



Partnership with the Fisheries and Resources Monitoring System of FAO (FIRMS)

The FIRMS Secretariat has been exchanging with the NPFC for a few years regarding the FIRMS Partnership. At its 6th meeting in December 2021, the SC supported the NPFC entering into an arrangement with FIRMS. The SC recommended that the Commission consider entering into an arrangement with FIRMS and decide whether to do so under a Partnership Arrangement or a Collaborative Arrangement. SC Members are invited to re-visit its recommendation to the Commission.

The following Annexes summarize the latest exchanges and outcomes.

1. Annex 1: stocks and fisheries inventory drafted by NPFC and FIRMS Secretariats during summer 2021.
2. Annex 2: summary of the major outcomes of the FIRMS Steering Committee meeting (FSC12, 18-21 October 2021).
3. Annex 3: brief presentation of FIRMS delivered at the NPFC SC05 (Doc. NPFC-2020-SC05-OP01, 24-27 November 2020).
4. Annex 4: summary of the main exchanges between NPFC and FIRMS, and reference documents.

Annex 1: Draft NPFC Stocks and Fisheries inventory

In the summer 2021, the NPFC and the FIRMS secretariats drafted a stocks and fisheries inventory for the North Pacific region to show to the NPFC SC06 the kind of data contribution to the FIRMS Partnership. Eight marine resources and eight fisheries were drafted within the FIRMS inventory templates. See table 1 and refer to Excel files (NPFC SC06 meeting files) for the detailed structure of the inventory.

The Excel based inventory is made of distinct fields allowing the submission of narrative texts or the selections of controlled terms. Not all fields are mandatory and data availability is the main driver for the compilation of the inventory. See table 2 for the main topics reported as part of the marine resource and fisheries inventory template. Once the inventory is built, the effort to maintain it is estimated to be between a few hours to a few days according to the number of records and the data availability.

Table 1: List of marine resources and fisheries considered for the draft NPFC Stocks and Fisheries inventory

Draft NPFC Stocks and Fisheries inventory	
Marine Resources	Fisheries
North Pacific armorhead	Bottom trawl fishery

Splendid alfonsino	Bottom gillnet fishery
Pacific saury	Bottom longline fishery
Neon flying squid	Seamount long-line fishery
Japanese flying squid	Pacific saury fishery
Chub mackerel	Chub mackerel fishery
Spotted mackerel	Neon Flying Squid and Japanese
Japanese sardine	Flying Squid fishery
	Japanese sardine fishery

Table 2: Main topics of the FIRMS marine resource and fishery inventory.

MARINE RESOURCE	FISHERY
MARINE RESOURCE REFERENCE	FISHERY REFERENCE
MARINE RESOURCE TITLE	FISHERY TITLE
RESOURCE STRUCTURE	FISHERY STRUCTURE
	PERSPECTIVE
AREA OF DISTRIBUTION	FISHERY AREA
MARINE HABITAT	FISHING GROUND
SPECIES	HARVESTED RESOURCES
	MEANS OF PRODUCTION
EXPLOITATION	EXPLOITATION
ASSESSMENT (Methods, Results, Advice)	
	POST-HARVEST USE
STATE OF MARINE RESOURCE	TREND OF THE FISHERY
MANAGEMENT	MANAGEMENT
STOCK MONITORING EVOLUTION	FISHERY LIFECYCLE
REFERENCES	REFERENCES
OWNERSHIP	OWNERSHIP
OVERVIEW	OVERVIEW

Box 1: About the FIRMS Marine Resource & Fishery Inventories

- Inventories constitute the backbone of the FIRMS knowledge base.
- Inventories provide the complete picture from which to assess current level of knowledge
- Marine Resources and Fisheries are inventoried for reporting purpose
- To capture status and trends of Marine Resources and Fisheries
- The inventory is implemented using an Excel format for initial data input
- Once harmonized according FIRMS standards and validated by data owners, information is stored into the FIRMS database and published as fact sheets
- Through their data inputs in FIRMS, partners contribute to the global inventory of marine resources and fisheries.

Annex 2: Summary of the major outcomes of the FIRMS Steering Committee meeting (FSC12, 18-21 October 2021)

The twelfth Session of the FIRMS Steering Committee Meeting (FSC12) was held online on the 18-21 October 2021.

FSC12 deliberated to proceed with the publishing of the Global Tuna Atlas developed with active contributions from the five tRFMOs, with GRSF towards validation of all records and their public dissemination, and along with the integration of national SDG 14.4.1 data into the GRSF. FSC12 also considered a proposed survey on the use of FIRMS by Partners for strategic decisions for the 2020-30 decade. FSC12 was informed about the interest in joining the Partnership expressed by CTMFM. To improve the FIRMS data coverage, FSC12 also reiterated the need to increase outreach activities for adding new Partners, particularly for the Pacific region and in this respect appreciated the on-going outreach with NPFC.

What follows provides more detailed information on FIRMS, and the new Tuna Atlas and GRSF tools.

The Fisheries and Resources Monitoring System (FIRMS) is a partnership of regional and international organizations which provides access to a wide range of high-quality information on the global status and trend on fisheries and resources. The FIRMS platform includes Marine Resource and Fishery inventories and fact sheets, search interfaces and map viewers, the Global Atlas of Tuna and Tuna-like Species (Tuna Atlas), and the Global Record of Stocks and Fisheries (GRSF).

The Tuna Atlas is an interactive web-based system which is being developed inter alia to monitor fishing capacity and effort, identify changes in fishery strategies, detect common patterns across

oceans, quantify the economic value of tuna fisheries, explore global management scenarios, address ecological questions and understand habitat preferences of pelagic populations and communities. The Tuna Atlas map viewer is ready for the public release with data contributed by the five Tuna RFMOs (CCSBT, IATTC, ICCAT, IOTC, and WCPFC).

The Global Record of Stocks and Fisheries is a database of stocks and fisheries inventoried at global level with standard unique identifiers. Data are sourced by Fisheries and Resources Monitoring System (FIRMS), FishSource and the RAM legacy Stock Assessment Database.

The GRSF is a tool to support i) the United Nations Sustainable Development Goals (SDG) Indicator 14.4.1 “Proportion of fish stocks within biologically sustainable levels” for which FAO is the custodian agency; and ii) traceability and ecolabelling schemes connecting seafood industries and consumers to the status of stocks and fisheries. The GRSF is today a mature application available publicly with more than 1 500 stocks uniquely identified and with an additional thousand records under review.

Annex 3: Meeting document NPFC-2020-SC05-OP01

<https://www.npfc.int/system/files/2020-10/NPFC-2020-SC05-OP01%20Partnership%20with%20FIRMS.pdf>

Partnership with the Fisheries and Resources Monitoring System of FAO (FIRMS)

About FIRMS

FAO is leading the FIRMS (Fisheries and Resources Monitoring System – <http://firms.fao.org>) Partnership, which aims to facilitate access to a wide range of high-quality web-based information on the status and trends of global marine fishery resources, fisheries and their management. The overall goal of the FIRMS partnership is to provide decision-makers with necessary information to develop effective fisheries policies in accordance with the Code of Conduct for Responsible Fisheries.

The partnership, founded in 2004, nowadays has sixteen years of experience and brings together 17 Institutions representing 21 Regional Fisheries Bodies (RFBs). Partners contribute with their information on status and trends nourishing an inventory of over 1000 marine resources/stocks and about 300 fisheries that these organizations provide advice on/or manage. FAO provides the Secretariat to the FIRMS Steering Committee (“FSC”).

In 2017 at its 10th SC meeting, the FIRMS partners deemed the partnership and its operation mature and called for an expansion of FIRMS towards a capacity to monitor comprehensively world fish stocks. The message that new RFB partners are encouraged to join was also relayed by RSN7 Meeting (2018). In 2019 at its 11th SC meeting, FIRMS approved a new partnership instrument (the Collaborative Arrangement¹) and welcomed three institutions which will

¹ FIRMS Collaborative Arrangement available at <http://www.fao.org/3/ca7309en/ca7309en.pdf>

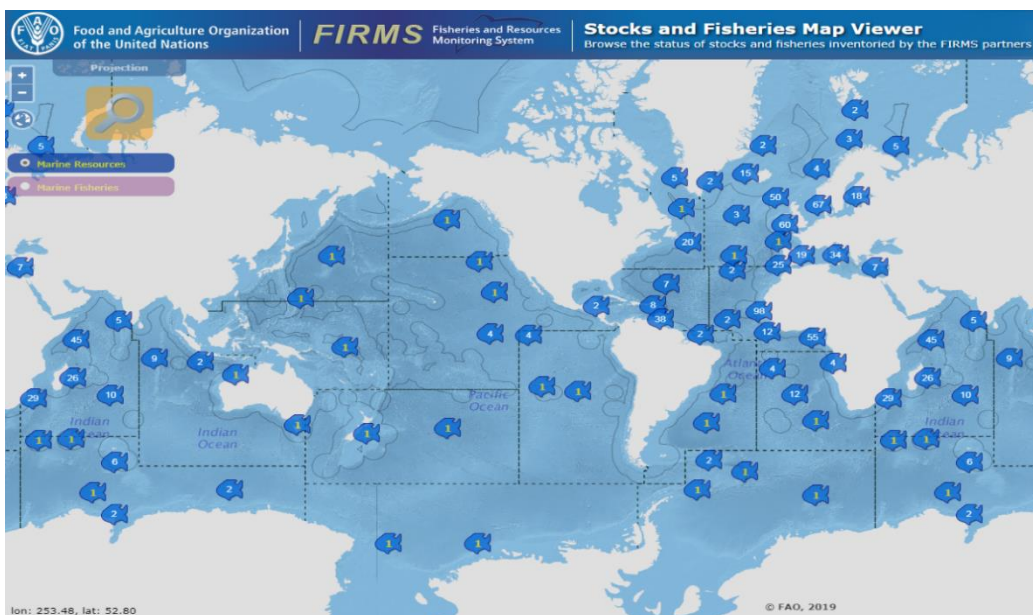
contribute in their respective capacity (tools, databases, expertise) to this objective of worldwide comprehensive coverage. This new instrument also offers a lightweight option to RFBs willing to join the partnership with focus on content provision and without the obligation to attend meetings at their own cost, however also losing the entitlement to vote.

The backbone information of FIRMS consists of Excel based Marine Resource and Fishery inventories where information provided by the partners is organized in a database and published in the form of Fact sheets, under two domains:

- “Marine Resources”, the biological domain (<http://firms.fao.org/firms/resource/10064/en> a stock example);
- “Fisheries”, the exploitation and usage, domain (<http://firms.fao.org/firms/fishery/478/en> a deep-sea fisheries example).

This system provides the data owner with tools to ensure controlled dissemination of high quality and updated information. These Fact sheets can be accessed through dedicated search interfaces and through the recently developed “Stocks and Fisheries map viewer”:

<http://firms.fao.org/firms/stocks-fisheries-map-viewer>.



FIRMS is disseminating only public data always acknowledging the provenance and ownership, and its content can be re-used by the partners.

FIRMS benefits and opportunities

Nowadays, the potential benefits and opportunities the FIRMS partnership can offer to its partners are:

- At national level: FIRMS supports the need for easy access to high quality information for the development/enhancement of fisheries policies and management plans at national and regional levels. Such high quality is achieved by formalizing, collating, standardizing, and sharing marine resource and fisheries information (the inventories of marine resource and fisheries), and disseminating it through a variety of FIRMS web-based data services (e.g. map viewer, analytical tools, fact sheets, status summaries);
- At regional level: FIRMS inventories provide a foundational information layer which can boost an agenda of information sharing among members, nicely complementing existing regional statistical database or – where such do not exist - acting as catalyst to their development or enhancement. FIRMS inventories properly articulated with the regional statistical database can provide a powerful analytical and reporting structure in support to resource assessments and fishery management;
- At global level: FIRMS ensure national and regional visibility at global level and thus enabling uptake in the global policy agenda of the global stock status monitoring including the promotion of sustainable fisheries, traceability of fishery products, SDGs; as well as access to national, regional and global programs and project opportunities.

FIRMS Partners duties and rights

The FIRMS “Partnership Arrangement” (PA) presents the FIRMS Partners duties and rights. See template at <http://www.fao.org/3/ca7313en/ca7313en.pdf>. It is made of two sections, the standard Arrangement signed by FAO (on behalf of FIRMS Secretariat) and the applicant Partner, and two Annexes:

- Annex 1: Current FIRMS Partners on the date of signature by the two Parties, and
- Annex 2: Outline and detailed arrangements on the nature of information contributed by the Partner and the conditions under which it is made available under the partnership arrangement.

Find, as example, Annex 2 of NAFO:

http://www.fao.org/fishery/docs/DOCUMENT/FIGIS_FIRMS/2013/2iNAFOe.pdf or
SPRFMO http://www.fao.org/fi/static-media/MeetingDocuments/FIRMS/FIRMS_FSC11/2oe.pdf

The agreed information described in Annex 2 is then submitted in the formats required for inclusion in NPFC - FIRMS inventories.

The FIRMS Collaborative Arrangement is available at

<http://www.fao.org/3/ca7309en/ca7309en.pdf>. It is a lighter partnership instrument designed for i) RFBs willing to contribute status information while avoiding the obligation to fulfil all Partners’ duties, and ii) for actors such as national institutions, INGOs and NGOs willing to support FIRMS goals with resources including e.g. databases, tools, services, or funding. The Collaborative Arrangement can operate on a project basis, as well as with long-term scope. Similarly to the Partnership Arrangement, Annex 2 of the Collaborative Arrangement outlines and details the nature of data, information and services and their terms and conditions, and possible entitlements for the collaborative institution.

Costs for Partners

By choosing the FIRMS Partnership Arrangement, the Partners cover the travel to FIRMS Steering Committee (FSC) meetings, the in-kind contribution for the provision of data to fill the stocks and fisheries inventories, the participation in online meetings for the FIRMS Technical Working Group (TWG).

By choosing the FIRMS Collaborative Arrangement rather the FIRMS Partnership Arrangement, the joining institutions is exempt to attend FSC meetings hence no costs for travels, but also no voting right. So the ability for NPFC to influence FIRMS development, policies and related global standards under this arrangement would be significantly reduced.

For both the arrangements, the withdrawal is possible at any time with three months' notice.

Recommendations

The NPFC Scientific Committee is invited to consider whether NPFC should join the FIRMS Partnership, and under which arrangement.

Annex 4: Summary of the main exchanges between NPFC and FIRMS and reference documents

- **Summer 2021:** An example of NPFC-FIRMS stocks and fisheries inventory has been drafted during the summer 2021 in collaboration with the NPFC Secretariat collating information for 8 marine resources and 8 fisheries for the North Pacific region.
- **February 2021:** [6th Annual Session of the Commission](#) (23-25 Feb. 2021)
Document [NPFC-2021-COM06-WP03](#)
Fisheries and Resources Monitoring System of FAO (FIRMS) submitted a proposal for a NPFC-FIRMS partnership agreement (emailed to Members on 18 Jan 2019). Upon request from the SC04 held in April 2019, a representative of FIRMS attended the SC05 held virtually in November 2020 to provide detailed explanation on the program. The SC05 reviewed the additional information and agreed to continue to learn more about FIRMS and reconsider whether to participate in the FIRMS Partnership at the next SC meeting.
- **November 2020:** [5th Scientific Committee Meeting](#) (24 - 27 Nov. 2020)
Document [NPFC-2020-SC05-OP01](#)
Recommendations

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