



**Food and Agriculture  
Organization of the  
United Nations**

**NFISI/R1430 (En)**

**FAO  
Fisheries and  
Aquaculture Report**

**ISSN 2070-6987**

**Report of the**

---

**THIRTEENTH SESSION OF THE FISHERIES AND RESOURCES  
MONITORING SYSTEM (FIRMS) STEERING COMMITTEE  
MEETING**

**London, United Kingdom of Great Britain and Northern Ireland  
(Hybrid meeting), 26–27 and 30 June 2023**



Report of the  
THIRTEENTH SESSION OF THE FISHERIES AND RESOURCES MONITORING SYSTEM (FIRMS)  
STEERING COMMITTEE MEETING

London, United Kingdom of Great Britain and Northern Ireland  
(Hybrid meeting), 26–27 and 30 June 2023

**Required citation:**

FAO. 2023. *Report of the Thirteenth Session of the Fisheries and Resources Monitoring System (FIRMS) Steering Committee Meeting, London, United Kingdom of Great Britain and Northern Ireland (Hybrid meeting), 26–27 and 30 June 2023*. FAO Fisheries and Aquaculture Report, No. 1430. Rome. <https://doi.org/10.4060/cc8893en>

The designations employed and the presentation of material in this information product do not imply the expression of any opinion whatsoever on the part of the Food and Agriculture Organization of the United Nations (FAO) concerning the legal or development status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. The mention of specific companies or products of manufacturers, whether or not these have been patented, does not imply that these have been endorsed or recommended by FAO in preference to others of a similar nature that are not mentioned.

ISSN 2070-6987 [Print]

ISSN 2707-546X [Online]

ISBN 978-92-5-138412-1

© FAO, 2023



Some rights reserved. This work is made available under the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 IGO licence (CC BY-NC-SA 3.0 IGO; <https://creativecommons.org/licenses/by-nc-sa/3.0/igo/legalcode>).

Under the terms of this licence, this work may be copied, redistributed and adapted for non-commercial purposes, provided that the work is appropriately cited. In any use of this work, there should be no suggestion that FAO endorses any specific organization, products or services. The use of the FAO logo is not permitted. If the work is adapted, then it must be licensed under the same or equivalent Creative Commons licence. If a translation of this work is created, it must include the following disclaimer along with the required citation: "This translation was not created by the Food and Agriculture Organization of the United Nations (FAO). FAO is not responsible for the content or accuracy of this translation. The original [Language] edition shall be the authoritative edition."

Disputes arising under the licence that cannot be settled amicably will be resolved by mediation and arbitration as described in Article 8 of the licence except as otherwise provided herein. The applicable mediation rules will be the mediation rules of the World Intellectual Property Organization <http://www.wipo.int/amc/en/mediation/rules> and any arbitration will be conducted in accordance with the Arbitration Rules of the United Nations Commission on International Trade Law (UNCITRAL).

**Third-party materials.** Users wishing to reuse material from this work that is attributed to a third party, such as tables, figures or images, are responsible for determining whether permission is needed for that reuse and for obtaining permission from the copyright holder. The risk of claims resulting from infringement of any third-party-owned component in the work rests solely with the user.

**Sales, rights and licensing.** FAO information products are available on the FAO website ([www.fao.org/publications](http://www.fao.org/publications)) and can be purchased through [publications-sales@fao.org](mailto:publications-sales@fao.org). Requests for commercial use should be submitted via: [www.fao.org/contact-us/licence-request](http://www.fao.org/contact-us/licence-request). Queries regarding rights and licensing should be submitted to: [copyright@fao.org](mailto:copyright@fao.org).

## **PREPARATION OF THE DOCUMENT**

This is the final version of the Report of the Thirteenth Session of the Fisheries and Resources Monitoring System (FIRMS) Steering Committee Meeting, London, United Kingdom of Great Britain and Northern Ireland (Hybrid meeting), 26–27 and 30 June 2023.

## **ABSTRACT**

The Thirteenth Session of the Fisheries and Resources Monitoring System (FIRMS) Steering Committee (FSC13) was held in London, United Kingdom of Great Britain and Northern Ireland (Hybrid meeting) on 26–27 and 30 June 2023.

Driven by a survey on the use of FIRMS by partners and relevant institutions, the FSC13 deliberated on strategic decisions for the next decade, including the timely data provision in support to the FAO SOFIA State of Stocks (SoS), the contribution to the design and reporting on fisheries management in context of the new FAO COFI sub-committee on fisheries, prioritizing the strengthening of small-scale fisheries data collection, and fostering interoperability among partners' databases. Along those key decisions, FSC13 agreed for further work on the FIRMS Global Tuna Atlas (GTA), on the Global Record of Stocks and Fisheries (GRSF) and on FIRMS standards and terminologies for which several definitions were reviewed and approved. A workplan was elaborated to address all decisions made by FSC13 covering also the upgrade of the FIRMS system and the support to capacity building to FIRMS Partners.

## CONTENTS

Preparation of the document .....	iii
Abstract.....	iv
Abbreviations.....	vii
Executive summary.....	ix
<b>1. OPENING OF THE SESSION AND WELCOME (AGENDA ITEM 1) .....</b>	<b>1</b>
<b>2. ADOPTION OF AGENDA (AGENDA ITEM 2) .....</b>	<b>2</b>
<b>3. FIRMS MEMBERSHIP – EXPANDING THE PARTNERSHIP (AGENDA ITEM 3) ....</b>	<b>2</b>
a) New or prospective FIRMS partners .....	2
b) New or prospective new FIRMS collaborative institutions .....	3
<b>4. REVIEW OF FIRMS ACTIVITIES DURING THE INTERSESSION (OCTOBER 2021 – MAY 2023) (AGENDA ITEM 4) .....</b>	<b>3</b>
a) FIRMS Secretariat report on intersession activities .....	3
b) Partners progress/achievement reports.....	6
c) Highlight of new developments .....	6
<b>5. REPORT OF THE FIRMS SURVEY (AGENDA ITEM 5) .....</b>	<b>9</b>
<b>6. ORIENTATIONS FROM FAO (AGENDA ITEM 6) .....</b>	<b>10</b>
<b>7. REPORT OF TECHNICAL WORKING GROUP (AGENDA ITEM 7).....</b>	<b>13</b>
a) Report of e-TWG7 on terminology.....	13
b) Report of the e-TWG on the Global Tuna Atlas and intersession activities .....	14
c) Report of the e-TWG on the Global Record of Stocks and Fisheries (GRSF) and intersession activities .....	16
<b>8. STRATEGIC DIRECTIONS FOR FIRMS FOR THE NEXT DECADE.....</b>	<b>19</b>
a) Drafting orientations .....	19
b) Recommendations devolved from discussions on FIRMS Strategic orientation .....	22
<b>9. DECISIONS REGARDING E-TWG RECOMMENDATIONS .....</b>	<b>26</b>
a) On the FIRMS terminology .....	26
b) On the Global Tuna Atlas .....	26
c) On the GRSF .....	29
<b>10. ANNEX 2 OF THE PARTNERSHIP ARRANGEMENT – REVIEW OF PROPOSED MODIFICATIONS OF EXISTING PARTNERS (AGENDA ITEM 10) ...</b>	<b>31</b>
<b>11. INTERSESSIONAL WORKPLAN.....</b>	<b>31</b>
<b>12. PLANNING FOR THE NEXT SESSION OF FSC (FSC14) .....</b>	<b>31</b>

<b>13. ANY OTHER BUSINESS .....</b>	<b>32</b>
<b>14. ELECTION OF CHAIRPERSON AND VICE-CHAIRPERSON .....</b>	<b>32</b>
<b>15. ADOPTION OF THE REPORT AND CLOSE OF SESSION .....</b>	<b>32</b>
 Annex 1 – Agenda .....	33
Annex 2 – List of participants.....	35
Annex 3 – FIRMS FSC13 group photo .....	39
Annex 4 – FIRMS SC Workplan for 2023-mid 2025 .....	40
Annex 5 – Modifications to the FIRMS Rules of Procedures for Observers (section 13 of the Rules of Procedures).....	43

## ABBREVIATIONS

API	Application Programming Interface
ASFIS	List of Species for Fishery Statistics Purposes
BCC	Benguela Current Commission
CCAMLR	Commission for the Conservation of Antarctic Marine Living Resource
CCSBT	Commission for the Conservation of Southern Bluefin Tuna
CCRF	Code of Conduct for Responsible Fisheries
CECAF	Fishery Committee for the Eastern Central Atlantic
CIAC	Cephalopod International Advisory Council
CLME+	Caribbean and North Brazil Shelf Large Marine Ecosystems
CNR	Consiglio Nazionale delle Ricerche
COFI	Committee on Fisheries (FAO)
COREP	Regional Fisheries Commission for the Gulf of Guinea
CPPS	Permanent Commission for the South Pacific
CRFM	Caribbean Regional Fisheries Mechanism
CTMFM	Comisión Técnica Mixta del Frente Marítimo
CWP	Coordinating Working Party on Fishery Statistics
DOI	digital object identifier
EBF	extra budgetary funds
EOSC	European Open Science Cloud
EMODNet	European Marine Observation and Data Network
FAO	Food and Agriculture Organization of the United Nations
FDS-WG	Fisheries Data and Statistics Working Group
FCWC	Fishery Committee for the West Central Gulf of Guinea
FIRMS	Fisheries and Resources Monitoring System
FNS	Food and Nutritional Security
FORTH	Foundation for Research and Technology - Hellas
FSC	FIRMS Steering Committee
GFCM	General Fisheries Commission for the Mediterranean
GRSF	Global Record of Stocks and Fisheries
GSA	geographic subarea
IATTC	Inter-American Tropical Tuna Commission
ICCAT	International Commission for the Conservation of Atlantic Tunas
ICES	International Council for the Exploration of the Sea
ICT	Information and Communications Technology
IWC	International Whaling Commission
ERCIM	European Research Consortium for Informatics and Mathematics
Ifremer	Institut français de recherche pour l'exploitation de la mer
INGO	international non-governmental organization
IOTC	Indian Ocean Tuna Commission
IPHC	International Pacific Halibut Commission
IRD	Innovation Research Development
ISSCFG	International Standard Statistical Classification of Fishing Gear
IUU	illegal, unreported and unregulated (fishing)
MSC	Marine Stewardship Council
MoU	Memorandum of Understanding

NAFO	Northwest Atlantic Fisheries Organization
NAMMCO	North Atlantic Marine Mammal Commission
NASCO	North Atlantic Salmon Conservation Organization
NEAFC	North East Atlantic Fisheries Commission
NGO	non-governmental organization
NJA	national jurisdiction area
NPFC	North Pacific Fisheries Commission
OECD	Organisation for Economic Co-operation and Development
OSPESCA	Central America Fisheries and Aquaculture Organization
PSC	Pacific Salmon Commission
RAMLDB	RAM Legacy Stock Assessment Data Base
RECOFI	Regional Commission for Fisheries
RDB	Regional Database
RFB	regional fishery body
RFMO	regional fishery management organization
RSN	Regional Fishery Body Secretariats' Network
SA	spawning aggregation
SAWG	Working Group on Spawning Aggregations
SCFM	Sub-Committee on Fisheries Management
SCRS	Standing Committee Research and Statistics
SDG	Sustainable Development Goal
SEAFDEC	Southeast Asian Fisheries Development Centre
SEAFO	South-East Atlantic Fisheries Organization
SIOFA	Southern Indian Ocean Fisheries Agreement
SFP	Sustainable Fisheries Partnership
SOFIA	FAO State of World Fisheries and Aquaculture
SoS	state of stock
SPC	Pacific Community
SPF	South Pacific Forum
SPRFMO	South Pacific Regional Fisheries Management Organization
SRFC	Subregional Fisheries Commission
SSF	small-scale fisheries
SWIOFC	Southwest Indian Ocean Fisheries Commission
TAF	Transparent Assessment Framework
TCP	Technical Cooperation Programme
TG-RH	Task Group on Reference Harmonisation
TWG	Technical Working Group
UNCLOS	United Nations Convention on the Law of the Sea
UUID	universally unique identifier
UW	University of Washington
WCPFC	Western and Central Pacific Fisheries Commission
WECAFC	Western Central Atlantic Fishery Commission
WECAFIS	Western Central Atlantic Fisheries Information System
WIOFish	Western Indian Ocean Fisheries Database
WoRMS	World Register of Marine Species
VRE	Virtual Research Environment

## EXECUTIVE SUMMARY

The Thirteenth Session of the Fisheries and Resources Monitoring System (FIRMS) Steering Committee (FSC13), held in London, United Kingdom of Great Britain and Northern Ireland (Hybrid meeting) on 26–27 and 30 June 2023, was chaired by Mr Darius Campbell from the North East Atlantic Fisheries Commission (NEAFC). Twelve of the eighteen FIRMS partners participated in FSC13, along with two FAO's associated members, two collaborating organizations and four observer organizations. There was a good in-person attendance for this first FIRMS post-COVID meeting.

FSC13 welcomed a new partner (North Pacific Fisheries Commission [NPFC]) and two new observers ([Comisión Técnica Mixta del Frente Marítimo](#) [CTMFM], and [Organisation for Economic Cooperation and Development](#) [OECD]).

FSC13 conducted the regular progress review on performance during the intersession, including partners data contributions, and the FIRMS Secretariat work in providing support to Partners for disseminating stock and fisheries status and trends. Progress was noted on the new development of the FIRMS database of marine resources and fisheries, the latter now consisting of status reports on 896 marine resources and 313 fisheries published as fact sheets at the [FIRMS](#) in addition to the 1 137 historical records. Also acknowledged was the substantial increase in the amount of stock records which the Global Record of Stocks and Fisheries ([GRSF](#)) enabled, with currently 2 363 records published with unique identifiers. Also noted that the FIRMS Secretariat is currently working on the upgrade of the obsolete FIRMS website.

An essential topic for FSC13 was to agree on strategic orientations for the next decade. In this respect, FSC13 reviewed the results of the survey on the use of FIRMS by partners and relevant institutions, and it considered the FAO statement to FSC13 highlighting the potential which FIRMS provides to support its new methodology for estimating the State of Stocks published through the FAO State of World Fisheries and Aquaculture (SOFIA). In response, FSC13 made strategic decisions for the next decade, strongly supporting timely data provision to the FAO SOFIA State of Stocks (SoS) report through the set-up of biennial data calls, contribution to the design and reporting on fisheries management in context of the new COFI sub-committee on fisheries, prioritizing the strengthening of small-scale fisheries data collection, and fostering interoperability among partners' databases. The workplan for the forthcoming intersession period was developed accordingly also considering the recommendations from the Technical Working Groups (TWGs).

Based on the work of the TWG on Terminology, FSC13 adopted a revised definitions regarding the assessment area, management area, management unit, and traceability unit.

FSC13 reviewed intersessional work of the TWG on the FIRMS Global Tuna Atlas (GTA) which had been achieved by the five tuna regional fisheries management organizations (tRFMOs) and the collaborative institution Institut de recherche pour le développement (IRD). The FIRMS Global Tuna Atlas was released to the public in May 2022. During the next intersession, an annual data call will be established, building on an efficient workflow based on implementation by all tRFMOs of the Coordinating Working Party (CWP) Reference Harmonization data exchange format. Also, level1 datasets (i.e. all catch records in weight unit) will be published for eight most important commercial tuna species.

FSC13 also reviewed intersessional work of the TWG on the GRSF that had been achieved by partners, observer organizations and the collaborative institutions Foundation for Research and Technology – Hellas (FORTH), Sustainable Fisheries Partnership (SFP) and University of Washington (UW). GRSF is an interactive web-based system that assigns unique identifiers to stocks and fisheries for an improved and comprehensive stock status data coverage, upon collating stock status records from FIRMS, RAM Legacy database, FishSource and the recent addition of validated country reports on SDG Indicator 14.4.1 “Proportion of fish stocks within biologically sustainable levels”. The elaborated GRSF draft standard is by most regards receiving positive appraisal as testified through a range of early users’ feedback. The recent expansion of GRSF with the national Areas database enabled to disambiguate the geographic dimension of many stock records and accordingly to publish these records. During the past intersession, through pilot workshops led by FAO's Assessment and Management Team, FIRMS/GRSF has been tested for its capacity to contribute stock status records in support of FAO’s state of stocks indicator reported in SOFIA. The GRSF also provides a tool for traceability and ecolabelling schemes currently tested by SFP in two countries with the aim to connect seafood industries and consumers to the status of stocks and fisheries. These efforts will be pursued during the next intersession, in particular with the completion of the national areas database, the further consolidation of the draft GRSF standard, and the publishing of all pending records (mostly those from SFP).

Finally, a workplan was elaborated with the objective to complete the upgrade of the FIRMS system including the new website and underlying interfaces, address all the decisions regarding the enhancement of the Tuna Atlas and the GRSF, continue providing the required support and capacity building to FIRMS Partners, and all the support required to the new FAO SOFIA methodology for the State of Stocks. Lastly, contribute to the newly formed COFI subcommittee on fisheries management with a new template for collecting data on fisheries management and associated pilot activities.

The current chairperson Mr Darius Campbell was re-elected, and a new deputy chairperson Ms Abena Asante elected.

## **1. OPENING OF THE SESSION AND WELCOME (AGENDA ITEM 1)**

1. The Thirteenth Session of the Fisheries and Resources Monitoring System (FIRMS) Steering Committee (FSC13) was held in hybrid format in London, United Kingdom of Great Britain and Northern Ireland on 26, 27 and 30 June 2023. The session was hosted by the North-East Atlantic Fisheries Commission (NEAFC) and was chaired by Mr Darius Campbell (Secretary, NEAFC).

2. The chairperson opened the meeting at 09.30 British summer time (BST) with a welcome address, following which the participants representing 12 partners, two collaborative institutions, and four observer organizations introduced themselves. The following organizations participated in FSC13:

- Comisión Técnica Mixta del Frente Marítimo (CTMFM, observer, online)
- Food and Agriculture Organization of the United Nations (FAO, partner, in-person)
- Fishery Committee for the West Central Gulf of Guinea (FCWC, partner, in-person)
- Foundation for Research and Technology - Hellas (FORTH, collaborative institution, online)
- General Fisheries Commission for the Mediterranean (GFCM, partner, online)
- Inter-American Tropical Tuna Commission (IATTC, partner, in-person)
- International Council for the Exploration of the Sea (ICES, partner, online)
- Indian Ocean Tuna Commission (IOTC, partner, in-person)
- International Whaling Commission (IWC, observer, in-person)
- Northwest Atlantic Fisheries Organization (NAFO, partner, in-person)
- North-East Atlantic Fisheries Commission (NEAFC, partner, in-person)
- North Pacific Fisheries Commission (NPFC) (NPFC, partner, online)
- Organisation for Economic Co-operation and Development (OECD, observer, online)
- Regional Commission for Fisheries (RECOFI, invited by FAO, in-person)
- Southeast Asia Fisheries Development Centre (SEAFDEC, partner, in-person)
- Sustainable Fisheries Partnership (SFP, collaborative institution, online)
- Southern Indian Ocean Fisheries Agreement (SIOFA, partner, online)
- South Pacific Regional Fisheries Management Organization (SPRFMO, partner, in-person)
- Western and Central Pacific Fisheries Commission (WCPFC, observer, in-person)
- Western Central Atlantic Fishery Commission (WECAFC, invited by FAO, online)

3. The chairperson then invited Ms Vera Agostini (Deputy Director, Fisheries and Aquaculture Division, FAO) to deliver a statement on behalf of FAO. She recalled the document recently released by FAO, “FAO’s contributions to FIRMS FSC13” (Doc. FSC13/2023/8) and highlighted the importance of the next phase of the FIRMS partnership whereby FIRMS could provide data in support to the Global State of Stocks (SoS) presented in the FAO flagship publication The State of World Fisheries and Aquaculture (SOFIA). Through the recent regional pilots conducted in testing the updated SOFIA methodology, the use of FIRMS data has indicated both the potential offered by FIRMS as well as provided clues to areas that require attention if FIRMS is to serve as the online regional backbone for the SOFIA State of Stocks (SoS) Indicator. These included the commitment and timeliness of data submissions by FIRMS partners, contribution of catch and effort time series by region or subregion, guidelines for the definition of assessment units as relating to their temporal

continuity, reduction in the duplication effort of data collection among partners, and collaboration among them to support capacity building and to help on the convergence between national and regional Sustainable Development Goal (SDG) 14.4.1 Indicators. During the next intersession, the FIRMS platform could be further tested to determine a sustainable workflow to fulfil this potential. She also indicated that FIRMS could contribute to FAO's Blue Transformation initiative through the development of a broader information framework in support of sustainable fisheries with focus on fisheries management information, small scale fisheries data, and interoperability among relevant databases. Global policy frameworks such as the UN Fish Stock Agreement and the Agreement on Biodiversity Beyond National Jurisdiction, require strong data inputs and FIRMS could offer an opportunity to provide this. She encouraged the FSC to examine these objectives as it would require a renewed commitment from partners to submit in-kind data or information technology (IT) support within the scope of the existing partnership agreement, and to consider whether this commitment extension and the ways it could be achieved from an operational viewpoint.

4. The Chair expressed that the SOFIA report was important for influencing views on the sustainability of fish stocks, highlighting where better performance was occurring regionally. He concluded that having better data visibility at regional level through a FIRMS connection with SOFIA SoS was of interest, but the workload to achieve this was something to consider.

5. Mr Taconet (FAO, FIRMS Secretary) acknowledged this FSC13 meeting opportunity to resume in-person discussions that are important for networking and information sharing. He noted that the timeline for achieving most of the SDG objectives were not far away (less than 7 years) and so there is a need to accelerate support to Members. He recalled that FSC12 decided that this session (FSC13) was an important orientation meeting for the next decade. He addressed the issue of a new vice chair as Mr Seraphin Dedi (former Secretary of FCWC) was no longer in the capacity to fill this role and encouraged the participants to consider a replacement throughout the meeting.

## **2. ADOPTION OF AGENDA (AGENDA ITEM 2)**

6. Mr Taconet introduced the agenda (Doc. FSC13/2023/1) and provided an overview of the meeting schedule and activities. The agenda was adopted without change (Annex 1).

## **3. FIRMS MEMBERSHIP – EXPANDING THE PARTNERSHIP (AGENDA ITEM 3)**

### **a) New or prospective FIRMS partners**

7. Mr Alex Zavolokin (NPFC) introduced the North Pacific Fisheries Commission (NPFC) as a new partner to FIRMS since the week prior to the FSC13. He thanked FIRMS and its Partners for their acceptance and for their continued support. He reported that NPFC would contribute information on stocks and fisheries for six pelagic species and two bottom fish species: North Pacific armorhead, Splendid alfonsino, Pacific saury, Neon flying squid, Japanese flying squid, Chub mackerel, Blue mackerel, and Japanese sardine.

8. Mr Ramiro Sanchez (CTMFM) introduced the Comisión Técnica Mixta del Frente Marítimo (CTMFM) as a treaty-based regional fishery body recognised by FAO in the coastal areas of the Southwest Atlantic, with nearly five decades of existence. Its mandate is the sustainable management of fishery resources and the conservation of the environment in the

area defined as the “Treaty of the Rio de la Plata and its Maritime Front” (TRPMF). He reported that over 90 percent of the landings were fishery resources regulated by specific binding management measures and 80 percent of the stocks were being fished within sustainable levels. These measures were provided by the working groups of the two countries (Argentina, Uruguay). He concluded that CTMFM was in a position to provide FIRMS with high quality information on the monitoring and management of fishery marine resources.

9. Mr Will Symes (OECD) introduced the Organisation for Economic Co-operation and Development (OECD) as a small team supporting members’ reporting to the Fisheries Committee. He reported their main work on data collection in relation to economic issues around fisheries, fishery subsidies and government support to fisheries. Recently this data was augmented in a stock assessment database for 38 Member Nations. He concluded that collaboration with FIRMS would be important to develop a cohesive database with proper standards and guidelines in place.

10. Mr Tim Jones (WCPFC) recalled WCPFC’s participation as an observer in the previous FSC12 meeting. As a long-term collaborator with FIRMS and CWP, he noted the continued benefit and support of the Secretariat for the work on the CWP, but that it was bound by stringent data rules and regulations around WCPFC data. He concluded that WCPFC was continuing work to conform to CWP standards for the FIRMS Global Tuna Atlas (GTA) submissions, increase awareness of the limitations of the WCPFC data and improve engagement within the FIRMS Partnership.

#### **b) New or prospective new FIRMS collaborative institutions**

11. Mr Taconet noted that the FIRMS’ partners were welcomed to suggest organizations that would be interested in furthering FIRMS objectives and could consider becoming Collaborative institution. He indicated the partnership was extending in the Pacific region, with the South Pacific Regional Fisheries Management Organization (SPRFMO) and the recently joined North Pacific Fisheries Commission (NPFC) as partners, and the presence of WCPFC as observers. Other gaps in the global coverage of data (i.e. FAO statistical area 41) should partly be addressed with the ongoing exchanges with the CTMFM.

### **4. REVIEW OF FIRMS ACTIVITIES DURING THE INTERSESSION (OCTOBER 2021 – MAY 2023) (AGENDA ITEM 4)**

#### **a) FIRMS Secretariat report on intersession activities**

12. Mr Taconet presented the historic developments (Doc. FSC13/2023/2) since FIRMS’ inception in 2004, reporting a steady growth of Regional Fishery Bodies (RFB) members to the FIRMS partnership and an increased information contribution of stocks and fisheries data. He reported the very substantial growth of information provided by FIRMS collaborative institutions, the University of Washington (UW) and the Sustainable Fisheries Partnership (SFP), that contributed to the Global Record of Stocks and Fisheries (GRSF), as well as the increase from contributions by countries through the SDG 14.4.1 questionnaire. The number of fisheries management units and fishing activity (fishing units) were highlighted, as well as the ongoing development of regional catch and effort databases for FCWC, RECOFI (draft) and WECAFC. He noted that FIRMS contributed towards a common language in terms of definitions, in support of the Coordinating Working Party on Fishery Statistics (CWP). He concluded with FIRMS contributing to the traceability of sustainable fisheries through the

concept of a “Traceability unit” which builds from the GRSF standard of unique identifiers of Stocks and Fishing Units (UUIDs).

13. Mr Gentile (FAO, FIRMS Secretariat) recapped the status of the decisions made during the FSC12 (October 2021) for FIRMS activities, the GRSF (Doc. FSC13/2023/7) and the GTA (Doc. FSC13/2023/6). Eighty percent of past decisions (FSC9, FSC10, FSC11) have been addressed, while all activities related to FSC12 decisions have at least been initiated, with about one third of GRSF related decisions completed or major steps achieved.

14. Ms van Niekerk (FAO, FIRMS Secretariat) presented the status of content updates for the FIRMS marine resource and fishery modules, with a majority of partners having provided recent updates. Overall, she noted that there has been a growing trend in the content of FIRMS with 301 factsheets published (240 marine resources and 61 fisheries) during the intersession, plus 98 draft factsheets in progress (not including the draft RECOFI fisheries). New products, such as the GRSF and the GTA will also bring more records and data into the FIRMS wealth of information.

15. Mr Gentile reported the developments of the GRSF, where Letters of Agreements (LoAs) were made with collaborative partners. A LoA has been signed with the Foundation for Research and Technology - Hellas (FORTH) to create the GRSF Application Programming Interfaces (APIs) and competency queries, enable the upload of the SDG 14.4.1 national reference list of stocks, enable the concept of the traceability unit and the GIS geospatial database in the GRSF, and an enhanced GRSF refresh workflow. The objective of the LoA signed with UW was to develop the GRSF geospatial database and review and approve all RAMLDB records in the GRSF. He also noted the developments with the FAO NFISI Team for the data preparation for the SOFIA State of Stocks pilots. Regarding the FIRMS GTA released in May 2022, a consolidated workflow for the harmonisation, upload and publication of records has been achieved in collaboration with IOTC, IRD and FAO.

16. Recent analysis of the web trends showed a historical positive growth, but recently in 2021 and 2022 there was a negative trend. Different reasons could be identified for the negative trend, including technical malfunctions of the FIRMS site resulting from the loss of cross references due to NFI website revamp, FAO’s corporate switch to https and some malfunctions encountered in the last two years. The decrease of the overall number of page views could also be addressed to outdated content, whereas it was apparent that the newer content has drawn more attention.

17. Besides the regular support to Partners (CCAMLR, CECAF, GFCM, FCWC, ICCAT, ICES, IOTC, NASCO, NEAFC, RECOFI, SEAFO, SEAFDEC, SWIOFC, WECAFC), the FIRMS Secretariat provided some training for SIOFA and SPRFMO, as well as introductory sessions for new members (NPFC) and the FIRMS observer CTMFM. It was noted that some organizations (CCSBT, IATTC and NAFO) usually submitted their updates in complete autonomy with little assistance.

18. FIRMS was also in support to develop Partners' capacity and that of their Member States towards a streamlined reporting from statistical data collection to a regional database of catch and effort, harmonised with the inventory of fisheries, and to disseminate fisheries status and trends. During the intersession, the following capacity building activities were conducted:

- WECAFC: together with CRFM and OSPESCA, support for the DCRF (Data Collection Reference Framework) through the Fisheries Data and Statistics Working Group (FDS-WG). Facilitation of the update of WECAFC-FIRMS fishery inventories including updates for 5 countries, for which some remain in draft (Dominica, Nicaragua, Suriname, Dominica, Saint Vincent and Grenadines).
- FCWC: support development of the FCWC regional fisheries database which included the addition of GRSF UUIDs, and the offering of web service (APIs) by species, country and fishing unit. 38 fisheries were inventoried and published (rep. year 2020–2022), with others in progress. A fisheries statistical assessment was conducted in Nigeria.
- RECOFI: a series of data workshops were conducted with the RECOFI Member Nations where revisions were made for the indicators, species list, and template in the context of the Minimum Data Reporting Regional Database. Training was provided for the RECOFI-FIRMS stocks and fisheries inventories and draft updates were provided (Kuwait, Saudi Arabia, United Arab Emirates). For the SDG Indicator 14.4.1, there was a review of the questionnaire, a reference stocks list was drafted, and regional and national focal points were nominated.

19. Promotional and outreach activities during the intersession included the FIRMS survey, FIRMS brochure, media release of the FIRMS Global Tuna Atlas (GTA), WECAFC-FIRMS outreach activities (FAO workshop SDG 14.4.1, Technical Cooperation Programme (TCP) Guyana, support for Calipseo), increased communication through the SFP UNDP-OIC project Universal Fishery IDs: Expanding transparency, data flow, and equity for fisheries globally (<https://oceaninnovationchallenge.org/oceaninnovations/universal-fishery-ids>), the Blue-Cloud side events at FAO Science and Innovation Forum 2022, talk delivered at the RSN-9 and articles in the RSN Magazine.

20. Regarding the Secretariat resources in support to FIRMS, Mr Gentile noted that there has been an increased effort of 43 percent since FSC12, with a focused effort to operationalize the GRSF and GTA tools. He highlighted that under the FAO Strategic Framework, the Regular Programme support to FIRMS has been strengthened. Other resources contributed to the FIRMS activities including the Blue Cloud, and the WECAFC-FIRMS EU projects. Lastly, the in-kind contribution of the Partners was reported, and its importance acknowledged.

21. In continuity with FSC12, Mr Gentile highlighted the envisaged areas for development:
- expanding FIRMS coverage and timeliness of reporting, also by setting up data calls;
  - further development of the GRSF and GTA according to FSC13 decisions;
  - support of the SDG 14.4.1 requirements and FIRMS national pilot activities;
  - running of capacity building activities according to the availability of funds;
  - complete the renewal of the FIRMS website, along with upgrade/migration of underlying FIGIS software;
  - progression of FIRMS standards in certain areas;
  - publication of the FIRMS inventories which are still in Excel format; and
  - the promotion of FIRMS.

22. Mr Gentile highlighted the issue of timely data submissions for which the new workflow should help facilitate. He noted that the Regular Programme would continue to support content updates including the national SDG14.4.1 questionnaire cycle and would also dedicate some resources to support the upgrade and migration of the underlying FIRMS

software. He concluded that Extra Budgetary Funds (EBF) resources would continue to be necessary in support to regional uptake of FIRMS in various regions including WECAFC, CECAF, FCWC and RECOFI.

## **b) Partners progress/achievement reports**

23. The chairperson indicated that for efficiency's sake, this item of Partners reports would be held through various agenda items where Partners' inputs to FIRMS objectives are more relevant, namely the present item 4b for regular contributions, item 4c for highlights of new developments, item 6 in support of FAO's statement, item 7b for Global Tuna Atlas, item 7c for Global Record of Stocks and Fisheries.

24. Mr Campbell reported on NEAFC's activities in support of FIRMS (Doc. FSC13/2023/2g), recalling that their stock assessment reports were provided by ICES, while fisheries management were submitted to FIRMS by NEAFC itself. As there have been no recent updates in FIRMS for NEAFC, he highlighted the challenge for submission of regular updates by Partners and encouraged the workflow for regular updates to be as light as possible.

25. Ms Aker (NAFO) reported on NAFO's activities in support of FIRMS (Doc. FSC13/2023/2b), including the continued submission of updates to FIRMS despite some staff turnover. She concluded that NAFO continues its interest in the Partnership, continues to feature FIRMS on their website and continues to benefit from the global partnership with FIRMS.

26. Ms Vidal (SPRFMO) reported on the SPRFMO activities in support of FIRMS (Doc. FSC13/2023/2k), including recent updates provided for both marine resources and fisheries despite some staff turnover as well. She highlighted gaps in its data submission to FIRMS that could be further supplemented, as there are fields in the templates that SPRFMO does not usually report on. She indicated that SPRFMO was happy with the visibility of its resources through the FIRMS platform. She noted that as a young organization, SPRFMO were reviewing and developing its data system in terms of the type and way that data are collected. She indicated that the recent submission to FIRMS provided an opportunity to consider how that their fisheries are classified as SPRFMO doesn't have a standard definition defining a fishery. She recalled that SPRFMO has conservation and management measures in place for species and gear types, but not by fishery. She concluded that summarising its data by fishery (by gear type and flag state) provided some opportunity for internal discussions, as this classification was a subjective process, and the methodology would need to be transparent.

27. Mr Taconet noted that international cooperation was important as a means to develop standards resulting from Partners' feedback and that the FIRMS framework was being utilised as a tool to achieve this, as well as a reference used by organizations to develop their own standards.

## **c) Highlight of new developments**

28. Ms Cummings (WECAFC) presented on behalf of the WECAFC-FIRMS partnership—'Highlights of WECAFC Partner Activities and Achievements' (Doc. FSC13/2023/2a). In her introduction she noted that during the intersession, work focused on four areas: updating and developing inventories of fisheries fact sheets, initiatives on progressing standards, new initiatives focused on case studies/pilot projects, and progressing uptake of the newly endorsed

Western Central Atlantic Fisheries Information System (WECAFIS) regional database. During the intersession, six fact sheets were updated, and ten new fishery fact sheets had been developed, some of which are pending final validation. Standards work included: progressing the WECAFC Data Collection Reference Framework (DCRF) and its appendices including List of Species to sample, delimitation of statistical reporting areas, and development of WECAFIS database. Both the DCRF and WECAFIS were endorsed by the 18th Commission. New initiatives were identified between the task force, the FIRMS and WECAFC Secretariats and four working groups (spawning aggregation, fisheries data and statistics, illegal, unreported and unregulated (IUU) fishing, and spiny lobster) focusing on identifying minimum data needs and practical low-cost methods to quantify IUU for spiny lobster artisanal fisheries, aligning data collection in spawning aggregation (SA) fisheries with the DCRF framework, and implementing extensions to the DCRF as needed to accommodate SA fisheries. Support for capacity building and training in WECAFIS uptake continued with multiple countries (Dominica, Saint Lucia, Trinidad and Tobago and Suriname).

29. Mr Milardi (SIOFA) reported on SIOFA's activities in support of FIRMS developments (Doc. FSC13/2023/2h) as a recent FIRMS partner, starting their submissions last year (2022). He reported that 13 marine resources and 9 fisheries were defined for the region, which has helped establish them on the global map. He recalled that there hasn't been a prior discussion as to what constitutes a fishery in SIOFA, so this exercise has been useful. He concluded that the standardisation aspect has also been useful to develop a common terminology across the regions, which has increased communication in the region and influenced the reports that are being developed and/or updated (e.g. The overview of SIOFA Fisheries 2023).

30. Mr Pattarapongpan (SEAFDEC) reported on the SEAFDEC's activities in support of FIRMS developments (Doc. FSC13/2023/2f). He presented the project "Collection of Research and Datasets from Data-poor Countries in Southeast Asia related to SDG Indicator 14.4.1" where case studies were conducted in Cambodia, Indonesia, the Philippines and Viet Nam. He noted that fishery data aggregation was important for the SDG14.4.1 Indicator and that the OpenASFA project has aided in covering the knowledge gap in the region (<https://www.sciencedirect.com/science/article/pii/S0964569122003751?via%3Dihub>). He presented the different stages of activity, including the development of the project scope and search strategies, the identification and recording of research and datasets held in local and national collections and quality control and analysis of the result. The project resulted in 1 047 references being recorded and reviewed, plus 350 records already located in the ASFA database (81 percent of the records were for publications between 2011–2022). The references were categorised, and the stock information and stock assessment sub-categories were reported as the highest contributors. However, only 10 of 44 species of interest to the regional SDG indicator represented 50 percent of the references, showing relatively weak regional research investment for resources assessment. He concluded with further recommendations, including understanding and overcoming barriers of data sharing, the digitisation of print-only materials, the improvement of the visibility of theses, further collection and analysis of stock assessments in the region, and finally requested that FAO continue the support of the initiative.

31. Ms Vicary (ASFA, FAO) noted the intention to publish the project report soon and that the full list of records created by the participants of this project were available FAO website at <https://www.fao.org/fishery/en/openasfa?page=1&f=collections%3D%22FAO-SEAFDEC%20project%22#search>

32. Ms Asante (FCWC) reported on the FCWC's activities in support of FIRMS developments (Doc. FSC13/2023/2e), recalling the outcomes of the training conducted by FIRMS with the FCWC Member Nations in 2020 from which 38 fishery factsheets were published and have since been updated annually by the Member Nations. The FCWC Regional Database (RDB) was updated through a second LoA with FIRMS in 2021 to include the industrial fishery data template. Since then, the industrial data has been successfully loaded in the RDB. She also recalled a consultancy that was funded to evaluate fisheries data collection in Nigeria, for which the outcome was a call for the Nigerian fisheries at both federal and state levels to rejuvenate the institutional and legal frameworks that should back fisheries data collection, as well as provide financial and technical support. She concluded that the FCWC-FIRMS collaboration has been important for data validation in the region and the improvements of data standards, where the personal aspect of the interactions have also aided in data collection from the Member Nations.

33. Mr Taconet highlighted the interactions between FIRMS, the CWP and Partners and how the CWP data standards have helped facilitate the data exchanges and the development of standards for countries data submissions into the FCWC regional database.

34. Mr Al Mazrouai (Secretary, RECOFI) described the Regional Commission for Fisheries (RECOFI), consisting of eight Member Nations (Bahrain, Iran (Islamic Republic of), Iraq, Kuwait, Qatar, Oman, Saudi Arabia and United Arab Emirates) and two subsidiary bodies - the Working Group on Fisheries Management (WGFM) and the Working Group on Aquaculture (WGA). He recalled the previous recommendations regarding policy and regulatory measures on minimum data reporting in the RECOFI region, minimum reporting on aquaculture data and information, and the closed season for Kingfish (15 August–15 October) adopted for the whole region. He highlighted the issues with data collection in the region and that FIRMS had assisted in making the RFMO comparable with others in terms of the consistency of data reporting. He recalled the RECOFI-FIRMS one-to-one meetings held in June–September 2022, which enabled a draft update of the RECOFI-FIRMS fisheries inventory for all Member Nations. He noted the recommendations from the RECOFI-FIRMS workshop (Qatar, September 2022) to review the purpose, status and utilisation of the RECOFI-FIRMS stocks inventory and template; to identify regional and national focal points; and provide a list of recommendations for actions to finalise and publish the RECOFI-FIRMS inventories. He concluded that submitting data to FIRMS could be useful in reducing the duplication of effort of reporting to the Minimum Data Reporting (MDR) and to some extent the SDG14.4.1 questionnaire, that more efforts on capacity building were required, and commitments from regional and national bases to promote FIRMS through greater support and engagement were beneficial. Regarding challenges, the turnover of staff and related transfer of knowledge were also noted.

35. On the need to reduce duplication of efforts, Mr Taconet highlighted that the Commission followed up with joint workshops to elaborate the differences and complementarity between FIRMS, MDR and SDG14.4.1 reporting, as well as regional versus national reporting. Mr Campbell noted the importance of harmonisation and capacity development at different scales as common themes for several Partners.

## 5. REPORT OF THE FIRMS SURVEY (AGENDA ITEM 5)

### Item introduction:

36. Mr Taconet presented the results of the FIRMS survey (Doc. FSC13/2023/3) dispatched in early 2023 to FIRMS Partners (110 individuals representing 34 organizations) and to 26 RFB Secretariats of the RSN network. The survey was aimed at informing the Partnership of the strategic directions for the next decade, for which 30 respondents completed the survey representing 23 organizations/RFBs (plus one affiliate independent).

37. The outcomes of the survey showed that averages for the FIRMS information products (map viewer, marine resource and fishery factsheets, Global Tuna Atlas, thematic pages on the Tuna and Tuna fisheries and the deep sea (high seas) resources) were evaluated as above the sufficient between 3.3 and 3.8. The results for the GRSF indicated that the product was not known enough (20 percent), however it was deemed as having great potential by those knowledgeable on the product (100 percent).

38. Regarding the use of FIRMS within or outside of the Partners' regions, respondents use FIRMS information within their region when they have no alternative, whereas those with strong RFB capacities rather use FIRMS for information outside their region. Besides less than a fourth of respondents not using FIRMS, four patterns of use were identified that combined roles (data managers, scientists, policy makers), frequency of use, digital context (rich, neutral, poor), and purpose (fishery science, environmental sustainability, value chain, systems interoperability).

39. The expected enhancements to FIRMS products included a properly designed global database on stocks and fisheries, the expansion of FIRMS to include ecosystem impacts of fisheries (e.g. bycatch, habitat loss) and inland fisheries data, expansion of the Global Tuna Atlas for small-scale fisheries (SSF) catch and effort data, improvements to the FIRMS user interface to include graphical state and trends, and leveraging its encyclopaedic nature, provision of stock/region specific information of the SOFIA State of Stocks indicator, production of regional SOFIA SoS, leveraging the Global Tuna Atlas to complement existing SOFIA statistics and summaries, the access to online queries for dumps of data and a streamlined workflow for easier maintenance. The top benefits of FIRMS partnership were reported as the exchange of expertise/information with other partners, the standardisation of data, contribution to FAO's stock status information, the provision of global visibility to organizations, and complying with best practices. When filtered for developing regions, these also included guidance from FAO, fostering sharing of information within RFBs, and access to capacity building resources.

40. He noted the conclusions overall, whereby most respondents would recommend FIRMS to their stakeholders that are interested in global fisheries or perspectives, and for working groups involved on regional stock evaluations. Within FAO, there was general support by FAO RFBs as well as a critical view within FAO headquarters on the current design of FIRMS and its limited use. He concluded with suggestions for the way forward, whereby 50 percent of respondents concurred on the vision of FIRMS contributing to SOFIA SoS, which would require FAO to harmonise and integrate its various sources of data collection on stock and fishery status so as to have transparent, coherent and comprehensive information products for public dissemination for the benefit of FAO and its members.

### Discussion:

41. Mr Campbell indicated that sharing expertise and highlighting the Partner organization through FIRMS was of prime interest and the rationale between linking FIRMS to SOFIA was evident. He noted that the revision to the FIRMS site could enable it to be more user-friendly.

42. Mr Al Mazrouai queried how the survey was designed, to which Mr Taconet responded that it was designed between the FIRMS Chair and Secretariat for the first draft with request for review and feedback to the Co-chair and FAO-as-a-partner once the draft was elaborated by the core team.

43. Ms Cummings (WECAFC) indicated that the survey was helpful, but many of the questions might have had more than one answer. Overall, it was factual, but more conservative. Mr Taconet responded that with the survey tool available, finding the balance between ease of use and a more complex proposal was a challenge.

44. Ms Fernandez Garcia (ICES) queried how the one-to-one partner collaboration was working at the moment, to which Mr Taconet responded that institutionally speaking there were 3 working groups (Terminology, GRSF, GTA). Within the GTA Technical Working Group (TWG), the tuna bodies were interacting among tuna regional fisheries management organizations (tRFMOs) partners in bi-, tri- or multilateral ways depending on the topic. He noted that the GRSF was an opportunity to have multilateral communication between partners, considering the different data flows collated within the same database.

45. Mr Caillot (IATTC) noted that the survey was also a way to highlight what could be improved. He noted that it would be good to have new APIs for the direct extraction of information from the website. Mr Gentile responded that the FIRMS system would be offering new data services including those available through GRSF, and within [FishInfo](#) (a part of the FAO Fisheries and Aquaculture website) there would be data exposure services for stocks and fisheries.

46. Mr Taconet commented that FIRMS had previously developed a capability for partners to embed their factsheets in their websites, but this had not been extensively used by Partners. He added that the UUIDs are being incorporated into the factsheets and that GRSF services will be merged in the FIRMS dissemination interface. He recalled the APIs developed in the GRSF for data extraction, used e.g. for the data dumps required for the SOFIA regional pilot workshops, but these were not yet widely utilised among partners and further discussions with Partners would facilitate their access and the fulfilling of the data dump requirements.

47. Mr Gutierrez (FAO) encouraged the FIRMS' Partners to also consider comments on FIRMS limitations so as to determine which products were not being used and to evolve accordingly.

## **6. ORIENTATIONS FROM FAO (AGENDA ITEM 6)**

### Item introduction:

48. Mr Sharma (FAO) presented the new approach that FAO is developing and piloting for a new methodology to assess the "State of Stocks" in marine fisheries that feeds into FAO's biannual flagship publication SOFIA, which will also function to represent the global and regional-level SDG Indicator 14.4.1: *Proportion of fish stocks within biologically sustainable levels*. This methodology aims at a tiered-approach to weight stock status based on the quality and timeliness of their assessments and available information, that promotes transparency and

collaboration to develop an updated list of stocks that are representative of the current fisheries sector. The tiers include:

- Tier 1: Recent, model-based stock status (from 2015 onwards); peer-reviewed reference source or working group paper; primarily integrated assessments or surplus production model (SPM) assessments.
- Tier 2: Stocks with no available stock status since 2015 with 15–20 years of catch, landing, catch per unit effort (CPUE), or other index data with the most recent data point of the time series from 2015 onwards. These stocks are candidates for rapid assessments if there are sufficient data.
- Tier 3: Recent, empirically-based stock status (from 2015 onwards), including expert advice, weight of evidence, catch/cpue trends, qualitative advice. This tier also includes stock statuses based on data-limited approaches, such as length-based (e.g. LBSPR) and catch-only based (e.g. CMSY) methods.
- Tier 0: Stocks that did not have sufficient information (not enough or none at all), or with data that were too old (most recent data prior to 2015) to allow them to be classified into the tiers 1 to 3. “Tier 0” included, for example, stock records identified as marine resources in GRSF. These Tier 0 stocks were included in the proposed reference list to highlight to FIRMS partners and countries where data are needed and to give them an opportunity to provide any further or more recent data at the workshop.

To ensure the long-term sustainability for this updated process to support the assessment of global stock status, the efforts of FIRMS and its many partners to share, collate, manage, and publish global monitoring information in a timely manner presents an important opportunity to contribute to the SoS workflow. Via regional workshops in FAO major fishing areas 51, 41, and 34 over the period from February to May 2023, FIRMS/GRSF data were piloted in support of the SoS workflow, with encouraging results that led to improved trust and buy-in from countries, greater granularity of the monitored stocks (i.e. from 179 species aggregated by area stocks to 1093 finer resolutions stocks for six regions). The additional knowledge contributed by the FIRMS-proposed lists in the pilot project phase gave a better understanding of the data quality and quantity and data types that are already available, identified remaining gaps and highlighted the contributions that can be made by regional and country-level fisheries monitoring systems. Overall, the results of the pilot project were found to be very encouraging, though several challenges were encountered and lessons can be learned to improve the workflow that would heighten the impact of FIRMS/GRSF support to SoS. Mr Sharma’s key messages highlighted that the reprioritization of FIRMS activities to align with SoS is a high priority which can only be achieved with improved timeliness, capacity, and trust between partners and members. He also highlighted the role of FIRMS beyond the status of fish stocks, and recognized FIRMS strong efforts in standardisation, interoperability, and capacity building, which should be considered in FAO’s Blue Transformation initiative, with the development of a broader data and information framework in support of sustainable fisheries.

### Discussion:

49. Mr Campbell recalled that the NEAFC contracting parties were interested in the regional deep-sea species and pelagic resources. Mr Taconet noted that this exercise has been useful in highlighting the gaps and weaknesses and could be utilised to harness partners' contributions for the future.

50. Mr Sharma (FAO) indicated the difficulties of dealing with countries that were less willing to share their data or results, particularly in FAO area 41, and that perhaps the status

could be reported but not the underlying time series. He noted that the SOFIA-SoS process was aimed to be transparent with all calculation routines archived on GitHub and modelled similarly to ICES's Transparent Assessment Framework (TAF) process. He concluded that the process would strengthen the collaborative partnership as all partners would be involved in this joint product and also it was instrumental to FIRMS to get more timely updates. Naturally this first iteration required a considerable amount of time, however the next ones were expected to be less time demanding thanks to the accrued experience and refined methodologies.

51. Ms Nieblas (FAO) responded that the data were originating from database sources where there are different sensitivities. In terms of workflow, the pilot projects have run through FAO major fishing areas 34, 41 and 51 resulting in a clearer idea of the type of data needed and the improvements required to increase the efficiency of the task.

52. The Chair noted that the issues may be different amongst the regions, so it may be different for the FIRMS' Partners as well. Ms Nieblas responded that some regions had limited capacity and FIRMS was an essential element in bringing this process forward, but in others not. There was variability but the willingness to share information, on the whole, was quite high.

#### Item introduction:

53. Mr Gutierrez presented on the data and information needs and challenges regarding access to non-publicly available data, as well as including information from other sources such as fishing fleets. He highlighted the potential long term improvements including the use of FIRMS for processing and collating data poor versus data not accessible cases (Tier 3 data); the use of FIRMS as a platform and process to collate not just biological information, but social, economic, gender, and nutrition when readily available; minimising biases towards industrial fisheries and focusing on small scale fisheries; increasing the knowledge base for fisheries management and increasing interoperability where FIRMS can be used for future databases (SDG 14.4.1 monitoring, other FAO databases etc.). Challenges included the need to build trust among the Partners, the timeliness of reporting and processing of data, and internal and external budget and staff needs.

#### Discussion:

54. The Chair noted the importance of the qualitative information in FIRMS and highlighted the link between well managed fisheries and well managed stocks.

55. Ms Vidal queried the way expanded fishery management data collection was envisioned, to which Mr Gutierrez responded that FAO was in the process of creating a questionnaire on how fisheries management was working and if regional and national databases were provided, this could be incorporated in FIRMS.

56. Mr Gentile commented on how instrumental these improvements could be in the implementation of the new FIRMS data services, which among others would ease the digitisation of the information and an increased interoperability. On the trust aspect, he noted the importance of networking and building personal relationships for the generation of trust amongst colleagues and Partners sharing data and information. The staff turnover also often required the re-establishment of trust. To mitigate such issues, it would be helpful to have messages from FAO providing a proper mandate to carry out these pilot activities.

57. Mr Taconet responded that buy-in from other stakeholders, e.g. countries, was required to establish their views. There was a need to offer trusted entry points including where confidentiality was required, where some data were not made public in the beginning stages. To distinguish between small- and large-scale fisheries, a roadmap needs to be developed to increase this capacity in collaboration with Partners involved in assessing the Small-Scale Fisheries Matrix under the CWP umbrella. Engagement of all partners and stakeholders is necessary to determine the way that FIRMS could be more encompassing in terms of the type of information collected.

## **7. REPORT OF TECHNICAL WORKING GROUP (AGENDA ITEM 7)**

### **a) Report of e-TWG7 on terminology**

#### Item introduction:

58. Mr Munoz (FAO) presented the report of the technical working group on terminology in 2023 (Doc. FSC13/2023/4), highlighting the changes proposed for the definitions “Assessment Area”, “Management Area”, “Management Unit”, and “Traceability Unit”.

59. There was some discussion on the term “Assessment Area”, where it was noted that this term was confusing for some countries when filling out the SDG 14.4.1 questionnaire, leading to the conclusion that the questionnaire would have to be further revised to clarify this term to countries. Clarifications were given by the FIRMS Secretariat highlighting the difference in area definitions between assessment and management area, noting that assessment area could refer to any area widely recognised (regional, national etc.), while management was implemented by a legal authority and thus legal boundaries were considered in the definition. After these points were clarified, the definition was adopted.

60. No comments were made on the definitions of “Management Area” and “Management Unit”. These definitions were considered adopted.

61. The definition for “Traceability Unit” was presented, and a question was posed by ICES as to how bycatch (a non-targeted species) would be represented in the definition. Mr Gentile recalled that a traceability unit was a new type of GRSF record produced by linking an assessment unit and a fishing unit, both defined by a unique species or higher taxonomic group (including associated/bycatch species of a fishery). Therefore, distinct and multiple traceability units would be produced for a multi-species fishery. IWC highlighted similarities with the concept of Metièr, which were confirmed by FAO and further illustrated using the example of multiple UUIDs matching all species associated with the catch of a specific haul.

#### Discussion:

62. Mr Sharma asked whether the traceability unit was developed for market purposes to indicate whether a species is well managed or for a sustainability certification, to which Mr Taconet confirmed that the idea was to link the market to the status of the stock.

63. Ms Susana Segurado (SFP) further explained the overall objective to define a narrow slice of the fishery for database purposes, which could then be aggregated further and could

link stock information by gear. She noted that the word “targeting” was also slightly problematic as it showed intent. Species caught as by-catch could also have a traceability unit.

64. Ms Vidal noted that traceability was about understanding the history of the targeted resource, the definition should be about the output (the catch/landings) and not the intent of activity. She suggested a refinement of the definition as follows: “A traceability unit is a single stock of a single species (or taxon) harvested by a single flag state, targeting a single species, operating a single fishing gear in a water area distinctly managed by a management authority or treaty under a unique set of management measures.”

65. This last proposal was selected as revised definition for endorsement by FSC13 under agenda item 9.

## **b) Report of the e-TWG on the Global Tuna Atlas and intersession activities**

### Item introduction:

66. Mr Fiorellato (IOTC) introduced the FIRMS GTA (Doc. FSC13/2023/6) which after several developments, was endorsed by the FSC11 in 2019 as a tool to establish baselines and monitor changes in fisheries, to support global analyses and end-to-end ecosystem models, and to improve the process of estimating the global distribution of fisheries catches through spatial catch information. He noted the latest activities which included the first e-TWG meeting (February 2021), revisions of gear and species mapping, data clean-up and rationalisation, updates of the GTA workflow; and in collaboration with the Coordinating Working Party on fishery statistics ad-hoc Task Group on Reference Harmonisation for capture fisheries and aquaculture statistics (TG-RH), development of updated TG-RH digital implementation guidelines, revision of the TG-RH general guidelines and discussions on ASFIS maintenance and dissemination and the International Standard Statistical Classification of Fishing Gear (ISSCFG) extension. He mentioned the key dissemination products which included digital object identifiers (DOIs) assigned to datasets by the GTA workflow and managed through Zenodo, and the GTA map viewer (<https://www.fao.org/fishery/geoserver/tunaatlas>). Other interactive tools under development included FIRMS dcf-shiny tools to support future GTA updates and analytical dashboards to allow users to filter, compare, chart, export and embed a subset of the GTA data of interest. Future envisaged activities include the finalisation and dissemination of level 0 GTA effort dataset, the introduction of an additional data element to categorise catches (and efforts) by artisanal/industrial nature of the contributing fishery, adoption of semantic identifiers (URNs) to qualify irregular areas, strengthen the relationship between the two products by including the GRSF semantic identifier and UUID (through EC Blue-Cloud 2026) and production of level 2 datasets. He presented the summary of recommendations to the FSC13 to be further discussed during the meeting (see agenda item 9b).

### Discussion:

67. Upon the request on whether the GTA data exposed were integrated as part of the statistic sources used for the SOFIA report, Mr Fiorellato clarified that the data are not included in the SOFIA report, but the Global Tuna Atlas contained data that were considered more comprehensive than the FAO data as it is also stratified by fishing gear. It was also highlighted that the data reported by tRFMOs only contain data on tuna and tuna like species plus some elasmobranch species.

68. Ms Katara (IWC) asked whether data on small-scale fisheries were also available and how they were connected. Mr Fiorellato clarified that the data were available (e.g. IOTC included these data in the fisheries that they manage). The problem was that small-scale fisheries were not defined in a standardised way across the tRFMOs, and that the TWG is further progressing to better categorise this information in the GTA.

69. Mr Chassot (IOTC) noted that all catches from artisanal fisheries were included in the GTA. The datasets represent ~60 species, including neritic tunas and seerfish which are very important to many coastal countries, as well as pelagic sharks and rays

70. Mr Gutierrez encouraged partners to think about how much of a priority the GTA is. Tunas are among the most well studied groups of species and there were already many resources dedicated. Looking at the impact of the GTA, there were mostly research papers coming from developed world areas, but he questioned whether the GTA addressed the real purpose of data management. If the GTA could contribute to a better understanding of how small-scale fisheries (SSFs) were impacting tuna populations, this would be useful, though most tunas are caught in EEZs adding to the complexity.

71. Mr Fiorellato noted that in terms of the priority allocation of resources, the effort and expenditure required by the GTA has reduced dramatically. Initially, a big effort was expended, which was later reduced (and included only one additional data call to the tRFMOs). He noted the utility of this tool for the tRFMOs, especially in the harmonisation of data standards for SSF. In addition, the GTA attempted to address the problem of providing more accurate statistics for the small tunas that were less commercially valuable.

72. In terms of usage of the Global Tuna Atlas, it was highlighted that Google Analytics should be activated in the GTA at the soonest. Mr Fiorellato added that the DOIs were also useful for tracking the path of data from the GTA to the other organizations.

73. Mr Blondel (FAO) expressed interest in going beyond Google Analytics where the page views are tracked, but also monitoring the services behind them, e.g. comparison between the catches and georeferenced catches.

74. Ms Asante also expressed interest in knowing whether the FIRMS GTA could engage the individuals within the tRFMOs, e.g. ICCAT (Ghana), so they may make use of these tools.

75. Mr Fiorellato responded that there was direct engagement with the tRFMOs, but there was a need to let the public know through the FSC (where scientists could be engaged). Under FIRMS, there may be other opportunities to make the GTA more widely known amongst the FIRMS members for which this should be discussed.

76. Ms Nieblas commented on Mr Gutierrez's intervention, noting that due to the relatively data-rich nature of tuna fisheries, they were in a privileged position and should be exploited to help identify the types of tools that could be developed from fisheries data; identify where there were gaps, particularly in the development of standards between different fisheries organizations, and serve as an example that could be applied in situations with greater data and resources limitations.

77. Mr Taconet confirmed that the GTA was considered to be in the hands of the tRFMOs and would evolve according to their needs and contributions. The Secretariat needed to expend minimal resources to compile and harmonise data for dissemination at annual updates under the FIRMS website, adding that the GTA provided a nice example of how Partners collaborate through the different streams. The GTA has spearheaded the thinking of the CWP standards for harmonisation. The tools that have been developed for the GTA have then been applied for WECAFIS and extended to RECOFI for the MDR. He noted that FCWC has its own RDB, but it has processes which could rely on the tools developed via the GTA.

78. Mr Jones (WCPFC) highlighted that their mandate was to their members and WCPFC submitted data to the GTA, however there was a need for more evidence from FAO to provide information on the value of their contributions. WCPFC was interested in knowing how other RFMOs have communicated the GTA to their members. He noted that with the level of development that the GTA has achieved to date, WCPFC was now in a position to disseminate information on the GTA to its members.

79. Mr Caillot noted that one of the benefits of the GTA communicated to their members was that it provided access to public domain data. He noted as well that IATTC needed further feedback from FAO and would run further investigation in respect of data requirements especially regarding level 1 data.

80. Mr Taconet added that the GTA has decreased the burden of data submission, and the primary recommendation was to strongly anchor the three remaining tRFMOs to implement the GTA data exchange format conformant to the CWP standard for Reference Harmonization. This would simplify the workflow and reduce the burden on all sides, and this could then trickle down to the tRFMOs members.

### **c) Report of the e-TWG on the Global Record of Stocks and Fisheries (GRSF) and intersession activities**

#### Item introduction:

81. Mr Gentile (FAO) provided a brief overview of the GRSF and GRSF Standard (Doc. FSC13/2023/7, Doc. FSC13/2023/Inf.7), including the purpose of the TWG on the GRSF to register a comprehensive list of distinct stocks and fisheries as part of a global repository, and to federate knowledge on status/trends of stocks and fisheries across various sources. He highlighted the issue of area classifications in the GRSF, where there are a high variety of sources. A joint effort by FAO, UW and FishSource was ongoing to provide accurate polygons for the georeferencing of stocks and fisheries. He presented the current status of the GRSF, for which there were 1 103 species for a total of 3 515 stocks records (2 364 approved, 147 archived) and a review was in progress for 1 004 records. For the fisheries, there were 1 071 species for a total of 15 205 fishing units. The combination of stocks and fisheries records provided a total of 4 305 Traceability Units (with FishSource work in progress), from which 1 857 were currently being reviewed. A global view of the number of individual source records (FIRMS, RAM, FishSource and SDG14.4.1 questionnaire) per FAO area was presented, as well as the final reviewed proportions between unique and merged records across sources by FAO area. He provided the progress-status of integration of UUIDs in source databases, whereby they have been incorporated in the SDG 14.4.1 questionnaire, as well in the FIRMS, RAMLDB, FishSource, FCWC and ICES database (and expected IOTC and GFCM as well).

Regarding the use of the GRSF as a contribution to SOFIA list of stocks/status analysis, various sources could provide this information. For data management, he identified automated procedures for data mining, processes for monitoring evolution of the resources across years and the possibility of facilitating countries' data management when reporting to multiple agencies. He continued by highlighting issues with the GRSF, including data standards, CPUE or effort not yet in the GRSF, and issues with processes (e.g. timeliness of updates and inconsistency in reporting). He highlighted the benefits including improved quality or better streaming of information for countries, for Partners' improved interoperability and visibility, automated procedures for data management, provision of traceability in the digital systems and sustainable monitoring.

82. He presented the current or intended use of the GRSF for FIRMS, where the UUIDs would support the review of the world list of stocks and the list of fisheries reported to FIRMS, the monitoring evolution of the resources across years, automated procedures for data mining (e.g. catch time series, stock status indicators) and the candidate inclusion in the stocks list for FAO SOFIA.

83. Ms Nieblas presented the current or intended use of the GRSF for the FAO SDG 14.4.1 questionnaire, the status of implementation and the issues and benefits. The GRSF APIs have been essential for the preparation of the data for the workshops recently held (by Mr Sharma). She provided the status of the current SDG14.4.1 questionnaire, noting that it has been aligned with GRSF species and area standards. In 2022, the GRSF UUIDs were inserted into the questionnaire for the second call and countries were asked to validate the information. They were also requested to give their approval for the publication of their data in the GRSF.

84. Mr Gentile presented the current or intended use of the GRSF for RAM, noting that the addition of UUIDs in the RAMLDB was in support of contributing to the global list of unique stocks, monitoring evolution of the resources across years, achievement of automated procedures for data mining (e.g. catch time series, stock status indicators) and positioning of RAMLDB records as candidates for inclusion in the stocks list for FAO SOFIA.

85. Ms Segurado (SFP) presented the current or intended use of the GRSF for FishSource, whereby they contribute over 1 500 stocks and nearly 5 000 fishing units (= traceability units when connected to a unique stock) to the GRSF. She presented the three work streams including technical aspects (the validation of records, the update of area definitions), testing the use of the UUIDs in two pilot supply chains, and then carrying the product development as part of a business plan and growing its use to a global scale. She noted that the traceability unit ID would increase transparency in supply chains, improve compliance and reduce IUU and assist with streamlining data collection. The current status included approved UUIDs integrated in the FishSource database, validation and approval of all records expected to be complete by the end of 2023, and additional data on stock status and management for around 40 percent of these records.

86. Mr Gentile (FAO) noted that for FCWC, the UUIDs have been added to the FCWC regional database for their six members.

87. Ms Fernandez Garcia noted that the UUIDs have been included in ICES for every stock (281 already have UUIDs) and that yearly reviews would be required to keep this list current.

88. Mr Federico De Rossi (GFCM) noted that from GFCM there was a strong belief in this partnership and all would benefit from this change, and GFCM would be able to provide countries with an additional instrument to aid in stock assessment. The idea was also to work together to contribute to SOFIA and this tool could help this.

89. Mr Fiorellato noted that IOTC was implementing the GRSF UUID to their stocks and would disseminate it through their website. There was also the will to do this for the GTA, but no timelines were currently in place.

90. Mr Gentile finally presented the conclusions from the eTWG on the GRSF, whereby eight pilot use cases were on-going. This included that the GRSF standard fulfilled the needs with some refinements required, the GRSF GIS areas database strongly contributed to the proper identification of fish stocks and their uniqueness, the GRSF data services/APIs enabled efficient dump extractions of data (although more competency queries/APIs were needed), the GRSF and its machine readable UUIDs raised good prospects of interoperability among fish stocks and fisheries databases, the benefits of potential interoperability would need to be explored among partners using the GRSF, and a number of limitations or areas for improvement of the draft GRSF standards and tools were identified and gave way to the recommendations for FSC13. He concluded with the recommendations for the FIRMS Steering Committee for endorsement on the second day of the FSC (item 9).

#### Discussion:

91. Mr Taconet queried how it could be possible to network more amongst partners, for those who want to be involved with the GRSF. There may be other information extracted by countries validated in the SDG14.4.1 questionnaire, or there may be unique stocks for which a RFB could be interested in seeing how their stocks relate to other contributions (merged stocks versus distinct and unique stocks).

92. Mr Al Mazrouai suggested a review of the recommendations and queried the rationale behind some record's areas being FAO areas while other records' areas being other types of areas. For traceability, he suggested bringing the FAO/global strategy of blue transformation where not only stocks and fisheries were traced, but also aquaculture. He also wondered why national jurisdiction areas were being used.

93. Mr Gentile responded that an assessment unit was defined as a species in an area. The area was at the level of the assessment, and could be large reaching the extent of a FAO area level or smaller, for example covering a GFCM Geographic Sub Area (GSA). He noted that there were areas without codes and it was particularly difficult to inventory these areas.

94. Mr Taconet noted that the GRSF referred to national standards for areas that have been used to geo-reference a fishery stock. FIRMS welcomed the collaboration with others to pilot and test the GRSF standard to verify its validity (e.g. FIRMS Secretariat collaborated with FAO value chain colleagues).

## 8. STRATEGIC DIRECTIONS FOR FIRMS FOR THE NEXT DECADE

### a) Drafting orientations

#### Item introduction:

95. Mr Taconet recapped the feedback from the FIRMS survey (Doc. FSC13/2023/3), highlighting the overall key benefits. He recalled the patterns of FIRMS use, noting that he had personally used FIRMS to respond to questions by countries in the SDG questionnaire. He presented the orientations from FAO, including the reprioritization of FIRMS activities to align with SOFIA SoS, as well as to align with Blue Transformation in terms of a broader data and information standardisation framework in support of fisheries management and sustainable fisheries; and including interoperability and capacity building for SSF, World Trade Organization (WTO), SOFIA SoS work, and country's needs. He reported the potential long-term improvements where FIRMS could serve as a platform to improve Tier 3 data coverage for SOFIA SoS; to collate other types of data (social, economic, etc.) when available; to ensure a focus on artisanal fisheries and increase the knowledge base for fisheries management; together with increasing interoperability among relevant databases. He stressed that these tasks and functions which are beyond the support to SOFIA SoS, expected to resulting in higher impact, would require substantial additional resources and long-term commitment from FIRMS Partners and external sources. He recalled the challenges and the lessons learned from the SOFIA SoS pilots and that within this known scope the FIRMS resources (Secretariat jointly with that of the FIRMS partners) should encourage support towards this SOFIA SoS objective. He presented global geospatial analyses of FIRMS data availability by source (total number of GRSF records classified per FAO SoS Tiers for each of four sources - FIRMS, FishSource, RAMLDB, SDG14.4.1 questionnaire - by FAO Area plus coastal versus high seas regions) to help support a reflection on data rich and data poor areas and strategize for increasing knowledge in areas poorly covered; this would include focused efforts for data poor areas and better complementarity among FIRMS partners for data collection. Regarding the way forward, he opened the floor for discussion after presenting the FSC13 with the strategic options A: "Data for SOFIA-SoS" and B: "broader support to FAO's Blue Transformation". The key question posed to the FSC13 was whether FIRMS Partners would want to be a part of the new SOFIA reporting of stock status and fisheries trends. This would go along with a renewed commitment including a timelier data submission responding to data calls that would be issued every 2 years.

96. The Chair highlighted that there was a need for a balance of information related to sustainable development, both for the industrial fisheries and SSF. There is a lot of pressure to curtail fisheries, so data on food security and sustainability are of importance and FIRMS is already providing that.

97. The Chair noted that option A was to support the SOFIA-SoS process (FIRMS Stock information domain) whereas option B included the provisions in option A, but with additional components more focused on the operational aspects of the fishery information domain.

98. Upon questions on what each of the options would involve, it was clarified that option A would imply partners' reiterating their commitments to supply data, and establishing a data call, e.g. every two years, synchronised with the SOFIA process where partners would be requested to confirm if the status of non-updated stocks was still relevant.

99. Option B would involve FIRMS Partners and the Secretariat to voluntarily contribute their joint experience in reviewing and assessing the relevance of the current questionnaire for reporting on fisheries management under the FAO Code of Conduct for Responsible Fisheries (CCRF).

100. Option B thus would include, participating in the design of a specific questionnaire for reporting on fisheries management information and participating in a pilot activity by filling such questionnaire with specific attention on how it could be used/merged with the FIRMS template.

101. Under Option B management information collected and uploaded in FIRMS through such questionnaires, together with consideration of the related stock status, could then be used to determine the effectiveness of management measures, according to a management effectiveness index, to be developed by the Committee on Fisheries (COFI) Subcommittee on fisheries management.

102. It was further discussed that option B could function as a pilot project to be developed iteratively to determine the data requirements and usage.

103. Mr Taconet reported that for some Partners, fishery management measures were reported at a high level (e.g. effort-based management), while for others at a more detailed measures level.

#### Discussion:

104. Mr Gutierrez elaborated on the concept of “Illuminating hidden harvest” as a one-time exercise done to collate data and information on SSF (catch and effort, gender, employment and other social aspects) that could eventually be used in FIRMS.

105. Ms Klinsukhon (SEAFDEC) indicated the support of option B as SEAFDEC had the minimum requirement from the Member Nations to learn more about data access for SSF. Besides the regular fishery statistics provided to FAO, based on Statlant A Questionnaire, she noted the pilot activities that SEAFDEC have regarding the collection of fisheries management data for SSF as part of their research work in their region. In the next framework, as they agree with their Member Nations, the SSF data would be included in their statistics, so SEAFDEC could potentially provide some of this data in the future. For option A, SEAFDEC has no current mandate to provide data on stock assessment in the region which would make it challenging to provide this data to FIRMS.

106. The Chair noted that the FIRMS agreements would remain the same and the proposed recommendations would not force Partners to submit any data that they were not willing to provide. The Secretariat could consider developing a roadmap on how partners could provide this data, and where option B could be a pilot project.

107. Ms Agostini indicated that the confidentiality of data was being closely reviewed. For links to SOFIA, there may need to be different levels of confidentiality. The aim was to move towards transparency, without making the data providers uncomfortable. She noted that the Partnership would not change, but the resources would in terms of commitment, engagement and funding.

108. The Chair noted that catch data provided was aggregated and so it was not confidential. For SOFIA, the sensitivities might be different, especially on whether a fishery was considered sustainable or not. Relating to resources, each partner would have different needs that need to be considered.

109. Mr Taconet responded that for the State of Socks, a systematic request would be required for the partners to update their Annex 2 according to the regular data calls.

110. It was then decided to proceed with a roundtable to give an opportunity for each partner to provide its views on the proposed options:

- Ms Aker (NAFO): NAFO had no strong opinions either way.
- Ms Saivason (SEAFDEC): For SEAFDEC it was possible to provide data for option B.
- Ms Katara (IWC): IWC are not data providers, but data users so option B would be useful to them.
- Mr Caillot (IATTC): The preferred option for IATTC was A (support to stock status) although it was already providing some management information in the IATTC fishery factsheets. IATTC also had pilot projects to collect SSF data.
- Mr Fiorellato (IOTC): Both options were feasible for IOTC considering that they are already regularly submitting stock status information to FIRMS.
- Ms Asante (FCWC): Considering the scope of FCWC, option B was more suitable for FCWC activities and needs.
- Mr Al Mazrouai (RECOFI): The choice would require more background information before RECOFI could determine its response.
- Ms Vidal (SPRFMO): Beyond the stock status information, SPRFMO was already contributing fisheries management information to FIRMS which could be further elaborated within the coming pilot activities on the fisheries management template.
- Mr Jones (WCPFC): Should WCPFC become a Partner, it would likely support both options. WCPFC had also recently developed a management measures page cataloguing all of its measures.
- Mr Sanchez (CTMFM): Given its status as an observer, CTMFM was not familiar with the FIRMS template. Therefore, option A seemed more appropriate for its stage of development. Once an understanding of feasibility and utility was established, it could be possible to comply with both options.
- Mr De Rossi (GFCM): GFCM supported the idea of the exchange of data from FIRMS to SOFIA thereby supporting option A. Option B could be an interesting challenge for the near future, but this would need to be discussed internally.
- Ms Cummings (WECAFC FDS-WG convener): WECAFC could support option A, as capacity was available option B would be supported as well.
- Mr Campbell (NEAFC): NEAFC would be able to support option B according to its mandate on fisheries management and related measures with focus on industrial fisheries mainly in the high seas. There would be a benefit from being able to compare the data between the stocks and fisheries in the NEAFC region.
- Mr Symes (OECD): OECD did not express a view on the options but given that OECD collected management data from Member Nations, it would be pleased to discuss with the FIRMS Secretariat the details to avoid duplication.
- Ms Fernandez (ICES): According to the advisory mandate of ICES, option A was consistent with this. She also noted that ICES could provide some relevant

information for option B based upon the ICES database of scientific advice. This included some small-scale fisheries, which might be useful to compile management plans for the stocks assessed, hence contributing to the pilot template on fisheries management.

- Mr Milardi (SIOFA): SIOFA would be able to support both options, however there are confidentiality aspects which would need to be taken into account. There are also some smaller scale fisheries on the continental shelf (international waters) for which the Secretariat would need to consult the members prior to providing certain information.
- Ms Segurado (SFP): SFP expressed their interest and availability to contribute to the discussions on the Fisheries management template, Management data and SSF data (option B) as they have done work under both which may be of use.

111. The Chair noted that for the submission of data and information to FIRMS, the first data inputs were the most demanding and effort should decrease for the subsequent updates.

112. Mr Taconet recalled that the management measures in FIRMS were stored in narrative sections. Amongst the various challenges of co-designing, were how to personalise/customise the template to suit the specific needs of Partners. A pilot activity could be a way to design the fisheries management template in collaboration with the FIRMS' Partners and the Secretariat of the COFI Subcommittee on fisheries management.

113. Mr Taconet recalled that the EU DG MARE, more involved in fisheries management than the initial signatory FIRMS EuroStat, might be invited to take part of the pilot as well.

114. GFCM, NAFO, NEAFC, RECOFI, and SFP expressed interest in joining the pilot activities for designing the fisheries management template.

115. Mr Gentile highlighted that to facilitate the partners data submission for both options it was critical that FAO/FIRMS enhance its data services and interoperable mechanisms. Regarding the possible new template on fisheries management, this offered an opportunity to upgrade the FIRMS fishery module, the template with its key indicators, as well as an opportunity to streamline the workflow and effort. The Chair emphasised the importance of such streamlining and noted that FAO, as a key partner of FIRMS, was encouraged to help as much as possible on this process.

116. The Chair concluded the session by confirming a virtually universal support for option A, and good support for option B, including a pilot as a proof of concept for which some partners already expressed their interest.

117. It was agreed that the Secretariat would provide a summary of the recommendations to deliver the merged options A and B alongside the workplan (item 12).

## **b) Recommendations devolved from discussions on FIRMS Strategic orientation**

118. FSC13 reviewed a first draft of high-level recommendations proposed by the FIRMS Secretary to further two proposed options:

- option A] Data for SOFIA-SoS: SOFIA-SoS aggregated indicators will be transparently explained by accessing through FIRMS/GRSF services the list of stocks retained for the calculation of the new SOFIA indicator and their status data at the granularity of the operational stocks (Tier1/2/3).
- option B] broader support to FAO's Blue Transformation: support contribution to better access and visibility of small-scale fisheries data, support the development of fisheries management performance, increasing interoperability.

119. Ms Nieblas also presented the recommendations developed from the State-of-Stocks (SoS)-FIRMS pilot project to compile a unique list of stocks, stock status information, and relevant data to inform rapid assessments in three FAO major fishing areas (34, 41, 51) (agenda item 8b). These recommendations were presented to the group during this session and the associated working paper (Doc. FSC13/2023/Inf.10) was made available to partners to review the context and allow time for reflection before decisions on their adoption were made on Friday 30 June 2023. It was discussed that these recommendations be considered as part of the concrete aims to achieve in the next few years.

120. These drafts were shared with meeting participants for their feedback towards final recommendations.

121. Based on the brainstorming discussions on strategic orientations, the group finally formulated and endorsed the following recommendations with the overarching goal to support data provision to the FAO SOFIA SoS report, strengthen collection of small-scale fisheries data, expand the reporting on fisheries management, and foster interoperability among databases.

#### Overarching recommendations devolved from the strategic orientation discussion

122. The FSC13 agreed to adopt the following decisions:

- a. **(FSC13/D8.1)** A formal data call to be made in November every two years with an end-of-February deadline for reporting on Tier 1 and Tier 3 assessed stocks, noting:
  - Partners with regular schedules for publishing their stock status reports can refer to their most recently updated and submitted stock status report at the time of the call, including confirming if any earlier assessments/status are still considered valid.
- b. **(FSC13/D8.2)** FIRMS is extended to include SDG14.4.1 indicator and associated data at global, regional and national levels, with due care to confidentiality requirements as regards to national submissions.
- c. **(FSC13/D8.3)** FIRMS is extended to regional Catch and Effort databases including to support Tier 2 stock status determination and therefore encourages submissions of Partners' available Catch, Effort and Length Frequency data on a timely basis upon the data call described in point a.
- d. **(FSC13/D8.4)** FIRMS is to discuss among partners how to reduce duplications within FIRMS in data collection and redirect efforts to data poor/gap regions.
- e. **(FSC13/D8.5)** FIRMS is to set up a TWG on the revision/redesign of the fisheries management template, tasked to: develop pilots of revised template; participate in COFI:SCFM discussions on a template for data collection on fishery management measures; liaise with other potential partners (e.g. OECD).

- f. **(FSC13/D8.6)** FIRMS is to pursue efforts and proof-test interoperability to streamline reporting, allow for automated submissions, and generally facilitate data exchange among databases; in particular by encouraging additional Partners to integrate GRSF Universal Unique Identifiers (UUIDs) within their databases, by testing efficient UUIDs update workflow, and by developing use cases exploiting this interoperability potential.
- g. **(FSC13/D8.7)** FIRMS will in due course Revise Annex 2 of FIRMS Partnership Arrangements, as necessary, for provision of SoS, Management, SSF data as well as operational interoperability.
- h. **(FSC13/D8.8)** FIRMS Partners are encouraged to mobilise resources/funding in support of FIRMS objectives.
- i. **(FSC13/D8.9)** FIRMS will identify additional Collaborative partner institutions that can provide data, IT or funding resources to support the FIRMS strategic reorientation.
- j. **(FSC13/D8.10)** FIRMS will strive to improve sense of FIRMS partnership/community network through increased communication, newsletters and exchange among partners.

123. Relating to recommendation c, it was suggested by ICES for FIRMS partners to engage in discussions with the SoS team to establish the classifications for the different tiers. ICES have 6 levels of classifications and so there won't be a 1–1 match of classification.

124. In adopting recommendation f, IOTC expressed the interest of trialling the UUIDs in their database. Regarding the geospatial aspect of the semantic identifiers, these would need to be modified based on the outcomes of the taskforce of the CWP and would contribute to future work for the GRSF.

### **SOFIA-SoS specific recommendations**

125. The recommendations which more specifically deliver input to the SOFIA-SoS are presented below, reflecting some of the recommendations above:

#### Timely contributions

#1: (FSC13/D8.11) Establish a suitable date for an **annual FIRMS data call that partners commit to** respond to punctually, including notifying FIRMS on the continuing **validity of past assessments** if no recent new assessments have been made (cf. Recommendation a.).

#2: (FSC13/D8.12) Revise Annex 2 of the FIRMS partnership arrangement for FAO bodies making the **timely reporting** of data submissions by these bodies part of the RFB mandate, including strengthened responsibilities for data flow (cf. Recommendation a. and g.).

#### Catch, effort, length data contributions

#3: (FSC13/D8.13) FIRMS partners to make timely contributions of regional or sub-regional **catch and effort time series and length-frequency data** *where available* to allow for Tier 2 rapid assessments (cf. Recommendation c.).

### Improved definitions

#4: (FSC13/D8.14) TWG-Terminology to address ambiguities in definition of assessment units in order to ensure a unique list of stocks in particular for what relates to their continuity over time.

#5: (FSC13/D8.15) TWG-Terminology to review definition of stock status for stocks in recovery.

### Identify and fill data gaps

#6: (FSC13/D8.16) FIRMS Partners to clearly identify **what is known and unknown** in terms of stock status, in order to identify where capacity should be supported to improve knowledge on stock status.

#7: (FSC13/D8.17) Sustainable Fisheries Partnership (SFP) to **update catch data** of about 215 FishSource stocks to reclassify these from Tier 0 (T0, -insufficient data) to Tier 2.

#8: (FSC13/D8.18) FAO SoS team to work with FIRMS Partners in data poor/weak reporting areas to build capacity and **identify relevant potential data sources**.

#9: (FSC13/D8.19) FIRMS to **encourage Observers** to become FIRMS Partners or Collaborative Institutions as appropriate, and to identify other relevant institutions to be invited to fill gaps.

#10: (FSC13/D8.20) Identify with and among partners where efforts in data collection need to be **streamlined to avoid duplications** (cf. Recommendation d.).

#11: (FSC13/D8.21) SEAFDEC, FAO and interested FIRMS partners are called to evaluate ASFA-SEAFDEC analysis of grey literature for its potential to fill existing data gaps.

### Role of FIRMS partners in reviewing stock lists

#12: (FSC13/D8.22): Stock status reports and related data provided by FIRMS partners are expected to have been reviewed by their advisory bodies in a timely manner (cf. Recommendation a.).

#13: (FSC13/D8.23) FIRMS RFB partners are encouraged to engage with their parties, together with FAO, in aligning the reporting between regional and national SDG14.4.1 lists of stocks submitted by members, thus contributing to the goal of convergence between the global/regional and national SDG14.4.1 indicator (cf. Recommendation b.).

### Improvements to interoperability

#14: (FSC13/D8.24) Improve operational interoperability with FIRMS partners to streamline reporting and allow for automated submissions (cf. Recommendation f.).

### Tool development to simplify the workflow

#15: (FSC13/D8.25) FAO to develop its working system to manage SOFIA SoS workflow in ways closely interfaced with the upgraded FIRMS platform.

The decisions were adopted with minor modifications.

## **9. DECISIONS REGARDING E-TWG RECOMMENDATIONS**

### **a) On the FIRMS terminology**

126. FSC13 reviewed the draft definitions proposed by the e-TWG8.1 on FIRMS Terminology (agenda item 7a), which were endorsed with some modifications.

e-TWG8.1: #1 (FSC13/D7.1) **Assessment area:** Geographical delineation\* for the area over which the stock is assessed.

(\*) Geographic delineations based on statistical areas, ecological areas (e.g. LMEs, ecoregions), ICES functional units, GFCM geographical subareas (GSAs), etc.

e-TWG8.1: #2 (FSC13/D7.2) **Management area:** Geographical delineation/boundary\* for the area where specific management measures apply.

(\*) Geographic boundaries based on RFB competence areas, national jurisdiction areas, species specific management areas based on binding resolutions (e.g. ICCAT management units, GFCM GSAs), etc.

e-TWG8.1: #3 (FSC13/D7.3) **Management unit:** The group of individuals of one species (or possibly more) in the area for which the fishery(ies) is subject to a set of measures. This unit has generally been defined at regional, national or local scale and includes information of the management authorities that set the measure including through stakeholder consultation.

Note: Management units may be used for setting the basis for stock status determination and may not correspond to the biological stock.

e-TWG8.1: #4 (FSC13/D7.4) **Traceability unit:** A Traceability Unit is a fishing unit defined by a single flag state operating a single fishing gear harvesting from a single stock of a single species (or taxon) in a water area distinctly managed by a management authority or treaty under a unique set of management measures (management unit).

127. Mr Gentile displayed the FIRMS Information Management Policy (IMP) (Doc. FSC13/2023/5) and recalled that this document contains the agreed standards, definitions and best practices underlying the data and information collated, stored and disseminated by FIRMS. He highlighted the Annex 2 "FIRMS Draft guidelines" with the definitions added after FSC12. Similarly, the definitions endorsed in FSC13 will be added in the same annex.

### **b) On the Global Tuna Atlas**

128. FSC13 reviewed the recommendations and future work on the Global Tuna Atlas proposed by the e-TWG (agenda item 7b). FSC13 decisions on these recommendations are recorded in the table below.

<b>Recommendation</b>	<b>FSC13 supports the recommendation (Yes/No)</b>	<b>With comment</b>
TWG: #1 tRFMOs to adopt the TG-RH data exchange format and guidelines for future data submissions	FSC13/D7.5: Yes	
TWG: #2 Identify a suitable date for annual data submissions by tRFMOs	FSC13/D7.6: Yes	Due to binding data submission procedures, automated submissions done iteratively would be the target to submit to the GTA. The aim is to have submissions for the same year at a given point in time.
TWG: #3 Establish a formal GTA data call within FIRMS	FSC13/D7.7: Yes	
TWG: #4 Trial and adopt interactive tools for the provision of future updates to the GTA	FSC13/D7.8: Yes	The tool is in its pilot testing phase.
TWG: #5 Publish FIRMS level 1 datasets restricted to eight species only (BET, SKJ, YFT, ALB, BFT, PBF, SBF, SWO)	FSC13/D7.9: Yes	There is an agreement to publish level one (conversion) data amongst the tuna bodies.
TWG: #6 Adopt one single DOI for all GTA datasets and introduce versioning for historical releases	FSC13/D7.10: Yes	Considered using a single DOI that could have a breakdown at a later stage.
TWG: #7 Prepare a data paper to foster communication with stakeholders and increase the GTA visibility	FSC13/D7.11: Yes	To promote the GTA, the full methodology needs to be well documented for citation purposes. Data papers contribute toward visibility of the GTA.
TWG: #8 With support from external stakeholders, introduce GRSF identifiers within the GTA (EC Blue-Cloud 2026 project)	FSC13/D7.12: Yes	Regarding the interoperability amongst the different databases, proof testing is required.
TWG: #9 Strengthen the collaboration with CWP TG-SSF towards introducing the fishery type SSF vs LSF qualifier	FSC13/D7.13 Yes	The SSF are currently only separated by gear. The aim is for users to access information on a need basis and to look at global datasets of effort and the conversion of units between them.

<b>Recommendation</b>	<b>FSC13 supports the recommendation (Yes/No)</b>	<b>With comment</b>
TWG: #10 Strengthen the collaboration with CWP TG- Effort to standardise effort units and produce a level 0 effort dataset	FSC13/D7.14: Yes	
TWG: #11 Support on best effort basis the production of level 2 datasets in close collaboration with all stakeholders	FSC13/D7.15: Yes	Relating to total annual captures, the decision of including fleet information is still to be decided. Where there are data gaps, expert knowledge is required for data collection when the geospatial areas are not properly defined. There is commitment to develop this in the future but require the tRFMos to commit.
TWG: #12 Develop GTA interactive dashboards as additional information products	FSC13/D7.16: Yes	This will allow users to specify strata and to embed this in other sources. Information products are being developing for users, where the effort would need to be funded though the external 2026 EC Blue Cloud project.

**c) On the GRSF**

129. FSC13 reviewed the recommendations and future work on the GRSF as proposed by e-TWG8.2 (agenda item 7c). FSC13 decisions on these recommendations are recorded in the table below.

Recommendation	FSC13 supports the recommendation (Yes/No)	With comment
eTWG8.2: #1 Pursue development of GRSF Areas database and concurrent publishing of pending UUIDs (SFP)	FSC13/D7.17: Yes	Various activities conducted with UW and SFP inventorying areas across various countries to feed into this areas database.
eTWG8.2: #2 Continue proof testing of GRSF standard through pilot use cases with goal to consolidate the (draft) GRSF standard	FSC13/D7.18: Yes	
eTWG8.2: #3 Publish the GRSF areas database when Metadata are compliant with FAO's standards	FSC13/D7.19: Yes	
eTWG8.2: #4 Analyse temporal evolution of assessment/ management areas; advise how to reflect findings as part of the GRSF standard	FSC13/D7.20: Yes	
eTWG8.2: #5 Pilot the use of CWP (draft) standard on national jurisdiction areas (NJAs) instead of EEZs	FSC13/D7.21: Yes	
eTWG8.2: #6 Implement proper citation and user rights based on international data and metadata standards for crediting sources of geographic areas and as condition to re-distribute	FSC13/D7.22: Yes	
eTWG8.2: #7 Review the GRSF area database "biological area" category, for proper differentiation between environmental areas, stock distribution areas, occurrence areas, habitat areas, etc.	FSC13/D7.23: Yes	

<b>Recommendation</b>	<b>FSC13 supports the recommendation (Yes/No)</b>	<b>With comment</b>
eTWG8.2: #8 Consider any refinements of the definition of “Management unit”	FSC13/D7.24: Yes	The definition was last agreed upon in March 2023 by e-TWG 8 on terminology. Further refinement may be needed) upon outcome of the UNDP-OIC project on fishery identifiers
eTWG8.2: #9 Improvements to the GRSF data services/APIs including improved Competency Queries (CQs), APIs to allow for additional fields to be accessed, addition of tools to assist in the stock mapping activities.	FSC13/D7.25: Yes	
eTWG8.2: #10 Further develop automated processes for maintaining and expanding the GRSF areas database (solutions are in progress), as well as for the update of the GRSF records via interoperable mechanisms	FSC13/D7.26: Yes	
eTWG8.2: #11 Capacity development activities for engagement of those who should be involved with the GRSF (amongst institutions and countries)	FSC13/D7.27: Yes	
eTWG8.2: #12 Active collaboration with FIRMS Partners including an effort to liaise with national source data agencies for expanding the GRSF geographical areas and communicating on the GRSF standard.	FSC13/D7.28: Yes	The current geographic areas in the GRSF are defined on a needs basis. For the SDG 14.4.1 data there may be others required (e.g. Mozambique).

## **10. ANNEX 2 OF THE PARTNERSHIP ARRANGEMENT – REVIEW OF PROPOSED MODIFICATIONS OF EXISTING PARTNERS (AGENDA ITEM 10)**

130. The Chair indicated that once the recommendations for the strategic directions for FIRMS had been implemented, the Annex 2 of the Partnership Arrangements could be revised in the next intersession as required with some generic text to be reviewed by next FSC as model, as the intention is not to impose anything on the Partners that they do not agree upon. Mr Taconet added that Partners could also come up with suggestions for this refinement.

131. Mr Taconet presented some examples of the Annex 2 of the Partnership Arrangements:

- CCSBT are monitoring one stock for the southern bluefin tuna for which they submit data every January as well as catch and effort data within 6 months of their annual meeting.
- For FCWC, there was no reference to any transmission protocol on timing in their Annex 2, only on content.
- ICCAT are founding partners to FIRMS, so their Annex 2 is older and has more recently been updated with the addition of the sharks. Their transmission protocol is within 12 months of the formal adoption of the executive summaries by the Standing Committee Research and Statistics (SCRS).
- For GFCM, the transmission schedule is a few weeks following the publication of their report on the GFCM website.

132. Mr Gentile responded that in the past, that Annex 2 of the Partnership Arrangements had been updated for ICCAT and NAFO, but the Partnership Arrangements themselves were not renewed and did not need new signatures as this was not deemed necessary.

133. The Chair noted that the focus for a submission deadline should be on the aspects necessary for internal FIRMS processes and only then should the data be made available. If a two-yearly data call was done for SOFIA, e.g. in February, it would include a snapshot of the data that are available so far in the preceding submissions over the last 18 months or so.

134. Mr Taconet complemented that if the reports were going back, e.g. for 5 years, the data call would be concerning the latest stamped data for that period.

135. The Chair responded that Partners should provide the data that is available. He further encouraged the Partners to look at their Partnership Arrangements to see if everything was up to date.

## **11. INTERSESSIONAL WORKPLAN**

136. See Annex 4 for the agreed workplan.

## **12. PLANNING FOR THE NEXT SESSION OF FSC (FSC14)**

137. Mr Taconet suggested two possible options for the timing of the FSC14, either to be held in January/February 2025 as a standalone meeting, or back-to-back with CWP in May/June 2025. Regarding the location, he encouraged the participants to propose suggestions.

### **13. ANY OTHER BUSINESS**

138. Mr Taconet presented the proposed revisions to the current FIRMS Rules of Procedure of The FIRMS Steering Committee (<https://www.fao.org/3/ca6051en/ca6051en.pdf>) relating to the FIRMS Observers (par.13). In the new context of hybrid meetings, these revisions will allow to handle in more flexible ways the requests for granting an Observer status; they also add provisions for removing an Observer status, and explicitly mention the capacity building opportunity for data provision to FIRMS.

139. FSC13 approved the revised Rules of Procedures as presented in Annex 5

### **14. ELECTION OF CHAIRPERSON AND VICE-CHAIRPERSON**

140. The FSC13 were pleased to re-elect Mr Campbell as the FSC Chair for a second term. On the matter of Vice-Chair, the FSC13 elected Ms Asante for the role, with Ms Klinsukhon indicating interest, but for 2025 as there are some administration issues.

### **15. ADOPTION OF THE REPORT AND CLOSE OF SESSION**

141. The decisions and recommendations of FSC13 were adopted on 30 June 2023 and the report was finalised after the meeting and by correspondence.

142. In closing the meeting, Mr Campbell thanked all participants for engaging in the work of FIRMS during the intersession period and during the meeting. Mr Taconet thanked FIRMS and FAO colleagues for their work during the intersession period and in support of FSC13. While recalling the importance of all data which the Partners submit to FIRMS with such data contributing to the status of stocks for FAO SOFIA, he expressed his satisfaction that FIRMS founders' vision of the online companion to SOFIA is becoming a reality, and warmly thanked the chairperson for his engagement and leadership in conducting the meeting to achieve this result.

143. The meeting was closed at 12.40 hours BST.

## ANNEX 1 – AGENDA

### **Day 1, Monday 26 June 2023**

9.30–17.30 BST (UTC+1)

#### **Morning session**

- 1. Opening session and welcome address**
- 2. Adoption of agenda** (Doc. FSC13/2023/1)
- 3. FIRMS Membership – expanding the partnership**
  - a) New or prospective FIRMS partners  
*NPFC (new partner), CTMFM (observer), OECD (observer), WCPFC (invited partner).*
  - b) New or prospective new FIRMS collaborative institutions
- 4. Review of FIRMS activities during the intersession (October 2021–May 2023)**
  - a) FIRMS Secretariat Report on intersession activities (Doc. FSC13/2023/2)  
*A live summary report on follow-up to FSC12 recommendations will be delivered*
  - b) Partners progress/achievement Reports (Doc. FIRMS FSC13/2023/2a-q)  
*Each partner is invited to briefly present its own report of activities, and to provide inputs on the use of FIRMS, benefits, weakness ...*
  - c) Highlight of new developments (tentative list)  
*(FCWC, RECOFI, SEAFDEC, SIOFA, WECAFC)*
- 5. Report of the FIRMS Survey** (Doc. FIRMS FSC13/2023/3)  
*A survey on the current and prospect use of FIRMS by Partners was circulated among FIRMS partners and relevant colleagues. The objective is to provide a basis for strategic directions for the 2030 decade, this meeting is expected to discuss the results and produce strategic directions.*

#### **Afternoon session**

- 6. Orientations from FAO** (Doc. FIRMS FSC13/2023/8)  
*FAO will elaborate on its statement shared with FIRMS Partners prior to the meeting.*
- 7. Report of Technical Working Group**
  - a) Report of e-TWG8 on terminology (Doc. FIRMS FSC13/2023/4)  
*FIRMS Information Management Policy (IMP) – FSC12 version* (Doc. FIRMS FSC13/2023/5)  
*TWG recommendations for final endorsement by FSC13.*
  - b) Report of e-TWG on the Global Tuna Atlas and intersession activities (Doc. FIRMS FSC13/2023/6)  
*FAO releases the FIRMS Global Tuna Atlas in May 2022 following FIRMS FSC12 decision and completion of the development of the application and the submission of data by the five Tuna bodies (CCSBT, IATTC, ICCAT, IOTC, WCPFC). The meeting will review the status of development and the recommendations of the e-TWG including future perspectives and proposed workplan.*

- c) Report of e-TWG on the Global Record of Stocks and Fisheries (GRSF) and intersession activities (Doc. FIRMS FSC13/2023/7, FIRMS FSC13/2023/Inf.7)

*The meeting will review the status of development and the recommendations of the e-TWG on GRSF (May 2023) including future perspectives and proposed workplan. Main objectives of the GRSF are to provide unique identifiers for a more comprehensive stock status data coverage, which can help to achieve FIRMS goal: “facilitate the monitoring of the status and trends of all fishery resources”.*

**Day 2, Tuesday 27 June 2023**

9.30–17.30 BST (UTC+1)

**Morning session**

**8. Strategic directions for FIRMS for the next decade**

*Following the discussion on the results of the FIRMS Survey, the meeting is invited to produce strategic orientations for the forthcoming decade.*

**9. Decisions regarding e-TWG recommendations**

- a) On the FIRMS Terminology
- b) On the Tuna Atlas
- c) On the GRSF
- d) On other FIRMS protocols and standards

*Adoption of FIRMS controlled terms and updated definitions, as well as agreed protocols and workflow, for inclusion in FIRMS Information Management Policy as applicable.*

**Afternoon session**

**9. Decisions regarding e-TWG recommendations (Cont.)**

**10. Annex 2 of the Partnership Arrangement - Review of proposed modifications of existing partners**

*Annex 2 outlines Partner contributions to FIRMS under their Partnership Arrangement; where needed, Partners are invited to submit any proposed modification to their Annex 2 for consideration by FSC13.*

**Day 3, Friday 30 June 2023**

9.30–12.30 BST (UTC+1)

**11. Intersessional workplan**

**12. Planning for the next session of FSC (FSC14)**

**13. Any other business**

**14. Election of Chairperson and Vice-Chairperson**

**15. Adoption of the report and close of session**

## ANNEX 2 – LIST OF PARTICIPANTS

### **FIRMS Members**

#### **Food and Agriculture Organization of the United Nations, Fisheries and Aquaculture Division (FAO-NFI)**

Mr Nicolas GUTIERREZ  
Senior Fishery Officer  
Assessment and Management Team (NFIFM)  
Viale delle Terme di Caracalla  
00153 Rome  
Italy

Mr Rishi SHARMA  
Senior Fishery Resources Officer  
Assessment and Management Team (NFIFM)  
Viale delle Terme di Caracalla  
00153 Rome  
Italy

#### **Fishery Committee for the West Central Gulf of Guinea (FCWC)**

Ms Abena ASANTE  
Fisheries Technical Advisor  
P.O. Box bt 62 Community II Tema  
Ghana

Mr Antoine Gaston DJIHINTO  
Secretary General of FCWC  
P.O. Box bt 62 Community II Tema  
Ghana

Mr Emmanuel TENKORANG  
Fisheries Management Officer  
P.O. Box bt 62 Community II Tema  
Ghana

#### **General Fisheries Commission for the Mediterranean (GFCM)**

Mr Federico DE ROSSI  
Data Compliance Officer  
Palazzo Blumenstihl, Via Vittoria Colonna 1  
00193 Rome  
Italy

Ms Elisabetta MORELLO  
Fishery Resources Officer  
Palazzo Blumenstihl, Via Vittoria Colonna 1  
00193 Rome  
Italy

#### **Inter-American Tropical Tuna Commission (IATTC)**

Mr Sylvain CAILLOT  
Data Collection and Database Program, IT  
Expert  
8901 La Jolla Shores Drive  
La Jolla CA 92037-1509  
United States of America

#### **International Council for the Exploration of the Sea (ICES)**

Ms Ruth FERNANDEZ  
Advisory Programme Professional Officer  
H. C. Andersens Boulevard 44-46  
1553 Copenhagen V  
Denmark

Ms Adriana VILLAMOR  
Data Officer  
H. C. Andersens Boulevard 44-46  
1553 Copenhagen V  
Denmark

#### **Indian Ocean Tuna Commission (IOTC)**

Mr Fabio FIORELLATO  
Data Coordinator  
IOTC Secretariat, Le Chantier Mall (2nd floor)  
PO Box 1011 Victoria Mahé  
Seychelles

Mr Emmanuel CHASSOT  
Fisheries Statistician  
IOTC Secretariat, Le Chantier Mall (2nd floor)  
PO Box 1011 Victoria Mahé  
Seychelles

**Northwest Atlantic Fisheries Organization (NAFO)**

Ms Jana AKER  
Senior Fisheries Information Administrator  
2 Morris Drive, P.O. Box 638  
Dartmouth, B2Y 3Y9, Nova Scotia  
Canada

Ms Dayna BELL  
Scientific Information Administrator  
2 Morris Drive, P.O. Box 638  
Dartmouth, B2Y 3Y9, Nova Scotia  
Canada

**North-East Atlantic Fisheries Commission (NEAFC)**

Mr Darius CAMPBELL  
Executive Secretary of NEAFC  
44 Baker Street  
London, W1U 7AL  
United Kingdom of Great Britain and  
Northern Ireland

**North Pacific Fisheries Commission (NPFC)**

Mr Robert DAY  
Executive Secretary of NPFC  
2F Hakuyo-Hall  
Tokyo University of Marine Science and  
Technology  
4-5-7 Konan  
Minato-ku,  
Tokyo 108-8477  
Japan

Mr Alex ZAVOLOKIN  
Science Manager  
2F Hakuyo-Hall  
Tokyo University of Marine Science and  
Technology  
4-5-7 Konan  
Minato-ku  
Tokyo 108-8477  
Japan

**Regional Commission for Fisheries (RECOFI)**

Mr Ahmed AL MAZROUAI  
Secretary of RECOFI/ Senior Fishery and  
Aquaculture Officer  
FAO Regional Office for the Near East and  
North Africa (RNE)  
11 Al-Eslah Al-Zerai Street, Dokki  
P.O. BOX 2223  
Cairo  
Egypt

**South-East Asian Fisheries Development Center (SEAFDEC)**

Mr Sukchai ARNUPAPBOON  
Oceanographer  
50 Ladyao, Chatuchak  
Bangkok 10900  
Thailand

Ms Saivason Klinsukhon  
Fisheries Oceanographer  
50 Ladyao  
Chatuchak  
Bangkok 10900  
Thailand

Mr Supamong PATTARAPONGPAN  
Fisheries Scientist  
50 Ladyao  
Chatuchak  
Bangkok 10900  
Thailand

**Southern Indian Ocean Fisheries Agreement (SIOFA)**

Mr Marco MILARDI  
Science Officer  
C/O DAAF, Bâtiment B  
Parc de la Providence  
97489 Saint-Denis Cedex  
Réunion

**South Pacific Regional Fisheries  
Management Organizations (SPRFMO)**

Ms Tiffany VIDAL  
Data Manager  
South Pacific Regional Fisheries Management  
Organizations  
PO Box 3797 Wellington 6140  
New Zealand

**Western Central Atlantic Fishery  
Commission (WECAFC)**

Ms Nancie CUMMINGS  
WECAFC FDS-WG Convener  
FIRMS focal point for the GRSF  
National Oceanic and Atmospheric  
Administration (NOAA)  
Department of Commerce  
National Marine Fisheries Service  
Southeast Fisheries Science Center  
75 Virginia Beach Drive  
Miami, Florida 33149  
United States of America

**FIRMS Secretariat**

E-mail: [FIRMS-Secretariat@fao.org](mailto:FIRMS-Secretariat@fao.org)  
Information and Knowledge Management  
Team (NFISI), FAO  
Viale delle Terme di Caracalla  
00153 Rome, Italy

Mr Marc TACONET  
FIRMS Secretary Head

Mr Aureliano GENTILE  
Information Manager

Mr Arturo MUÑOZ ALBERO  
GIS Specialist

Ms Bracken VAN NIEKERK  
Fisheries Information Specialist

**Collaborative institutions**

**Foundation for Research and Technology -  
Hellas (FORTH)**

Mr Yannis MARKETAKIS  
Research and Development Engineer  
N. Plastira 100  
Vassilika Vouton  
GR - 700 13, Heraklion  
Crete

**Sustainable Fisheries Partnership (SFP) -  
FishSource**

Ms Patricia AMORIM  
FishSource Manager  
4348 Waialae Avenue #692  
Honolulu, HI 96816  
United States of America

Mr Merul PATEL  
Chief Information Officer  
4348 Waialae Avenue #692  
Honolulu, HI 96816  
United States of America

Ms Susana SEGURADO  
FishSource Director  
4348 Waialae Avenue #692  
Honolulu, HI 96816  
United States of America

**Observers**

**Comisión Técnica Mixta del Frente  
Marítimo (CTMFM)**

Mr Miguel REY  
Secretary of CTMFM  
Juncal 1355 / 604  
11000 Montevideo  
Departamento de Montevideo  
Uruguay

Mr Ramiro SANCHEZ  
Secretary of CTMFM  
Juncal 1355 / 604  
11000 Montevideo  
Departamento de Montevideo  
Uruguay

**International Whaling Commission (IWC)**

Ms Isidora KATARA  
IWC Statistics and Modelling  
The Red House  
135 Station Road  
Impington  
Cambridge  
CB24 9NP, United Kingdom

Mr Anton ELLENBROEK  
Fishery Officer (iMarine)  
Fisheries and Aquaculture Division  
Information and Knowledge Management  
Team (NFISI)  
Viale delle Terme di Caracalla  
00153 Rome  
Italy

**Organisation for Economic Co-operation and Development (OECD)**

Mr Peter MCNAMARA  
2 rue André Pascal  
75016 Paris  
France

Mr Yann LAURENT  
Statistics and Information Systems Consultant  
Information and Knowledge Management  
Team (NFISI)  
Viale delle Terme di Caracalla  
00153 Rome  
Italy

Mr Will SYMES  
Fisheries and Agriculture Policy Analyst  
2 rue André Pascal  
75016 Paris  
France

Ms Anne-Elise NIEBLAS  
Fisheries Data Analyst  
Information and Knowledge Management  
Team (NFISI)  
Viale delle Terme di Caracalla  
00153 Rome  
Italy

**Western and Central Pacific Fisheries Commission (WCPFC)**

Mr Tim Jones  
Information Communication Technology  
Manager  
Kaselehlle Street PO Box 2356, Kolonia,  
Pohnpei State, 96941  
Federated States of Micronesia

Ms Tamsin VICARY  
Fishery Officer  
Information and Knowledge Management  
Team (NFISI)  
Viale delle Terme di Caracalla  
00153 Rome  
Italy

**FAO Attendees**

Ms Vera AGOSTINI  
Deputy Director  
Fisheries and Aquaculture Division (NFIDD)  
Viale delle Terme di Caracalla  
00153 Rome  
Italy

Mr Emmanuel BLONDEL  
Geographic Information Systems and R Expert  
Information and Knowledge Management  
Team (NFISI)  
Viale delle Terme di Caracalla  
00153 Rome  
Italy

**ANNEX 3 – FIRMS FSC13 GROUP PHOTO**

## ANNEX 4 – FIRMS SC WORKPLAN FOR 2023-MID 2025

Activity/Deliverable	Timing	Lead/Involved
Complete the renewal of FIRMS website, along with upgrade/migration of underlying FIGIS software. <ul style="list-style-type: none"> <li>• reference data system;</li> <li>• database, Excel input forms, Excel-to-JSON converter tool;</li> <li>• updated data model including new indicators;</li> <li>• front-end application for the new website;</li> <li>• upgraded stocks and fisheries map viewer;</li> <li>• integration of GRSF unique identifiers within the FIRMS fact sheets and related services (e.g. URLs based on UUID);</li> <li>• stocks and fisheries fact sheets layout;</li> <li>• new layout also tailored to regional needs where needed;</li> <li>• advanced search interfaces;</li> <li>• stocks and fisheries inventory browsers.</li> </ul>	By end Q4 2023	FIRMS Secretariat
New FIRMS platform to be enriched with additional features based on Survey feedback and Partners requirements	Throughout 2024	SoS Team / FIRMS Secretariat/ FIRMS Partners for feedback on user interface
Setting up data Calls for stock status and Catch and Effort	Intersession - first data call in November 2024	FIRMS Secretariat/partners
Setting up data call for GTA	To be decided by GTA	GTA partners
Support SOFIA-SoS DataPrep workshops for areas 47, 71, 87 Including contribute to convergence between national and regional/global indicators	September - November 2023	SoS team/ SFP to prioritise validation for these areas of pending stock records and Tier2 catch and effort data. FIRMS Partners invited to attend as per interest in supporting the convergence process
Publish GTA Level 1 data sets	September 2023 (tentative)	GTA core group / Partners
GTA Adopt / implement one single DOI	December 2023	GTA core group

Activity/Deliverable	Timing	Lead/Involved
GTA implementation of Data exchange format based on CWP RH digital implementation guidelines	By end 2023	IATTC, WCPFC, CCSBT / GTA core group
Update FIRMS Rules of Procedures	By end 2023	FIRMS Secretariat
Run capacity building activities according to availability of funds. Develop agreements (LoAs)	Intersession / LoAs by end of Q4 2023	FIRMS Secretariat / FCWC, WECAFC, RECOFI, ...
FIRMS Information Management Policy (IMP) - Add agreed definitions in Annex as draft guidelines	By end 2023	FIRMS Secretariat
Publish the FIRMS inventories which are still in Excel format	BY Q1 2024	FIRMS Secretariat
First meeting of TWG on the revision / redesign of the Fisheries management template, tasked to: develop pilots of revised template; participate in COFI:SCFM discussions on a template for data collection on fishery management measures; liaise with other potential partners	Ideally before COFI:SCFM	Lead to be identified
FIRMS Interoperability - data harvesters for <ul style="list-style-type: none"> <li>• ICES</li> <li>• GFCM</li> <li>• FCWC</li> </ul>	By end of Q1 2024	FIRMS Secretariat / ICES- GFCM-FCWC
Update GRSF data model for the fields CPUE, Effort and Length Frequencies	By end Q1 2024	FIRMS Secretariat / FORTH
eTWG on Terminology - FIRMS standards (e.g. definitions for Assessment Unit, Management Unit)	By Q2 2024	FIRMS Secretariat / Partners /e-TWG
Pilot the use of CWP (draft) standard on national jurisdiction areas (NJAs)	By end Q2 2024	FIRMS Secretariat
Complete GRSF Area database	By end Q2 2024	SFP / FIRMS Secretariat
GRSF tools (data services/APIs, Competency Queries)	By end Q2 2024	FIRMS Secretariat / FORTH
GRSF UUIDs and Semantic Identifiers integrated in GTA	By March 2024	GTA Partners / GTA core group
Implement GTA google analytics monitoring tools	By end of Q4 2023	FIRMS Secretariat

Activity/Deliverable	Timing	Lead/Involved
Implement citations for redistribution of geographic areas	By end 2024	SFP / FIRMS Secretariat
eTWG on GRSF - consolidation of GRSF draft standard including geospatial, “biological area” category, and citations	Intersession - June 2024	Partners / FIRMS Secretariat / SFP / FORTH / UW
eTWG on GRSF - how to reduce duplications within FIRMS in data collection and redirect efforts to data poor / gap regions	Intersession - September 2024	Partners / FIRMS Secretariat / SFP / UW
Implement other GTA recommendations: <ul style="list-style-type: none"> <li>- Modelling of Effort data in data exchange format</li> <li>- Data paper</li> <li>- Collaboration with TG-SSF</li> <li>- Production of level2 datasets</li> <li>- GTA interactive dashboards</li> </ul>	Intersession - on a best effort basis	GTA Partners / FIRMS Secretariat
Third questionnaire call for SDG 14.4.1	To be decided by SoS team	SoS team / FIRMS Secretariat
Work with FAO RFBs to revise Annex 2 with the goal to strengthen their responsibility in timely submission	Intersession - at workshops, RFBs Scientific Committees meetings, Commissions meetings	FIRMS Secretariat / SoS team / FAO RFBs
Revise FIRMS Partners Annex 2 in support of Strategic orientations as appropriate	Intersession / the next FSC	FIRMS Partners
Promotion of FIRMS (Outreach events, articles, newsletters, regular communication, communication material including the update of the FIRMS brochure)	Intersession	FIRMS Secretariat / Partners
Report on FIRMS progress at COFI and to organize a side event for raising awareness of the re-orientation, ongoing activities and products (e.g. GRSF, GTA).	At next COFI	FIRMS Secretariat / Partners
FSC14	By June 2025	Partners / FIRMS Secretariat
Funding resources mobilisation, e.g. with EU RTD in support of the information technology	September 2023 to December 2024	FIRMS Secretariat
Evaluate ASFA-SEAFDEC analysis of grey literature for its potential	Intersession with activities before end Q1 2024	SEAFDEC - ASFA / FIRMS Partners

## ANNEX 5 – MODIFICATIONS TO THE FIRMS RULES OF PROCEDURES FOR OBSERVERS (SECTION 13 OF THE RULES OF PROCEDURES)

See modified published Rules of Procedures at

<https://www.fao.org/3/ca6051en/ca6051en.pdf>

(Yellow highlights indicated FSC13's approved modifications)

13. The FIRMS Partnership shall promote transparency in its activities and new membership. Therefore, national institutions, intergovernmental organizations and nongovernmental organizations may, upon **sending a** request to the FIRMS Secretariat at least **90 40** days before **the a FSC Session**, **be granted an Observer status** and be invited to be represented **by an Observer** at the FSC Sessions. The FIRMS Secretariat will circulate the request for **Observer status** to the FSC members/ who shall respond within thirty days **if they object with their concurrence or objection**. A FSC member who fails to make an objection within 30 days shall be deemed to have concurred with the request for **Observer status**. An **Observer** may submit memoranda and participate in the discussions, **and build capacity for data contribution through pilots**, but will not participate in decision making. **An Observer may resign from its status at any time by written notice, or inactivity for three subsequent Sessions with a reminder sent by the Secretariat.**

**The Thirteenth Session of the Fisheries and Resources Monitoring System (FIRMS) Steering Committee (FSC13) was held in London, United Kingdom of Great Britain and Northern Ireland (Hybrid meeting) on 26–27 and 30 June 2023. The meeting paved the road for the next years of the FIRMS Partnership with the aim to provide a key support to the FAO SOFIA State of Stocks (SoS), to improve the reporting on fisheries management in context of the new FAO COFI sub-committee on fisheries, and to further develop applications, standards and data services for the FIRMS Global Tuna Atlas (GTA) and the Global Record of Stocks and Fisheries (GRSF).**

ISBN 978-92-5-138412-1 ISSN 2070-6987



9 789251 384121

CC8893EN/1/11.23