

12th MEETING OF THE SCIENTIFIC COMMITTEE

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SC12 - Obs 01

FAO Deep-sea Fisheries Under an Ecosystem Approach Project (2022–2027)

FAO – DSF Project

FAO Deep-sea Fisheries Under an Ecosystem Approach Project (2022–2027).

Summary

The “Deep-sea Fisheries under the Ecosystem Approach” (DSF) project is one of five projects in the GEF-7 ABNJ Common Oceans Program “Global Sustainable Fisheries Management and Biodiversity Conservation in the Areas Beyond National Jurisdiction (ABNJ)” (GEF, 2022; FAO, 2023a). The objective of the project is to ensure that DSF in the ABNJ are managed under an ecosystem approach that maintains demersal fish stocks at levels capable of maximizing their sustainable yields and minimizing impacts on biodiversity. SPRFMO is a DSF project partner RFMO, together with six other RFMOs, ICES, NOAA and two industry group.

This paper describes the work of the DSF project of relevance to the SPRFMO Scientific Committee (SC). The SC is invited to support the following proposed DSF Project actions and to nominate relevant experts to facilitate engagement:

- 1) Climate change
- 2) Assessment of data-limited stocks
- 3) Review of the status of deep-sea fish stocks
- 4) Impacts of deep-sea fisheries on deepwater chondrichthyans
- 5) The Ecosystem Approach to Fisheries Management
- 6) E-learning course: Strengthening deep-sea fisheries management in the ABNJ.

1. Introduction

The “*Deep-sea Fisheries under the Ecosystem Approach*” (DSF) project is one of five projects in the GEF-7 ABNJ Common Oceans Program “*Global Sustainable Fisheries Management and Biodiversity Conservation in the Areas Beyond National Jurisdiction (ABNJ)*” (GEF, 2022; FAO, 2023a). The objective of the project is to ensure that DSF in the ABNJ are managed under an ecosystem approach that maintains demersal fish stocks at levels capable of maximizing their sustainable yields and minimising impacts on biodiversity, with a focus on data-limited stocks, deepwater sharks and vulnerable marine ecosystems. The DSF Project is implemented by FAO and executed by the General Fisheries Commission for the Mediterranean (GFCM). The Programme and DSF Project are scheduled to run for five years from 2022 to 2027.

The DSF project focuses on four key areas of work:

- Component 1- Governance – strengthening and implementing regulatory frameworks
- Component 2 – Strengthening effective management of DSF
- Component 3 - Improving understanding and management of cross-sectoral interactions with DSF
- Component 4 – Knowledge management, communication, monitoring and evaluation.

The DSF project is being delivered in collaboration with the following project partners:

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|-------------------|---|
| RFMOs | General Fisheries Commission for the Mediterranean (GFCM) |
| | Northwest Atlantic Fisheries Organization (NAFO) |
| | North East Atlantic Fisheries Commission (NEAFC) |
| | North Pacific Fisheries Commission (NPFC) |
| | South East Atlantic Fisheries Organisation (SEAFO) |
| | Southern Indian Ocean Fisheries Agreement (SIOFA) |
| | South Pacific Regional Fisheries Management Organisation (SPRFMO) |
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| Advisory bodies | International Council for the Exploration of the Sea (ICES) |
| Government agency | National Oceanic and Atmospheric Administration (NOAA) |
| Private sector | Southern Indian Ocean Deepsea Fishers Association (SIODFA) |
| | International Coalition of Fisheries Associations (ICFA) |

Across each of the project partner RFMOs the relative amount of catch taken in deep-sea fisheries is often a small proportion of the overall annual catches in those RFMOs. However, the relative catch levels do not necessarily provide a suitable metric to compare the ecosystem impacts of different fisheries, particularly given the life-history characteristics of both target and non-target species taken in deep-sea fisheries.

This information paper focuses on initiatives of relevance to SPRFMO (see also SPRFMO SC9-Doc13) that relate mainly to project components 2 and 4.

2. Aspects of the DSF Project relevant to the Scientific Committee of SPRFMO

(i) Climate change

The subject of climate change often dominates discussions, yet it is challenging to understand how it can be incorporated into the work of the RFMOs. Several RFMOs, including SPRFMO, have all adopted climate change resolutions and wish to see the effects of climate change incorporated into their regular work. These follow from the UN General Assembly Sustainable Fisheries Resolution A/RES/76/71 that calls upon RFMOs to consider climate change in carrying out their work, and at the 35th meeting of FAO's Committee on Fisheries that encourages FAO to increase the knowledge and awareness of climate change impacts in fisheries and aquaculture (UNGA, 2021; FAO, 2022).

To date, there has been limited incorporation of climate change effects into the assessment and management of fish stocks, even though there is a growing body of scientific knowledge and forecast as to likely climate change impacts over the next 10, 20 and 50 years. Much of the challenge in incorporating these impacts is the difference in the timescales over which tactical decisions on fishery management are made (of the order of 1-3 years) and the longer-term strategic objectives of RFMOs that are consistent with the timescales of impacts of climate change.

The DSF Project is currently supporting a series of regional studies to review the existing and potential modalities for the incorporation of climate change effects into the work of RFMOs. This will also contribute to the DSF Project work on climate change within the context of applying an ecosystem approach to fisheries management in the high seas.

The DSF Project Team have held discussions with the SPRFMO Executive Secretary and the SC Chair during May to July 2024 regarding the climate change work and draft Terms of Reference were shared. The emphasis is on the incorporation of climate change work into the SC and its influence on data collection protocols and advice. This was presented to the Commission in 2024 (Comm12 – Inf 03_rev1).

The DSF Project would like to hire a short-term consultant to undertake the climate change uptake review, and an external consultant has been potentially identified who may be able to work with the SC during late 2024 or early 2025. A draft report would be presented to SPRFMO for follow-up discussions.

Along with similar reports from other RFMOs, it is hoped to hold a workshop in 2025 to develop global guidance to the RFMOs on incorporating climate change work into their programme. This will include both management and scientific considerations.

(ii) Assessment of data-limited stocks

There is no global definition of a data-limited stock, however, ICES (2023) use a stock classification based on the type of information available for assessment which ranges from Category 1 (abundant catch and biological information, full analytical assessments with forecasts), through Category 4 (landings and effort data only), down to Category 6 (bycatch fisheries with negligible landings).

Most DSF stocks are in Categories 4–6. The lack of information on reliable trends in stock biomass makes the application of adaptive management very difficult, but there is a need to develop mechanisms for precautionary management in the absence of full scientific assessments.

The DSF Project is partnering with ICES to examine data-collection requirements and assessment methods that will determine the status of the selected data-limited stocks. The plan is for assessment biologists from different regions to discuss and share their assessments and data-collection needs with each other in order to review and develop improved assessment methods and identify data collection needs to support those methods.

This work is currently being planned, principally with the ICES WKLIFE expert group¹ that is developing tools for data-limited stock assessments and offers an opportunity for SPRFMO scientists to work with the global community on aspects related to the assessments of deep-sea fish stocks in the South Pacific.

(iii) Review of the status of deep-sea fish stocks

FAO produces a biennial publication on the status of the world's fish stocks². Traditionally this has been done by FAO major statistical area, but the next report will look at this on a

¹ <https://www.ices.dk/community/groups/Pages/WKLIFEXI.aspx>

stock-by-stock basis. This provides an opportunity for the status of the ABNJ stocks to be considered separately.

The draft stock status will be produced by the DSF Project based on published reports before being circulated to relevant RFMO experts for review. This review will be undertaken in September-October 2024.

(iv) Impacts of deep-sea fisheries on deepwater chondrichthyans

The DSF Project has a continued focus on reducing impacts on various incidentally caught species, including deepwater sharks (consistent with the definition of sharks in the IPOA-SHARKS³).

The availability of the data required to assess these impacts is predicated on the effectiveness of the management measures that require the reporting of sharks in the routine reporting of fisheries catch data. Ongoing work in the DSF Project is focussed on:

- (i) reviewing catch reporting requirements for shark catches by RFMOs
- (ii) evaluating the data arising from the implementation of those catch reporting requirements
- (ii) reviewing the potential factors that might generate differences in the reported shark catches between RFMOs.

The DSF Project is developing a proposal for a workshop on deepwater sharks that will address three main questions related to deep water sharks:

- (i) How can we improve the reporting of the data on the weight of everything brought up by the gear (Quantity) and the level of taxonomic detail (Resolution) at which that catch is reported?
- (ii) How can we refine the instructions for use of the FAO 3-alpha code to maximise the information provided in catch reporting of shark catches in ABNJ fisheries?
- (iii) How can improved catch reporting and other ancillary sampling help to improve our understanding of the status and distribution of the “sleepers sharks” in the genus *Somniosus*?

We recognise the considerable expertise on many aspects of deepwater sharks relevant to these three questions and welcome engagement and with experts in SPRFMO in the preparation for and participation in the proposed workshop.

² <https://www.fao.org/publications/home/fao-flagship-publications/the-state-of-world-fisheries-and-aquaculture/2022/en>

³ the term “shark” is taken to include all species of sharks, skates, rays and chimaeras (Class Chondrichthyes) <https://openknowledge.fao.org/server/api/core/bitstreams/2142757f-a36e-41ef-b8db-bd4ac7533fb2/content>

(v) The Ecosystem Approach to Fisheries Management

The DSF Project is supporting a Joint NAFO-ICES symposium on Applying the Ecosystem Approach to Fisheries Management in ABNJ (<https://eafm-symposium.nafo.int/>) from 11-13 March 2025 hosted at the FAO Headquarters, Rome, Italy. The symposium will address the EAFM aspects of retained species, discarded species and ecosystem effects, with keynote addresses and presentations and discussion in a panel-style format with session facilitators. Poster sessions will provide additional information. The proceedings will be published in the open-access Journal of Northwest Atlantic Fisheries Science.

Each day will commence with a keynote address. The keynote speaker will act as the Chair for the day.

Day 1 – Science: Retained species, discarded and vulnerable species, ecosystem effects.

Day 2 – Management: Retained species, discarded and vulnerable species, ecosystem effects.

Day 3 – Developing Guidance for Implementation: Lessons learnt, gap analyses, governance and mandates, industry and food supply, biodiversity, trade-offs, EAFM implementation – guidance.

This EAFM symposium is directed to assisting the management of deep-sea fisheries, especially for demersal and small pelagic species. This is undertaken by flag states through regional organisations with the mandate to manage these species.

The symposium will also be relevant to other organisations and individuals with interests in the sustainable management of fishery resources and in reducing impacts from fishing in the high seas.

In order to guide discussions on Day 3 of the symposium, the DSF Project is supporting the development of a global EAF guidance document in collaboration with partner RFMOs.

A call for expression of interest was circulated to DSF Project partners on 5 August 2024 and this will be followed up by the DSF Project during September to organise speakers.

(vi) Deep-sea Fisheries E-learning Course

The DSF Project has developed an e-learning course on deep-sea fisheries management in the areas beyond national jurisdiction entitled “Strengthening deep-sea fisheries management in the ABNJ”. The course consists of five modules that each take approximately 45 minutes to complete, including:

Lesson 1: Introduction to deep-sea fisheries

Lesson 2: International obligations and responsibilities for the management of deep-sea fisheries

Lesson 3: Regional approach to fisheries management

Lesson 4: National legal and policy considerations

Lesson 5: Monitoring, control and surveillance and enforcement

The e-learning course was 2024 and is available free of charge on the FAO E-learning Academy website (<https://elearning.fao.org/>). The course has a final certification exam that provided a certification of competency in the subjects covered. The SC is invited to promote the e-learning course and to provide feedback from users to the DSF Project.

3. Requests for support from SPRFMO SC

The SC is invited to support ongoing engagement with DSF Project overall and in particular to support the following actions:

- 1) Engagement with review of the uptake of climate change considerations in the work of SPRFMO
- 2) Nomination of SPRFMO experts to contribute to the development of assessments of data-limited stocks and work with other RFMOs and ICES
- 3) Nomination of SPRFMO experts to review DSF Project drafts on the status of deep-sea fish stocks in the SPRFMO
- 4) Nomination of SPRFMO experts to contribute to proposed workshop on the impacts of deep-sea fisheries on deepwater chondrichthyans
- 5) Engagement the Joint NAFO-ICES symposium on Applying the Ecosystem Approach to Fisheries Management in ABNJ
- 6) Promoting the FAO E-learning course “Strengthening deep-sea fisheries management in the ABNJ”.