resource or stock considered, with a focus on the status of the fish population and the trends characterising its evolution, and possibly outlooks on its future. For resources units defined at aggregated level, this topic may consist of a general statement including a list of status and trends entries fitting each of the sub-units making up that aggregated resource"(FIGIS-FIRMS 2002 workshop).

History

Historic information related to the element which contains fi:History. e.g. an historical review of the state and trends of Stock or Resource.

Title<fi:AqResStatusTrendEntry> Use an fi:AqResStatusTrendEntry for each instance of a status or trend statement, in case distinct statements applying to different aquatic resources under review are included.

Use the Title attribute in order to present (if any) the Title of the entry at the start of the paragraph.

Source of Information <fi:Sources>

Sources is a container for biblio entry elements. It is used to identify the source of a piece of data within an object when it is not part of a bibliography. For example, an editor inserting a table of data from a FIDI dataset into the middle of an object might cite FIDI using fi:Sources. Use an instance of fi:BiblioEntry for each separate citation. Use fi:BiblioEntryLink to point a source citation to an existing fi:BiblioEntry anywhere in the FIGISDoc. fi:Sources contains a list of fi:BiblioEntry. fi:Sources can be found at any level where there is not an fi:ObjectSource.

Example:

Commission for the Conservation of Southern Bluefin Tuna (CCSBT). Report of the Ninth Meeting of the CCSBT Scientific Committee. 2004-09-13. 

Disclaimer:

This is an extract of the XXXX fisheries advice presenting the fish stock information. The full XXXX advice is available on <http://www.XXX.XX> and accounts for fisheries constraints in addition to the stock considerations.

Bibliography <fi:Bibliography>

Bibliography is a container for biblio entry elements. It is used as in a traditional print bibliography found at the end of a document, in order to cite the literature consulted and used for the creation of the document.

BiblioEntry <fi:BiblioEntry>

BiblioEntry is a container for elements that define a reference source. It is similar in spirit to the bibliographies found in traditional books. All the fields that would be expected in a Bibliographic Entry are included, as well as the possibility of tagging hyperlinks and adding free text.

<fi:BiblioEntry>

Title Author. Series. Publisher. Date.....

<fi:BiblioEntry>

Title Author. Series. Publisher. Date.....

.....

Related Information <fi:RelatedResources>

Literature of papers cited in the source text that may or may not have been used in the construction of the object, and/or are considered as 'suggested additional reading'. It is an element for entering literature info that has no direct relation with the origin of the data in the object: it can be considered as 'additional reading' information. *fi:RelatedResources* contains a list of *fi:BiblioEntry* elements, which ARE NOT COLLECTED in the *fi:Bibliography* element. There can be ONLY ONE *fi:RelatedResources* in a given object, located at its root (This includes FIGISDoc).

BiblioEntry

(Same as above)

Tables <Table>

Table 2: Landing per month back >>

Landing per month				
3435	fff	bnnn	bnnn	bnnn
vvv	555	ihy	bnnn	bnnn

Table 3: Reference points proposed by ICES in 1999 back >>

Reference points	5	4	3	22
4	3ggfg	44	33	22
12	stat	5567	22	88
12	44	bbb	22bb	8

Table 4: Total Effort back >>

Total Effort	5	4	55	67
4	3ggfg	5	11	22
5t6	stat	33	48	88
12	789	befgrb	acc6	9