7TH MEETING OF THE FINANCE AND ADMINISTRATION COMMITTEE (FAC)
Port Vila, Vanuatu, 14 to 18 February 2020

FAC 7 – DOC 08.2
Explanatory Note Regarding the SPRFMO Database Developments and Updates
Secretariat

1. Background

The Secretariat in presenting this document is aiming to:

a) reassure the Commission that the budget allocated to the database development for the financial years 2018-2019 (NZ$ 30,000) and 2019-2020 (NZ$ 30,000[1]) have been properly used (Section 2.1) and,

b) support the draft budget for the financial year 2020-2021 (FAC7-Doc 08), concerning the database developments (Budget Item 4,5) associated with the current needs of the Organisation (Section 2.2).

c) identify necessary changes in the SPRFMO Database when considering potential adoption of amendments in current CMMs or new CMMs to be discussed at COMM8 (Section 2.3).

2. Database developments and updates

2.1. Database developments during financial year (FY) 2018-2019 and 2019-2020:

All modules have been completed as scheduled and according to the requested technical specifications.

Financial Year	Development/Months	Nov. 2018	Sept. 2019	Dec. 2019	May 2020
2018-19	Hosting and server upgrade	Complete			
	Transhipment module development		Complete		
2019-20	Port Inspections module			Complete	
	Area management module upgrade			Complete	
	Observer Potting module development				Planned

2.2. Potential database developments for financial year 2020-2021:

The Secretariat has budgeted at NZ$ 30,000 the database developments for the financial year 2020-2021. This budget would allow the implementation of the four following new or upgraded modules to enable closer consistency with current CMMs. A brief technical explanation on each module is provided in Annex 1.

New module development or module upgrade	Cost (NZ$)
Vessel details module upgrade to show previous authorisations	$4 000
Catch allocation and trades module development	$6 000
Annual catches module upgrade to include stocks	$10 000
Observer data module upgrade	$10 000
Total Cost (NZ$)	**$30 000**

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[1] https://www.sprfmo.int/assets/COMM6/00-Report-and-ANNEXES/COMM6-Complete-Report-with-Annexes.pdf

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2.3. Database developments related to the adoption of new/amended CMMs in COMM8:

Out of the 14 proposals submitted by Members for Commission consideration, the Secretariat has identified 2 of them which, if adopted, will require developments in the SPRFMO Database with its associated costs.

1. COMM8-Prop06 updates the Data Standards (New Zealand):

   - Approximately NZ$10,000 to upgrade the database to deal with the new requirement, particularly making vessel images available on the public record and storing more information about catches of benthic and VME taxa.

   - Note that the requirements in this Proposal to record Fish stock in the Annual Catch data and to store the length measurement type is already included in Section 2.2.

2. COMM8-Prop14 new Squid CMM (European Union):

   - The requirement for a new Squid Jigging Observer module is estimated at approximately NZ$12,000.

New modules development as per adoption of amendments in proposed CMMs	Cost (NZ$)
Vessel images on public record	$3 000
Method of weight estimation for benthic taxa	$1 000
Images of benthic taxa	$3 000
VME trigger data stored	$3 000
Squid Jigging Observer module	$12 000
Total Cost (NZ$)	$22 000

3. Recommendation

The FAC is invited to consider recommending the Commission approving one of the proposed budget amounts allocated to the SPRFMO database developments for the Financial Year 2020-2021[2]:

   a) NZ$ 30,000 (regular developments as budgeted in FAC7-Doc08 and forecasted in COMM7-Report Annex 6c[3])
   b) NZ$ 52,000 (adoption of COMM8-Prop06 and COMM8-Prop14)
   c) NZ$ 40,000 (regular developments and adoption of COMM8-Prop06)
   d) NZ$ 42,000 (regular developments and adoption of COMM8-Prop14)

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[2] At the latest by Financial Year 2022-2023, the redevelopment of the core functionality of the SPRFMO database (57 600 NZ$) would be necessary to implement as per FAC6-Doc 08.
[3] SPRFMO Budget for Financial Year 2019-20 and Forecasted Budget for 2020-21 (NZ$)

Annex 1 Database developments and upgrades proposed

1) Vessel details module upgrade to show previous authorisations (to support CMMs 05-2019 (Record of Vessels) and 02-2018 (Data Standards)).

   - Currently the public facing website of the Record of Vessels shows only the most recent Authorisation but not any previous Authorisations. This means that if a vessel, company or port state dealing with SPRFMO vessels needs to confirm whether a vessel was authorised at the time that a fishing activity occurred (for example when checking a historical transhipment), they are obliged to request this information directly from the Secretariat. A small change to the SPRFMO database Vessel module could make this information publicly available automatically.

2) Catch entitlements module development - Create a new module to store catch entitlements including trades and monthly estimated catches (to support CMMs 01 (*Trachurus Murphyi*), 02 (Data Standards), 03a (Deepwater species), 14a (Exploratory Toothfish NZ), 14b (Exploratory Potting CK) and 14c (Exploratory Toothfish EU)).

   - Catch entitlement and trade information is currently stored alongside monthly catch data in an excel spreadsheet. This system has worked satisfactorily to date, but with the introduction of a range of new stocks with catch limits under CMM 3a, 14a, 14b and 14c it has become increasingly complex, and the potential risk of errors or the loss of information over time has increased. Once in the database an OData4 report would be able to show the allocations at any time, and the data would be stored securely and indefinitely and where it is available to be queried. This data could be immediately compared with Annual Catch data for Verification purposes. Monthly catch data could also be stored in the database, so that the appropriate OData report could automatically compare monthly catch figures with current catch allocations and annual catches, automatically generating the table needed for the Monthly Catch letter.

3) Annual catches module upgrade to include stocks (to support CMMs 02 (Data Standards), 03a (Deepwater species), 14a (Exploratory Toothfish NZ), 14b (Exploratory Potting CK) and 14c (Exploratory Toothfish EU)).

   - With the introduction of specific Catch Limits for Stocks under CMM 03a, 14a, 14b and 14c the Annual Catch data stored in the database provides insufficient information to assess whether Catch Limits have been overcaught (because information about the stock that this catch was taken from is currently lacking).

   - Monthly estimated catches and Fishing activity data (which is also estimated) are currently the only complete information available. If CMM 02-2018 is amended to require stock information (where appropriate), a small change to the Annual Catch module (an additional or renamed field) would be required for this additional information to be stored and made available.

   - Additionally, the Secretariat gets requests for Fishing Method information, for example to give overall summaries of the amount of bottom fishing in the Convention Area which cannot currently be fulfilled because this data is not required on the Annual Catch template. Furthermore, the Secretariat engagement with the ABNJ process as encouraged by the Commission at COMM 7 would be enhanced with easy access to catch information by fishing method. In addition, there is currently no OData feed for Annual catch data, and since this is now the standard way that data is extracted from the database, this should be added. This would facilitate comparison of Annual Catch data with other data in the database (for example the catch entitlements module) for verification purposes.

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[4] OData is a tool for accessing databases over the internet, which allows the Secretariat to query the SPRFMO database in a flexible way without the need for specialised Database Reports to be developed. This tool is also used to transfer Vessel and Vessel Authorisation data from the SPRFMO database to the SPRFMO VMS and could be used to make appropriate SPRFMO data available to Members and CNCPs for use within their own databases.

4) Observer data module upgrade – (to support CMM 02-2018 (Data Standards))

- Observer data from the three templates (bottom longline, purse seine and trawl) specified in CMM 02 are currently stored in the database. However, there are a number of ways in which the Observer module does not fully meet current requirements due to amendments to CMM 02:

  1. Mitigation information which has been required since CMM 3.02 (2015) is not stored in the database. The limited quantities of data that have been received are stored in spreadsheets. Adding a link field to the Trip details table of the Observer data would ensure that this data is stored securely and is available for analysis when required.

  2. CMM 02 (Data standards) specifies that when collecting length frequency and biological data, a description of what measurement was taken (such as total length, fork length etc) should be collected and for many species these types are standardised. Although measurement type is now collected on the template, it is not stored in the database, so users of the data may misinterpret the length data provided.

  3. The database is set up to allow up to two observers on each trip and one observer per observation. For the first time this year, one trip provided had three observers, and another had two observers on each observation. Currently this is being managed by defining an "Observer team" by combining names on the Observer tab.

  4. If data is loaded using the bottom longlining template, it is not possible to distinguish between different methods that are compatible with that template, for example Drop/dahn lining, Spanish lining and/or handlining. Adding a "Fishing method" field to the Fishing Effort tab could be an efficient way to differentiate between these types of methods.

  5. Currently we do not have a validation rule that can detect when Species of Concern (including marine mammals, seabirds, reptiles and identified sharks/rays) are captured and not properly reported. Such a rule would improve the completeness of the data and facilitate reports on those groups of species.