THIRTEENTH REGULAR SESSION
FINANCE AND ADMINISTRATION COMMITTEE
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STAFF ESTABLISHMENT

Purpose

1. The purpose of this paper is to seek endorsement for the establishment of the post of **WCPFC Electronic Reporting and Electronic Monitoring Technical Coordinator.**

Background

2. A substantial volume of data are being generated from a range of data collection programmes for fisheries in the WCPF-Convention Area. The Commission has also agreed through CMMs and various scientific data decisions to a number of regular reports related to CCMs fishing activities. There is a need to streamline data collection and processing – beyond its sheer volume it is expensive to collect, collate, keypunch and summarize in a timely and efficient manner. Currently most data are collected in the same manner as employed 100 years ago – observers or vessel operators, writing on sheets of paper. That information is then treated in the same manner it has for the last 50 years – it is keypunched off hard copies and perhaps scanned and compiled in electronic data bases for later use. In addition, electronic monitoring which includes electronic logbook systems and video monitoring is implemented in several fisheries worldwide, including some fisheries in the WCPF Convention Area. E-monitoring trials are being conducted and are planned in some fisheries in the WCPF-Convention Area.

3. Since 2013, the Commission has made committed efforts to monitor and support the progress that members are making in trialing and in implementing Electronic Reporting (e-reporting) and Electronic Monitoring technologies, particularly in support of both vessel operational activities and the Regional Observer Programme (ROP). A WCPFC workshop held in 2014 noted that a key risk for the Commission is the lack of documented policies and standards for these technologies. The absence of WCPFC standards could result in poor data coordination, increased data storage and transmission complexities, higher data security risk and increased long-term costs to the Commission and CCMs.

4. Based on this risk, at WCPFC11 (in 2014) the Commission agreed that a priority task should be the development of draft standards, specifications and procedures for the use of electronic reporting and electronic monitoring technologies in WCPFC fisheries and the Commission established the Electronic Reporting and Electronic Monitoring Working Group (ERandEMWG. Importantly the work of the ERandEMWG is to take into account the current and developing fisheries monitoring and information management systems in use by

members, and to provide a basis for the Secretariat's preparations to be ready to receive electronic forms of fisheries data and reporting.

5. It is expected that the early adoption by the Commission of electronic reporting and electronic monitoring standards, will support and accommodate those CCMs that have commenced implementation of a range of these technologies in their fisheries, and will ensure that the Commission's databases and systems are ready to exchange electronic data in an orderly and efficient manner. Furthermore, it is also expected that progress made by the Commission to develop data standards and processes and by the Secretariat in preparedness, can be separated from future decisions by the Commission to require that CCMs submit certain data/information to be meeting specific electronic formats.

6. Two meetings of the ERandEMWG have occurred (in mid-2015 and in mid-2016), which has led to some progress on the development of draft E-reporting standards for certain WCPFC datasets. During the ERandEMWG02 it was recognized that there is a need for additional resourcing for the Secretariat and Scientific and Data Services Provider (SPC-OFP) to support E-reporting and E-monitoring work, particularly the testing and acceptance of E-reporting draft data standards.[1]

7. Since ERandEMWG02, SPC-OFP has indicated that they hope to establish in 2017 a SPC Regional E-reporting technical officer, which is a position that will be focused on the SPC-side of a number of ERandEMWG tasks, including the development and maintenance of the ERandEM metadata database, as well having a direct assistance role for SPC members.[2]

8. In response to the ERandEMWG02 tasking this paper provides justification for the establishment of a dedicated post at WCPFC Secretariat to support E-reporting and E-monitoring work and associated ERandEMWG tasks on the Secretariat-side.

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[1] Recommendation I. ERandEM WG2 noted the use of e-technologies by CCMs in support of their national information management system development and further noted the need to consider how this work could be supported at the regional level. ERandEM WG2 recommended that additional resources are allocated to support the WCPFC Secretariat and the Scientific and Data Services Provider (SPC-OFP) in this regard, and these would be working towards the testing and acceptance of the E-reporting draft data standards referred to paragraph III [of ERandEMWG02 Report]. ERandEM WG tasked the WCPFC Secretariat and SPC to develop a proposal including costings for consideration by FAC.

Recommendation III. In regards to working towards the testing and acceptance of the E-Reporting draft data standards, the ERandEMWG2 recommended:
i.   The Scientific and Data Services Provider (SPC-OFP) produce examples of the output from the draft ER standards for logbook and observer data in XML, JSON, CSV formats and these can then be made available to CCMs via the WCPFC web site;
ii.   The WCPFC Secretariat, with assistance from the Scientific and Data Services Provider (SPC-OFP), prepare a paper for the WCPFC13 FAC with a detailed work plan and costings for the following work:
        a.   The development of appropriate mechanisms (e.g. XSD and JSON schema) for describing the elements in the ER data standard formats (e.g. XML1 and JSON) to assist the technical service providers in adhering to the standards;
        b.   The development and implementation of a metadata database of the E-Reporting and E-Monitoring data standards, which would include establishing the database structure, an appropriate user interface for managing the data (by the WCPFC Secretariat and SPC) and tools to disseminate the metadata to both non-technical and technical users (e.g. web query interface).
Metadata = Metadata are "data that provides information about other data". Two types of metadata exist: structural metadata and descriptive metadata. Structural metadata are data about the containers of data. Descriptive metadata use individual instances of application data or the data content. {https://en.wikipedia.org/wiki/Metadata}
[2] Refer to WCPFC-2016-ERandEMWG2-IP01 – Update on E-Reporting and E-Monitoring Implementation in the WCPO – by SPC-OFP.

Justification

9. There presently is not a dedicated WCPFC position that works on E-reporting and E-monitoring initiatives. Although during 2014, the Secretariat was fortunate to have the assistance of Ms Kerry Smith with E-reporting and E-monitoring activities, under secondment from her usual duties at the Australian Fisheries Management Authority (AFMA). Kerry was an instrumental part of the Secretariat team that provided support to the preparation and successful delivery of the WCPFC Electronic Monitoring and Electronic Reporting Workshop early in 2014 and she assisted the Secretariat with work to progress the development of draft e-reporting standards, with an initial focus on ROP data and transshipment reporting (TCC10-2014-12).

10. Otherwise, the Secretariats support to the WCPFC E-reporting and E-monitoring initiatives has been under the leadership of the Compliance Manager, with the support of the current professional staff of the Compliance and MCS Programme[3] and relevant Scientific and Data Services Provider (SPC-OFP). During 2015-16 the work of the WCPFC ERandEMWG and its intersessional activities has been supported by the Secretariat staff making best efforts to support the working group in between their usual duties.

11. The primary involvement by the Secretariat to date in E-reporting initiatives has been in close collaboration with Scientific and Data Services Provider (SPC-OFP), and is focused on supporting the work of the ERandEMWG to develop draft E-reporting standards. In 2015 a consultative document was successfully developed by the Secretariat and Scientific and Data Services Provider (SPC-OFP) for presentation to ERandEMWG01. This document served as the basis of the testing and review activities undertaken by CCMs and SPC-OFP during 2016 on the draft E-Reporting standards for operational level catch and effort data and observer data (Attachment 4 to ERandEMWG02 Summary Report). In 2016, due to the usual commitments of the usual Compliance and MCS work programme, the Secretariat has been unable to progress the requested testing of the draft E-reporting data standards related to HSP1 and EHSP-SMA and manual reporting in the event of MTU malfunction. The Secretariat has also been requested to expand the draft E-reporting data standards document to include transshipment reporting requirements.[4]

12. In respect of the E-monitoring initiatives, the Secretariat involvement to date has recognized the linkages and potential complementarity between E-monitoring initiatives and the Regional Observer Programme. The Secretariat has participated in some workshops in 2015-16, which have had active involvement and in some cases leadership of SPC-OFP, in considering the development of process standards for E-monitoring for WCPO longline fisheries.

13. In addition to the ongoing work to continue the development, testing and acceptance of the current draft E-reporting standards, there is a priority task for the Secretariat to appropriately test the standards and ensure that it has the necessary mechanisms and capability to be ready

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[3] The current staff complement of the Compliance and MCS Programme presently consists of Compliance Manager, VMS Manager and ROP Coordinator, Assistant Compliance Manager, and eight support staff. Initially the MCS and Compliance Programme priority tasks were to administer the Commission VMS, develop and administer the WCPFC Record of Fishing Vessels and the development and coordination of the Regional Observer Programme, with member CMM-reporting being in early stages of development. Since 2010 the routine work has necessarily expanded, to include support to the implementation of the Compliance Monitoring Scheme, alongside the ongoing development of the associated and supporting integrated-MCS Information Management System (IMS) architecture. The MCS and Compliance Programme staff have also provided regular technical support to the CDS-IWG, FAD-Management Options IWG and the ERandEMWG intersessional activities.

[4] Recommendation V. ERandEM WG2 recommends the WCPFC Secretariat develop draft E-Reporting standards for transshipment reporting requirements (particularly declarations, notification and observer) required under CMM 2009-06.

to receive and upload the data that CCMs will eventually submit based on these standards, once the standards are agreed by the Commission for implementation. There is also the need for the Secretariat to liaise with CCMs technical experts in their testing of the E-reporting standards. If the Secretariat is not adequately resourced to complete the necessary preparations for E-reporting implementation by CCMs, there is a risk that there will be delays in providing the expected efficiency gains in streamlining data entry and improved data quality of CMM reporting within the Commission, which should be expected as an outcome of the continued efforts by CCMs to implement E-technologies in their fisheries.

14. Given the emphasis and priority that a number of Commission members have indicated for the continued work on the development and implementation of E-reporting and E-monitoring standards and procedures, it seems timely that the Commission would consider attributing some dedicated resources to the establishment of E-reporting and E-monitoring position at the Secretariat.

Benefits

15. The Secretariat believes that a more permanent arrangement is desirable to assist the Secretariat with better supporting the E-reporting and E-monitoring related work programme of the Commission but also on an ongoing basis to better equip the Secretariat to provide advice in support of Members E-technology initiatives. This position will also work with CCMs and IT staff on the continued automation of the E-reporting data into Commission databases. Close collaboration is expected with the Scientific and Data Services Provider (SPC-OFP) on the continued development, maintenance and ongoing updating of the Commission E-reporting data standards documentation including electronic databases to store this information (metadata database). The position will also advise on the potential implementation of automated reporting and observing technologies as they emerge, and can be utilized by the Commission. A proposed terms of reference for an Electronic Reporting and Electronic Monitoring Technical Coordinator is provided in **Attachment 1**.

Estimated Cost in 2017:
> Salary and Benefits- USD147,654 to USD260,860
> Establishment costs- USD35,565
> Travel- USD21,000
> E-reporting special projects- USD30,000

Recommendation

16. The Committee is invited to;
a) Recommend to the Commission the establishment of the Electronic Reporting and Electronic Monitoring Technical Coordinator.

Proposed Terms of Reference: Electronic Reporting and Electronic Monitoring Technical Coordinator

WESTERN CENTRAL PACIFIC FISHERIES COMMISSION
DUTY STATEMENT:
ELECTRONIC REPORTING AND ELECTRONIC MONITORING TECHNICAL
COORDINATOR (ERandEM TC)

Professional Grade: Level K

Organizational relationships: Electronic Reporting and Electronic Monitoring Technical Coordinator (ERandEM TC) reports to the Compliance Manager. With a view to contribute to more streamlined data entry at the Secretariat, the ERandEM TC will work closely with other MCS and Compliance programme staff, IT staff and as needed Science staff. The ERandEM TC is also expected to work collaboratively with the Scientific and Data Services Provider (SPC-OFP) staff in continuing to progress joint work, including that related to the WCPFC ERandEM IWG work programme.

Key responsibilities:
The ERandEM TC will be responsible for the Secretariats support to Commissions initiatives related to the development, testing and acceptance of WCPFC E-reporting data standards and procedures. In the short-term tasks will include i) collaborative work with Scientific and Data Services Provider (SPC-OFP) staff maintenance, versioning and updating of the E-reporting data standards and procedures documentation, ii) working with the Compliance Manager and IT Manager to plan the IT development work needed to test the standards and to enable automated loading procedures for data submitted as per the E-reporting data standards; iii) working with the relevant senior Compliance staff to ensure that current data entry procedures can accommodate the eventual submission by CCMs of reporting that meets agreed WCPFC E-reporting data standards and procedures; and iv) expanding the coverage of the WCPFC E-reporting data standards and procedures to include requested Secretariat managed data sets.

Once WCPFC E-reporting data standards have been agreed by the Commission, the responsibilities of the ERandEM TC will also include collaborative work with Scientific and Data Services Provider (SPC-OFP) staff on the development of a metadata[5] database to maintain the technical information about WCPFC data standards. Tasks will also include maintenance of the metadata database and working with IT Manager to establish mechanisms through the WCPFC online systems for CCMs and their technical service providers to access the required technical information about the WCPFC data standards.

The ERandEM TC will also coordinate, where requested, the development and delivery of appropriate capacity building and technical support for E-reporting and E-monitoring trials. As CCMs decide to implement E-technologies to meet a range of reporting obligations the position will be the primary point of contact at the Secretariat for CCMs in their testing of the E-reporting data standards. The position will also contribute to delivery of Secretariat advice on how E-monitoring technologies can be utilized by the Commission.

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[5] Metadata = Metadata are "data that provides information about other data". Two types of metadata exist: structural metadata and descriptive metadata. Structural metadata are data about the containers of data. Descriptive metadata use individual instances of application data or the data content. {https://en.wikipedia.org/wiki/Metadata}

Duties will include:

Develop and support to implementation of E-reporting data standards and procedures

1. Take primary responsibility for the development, testing and acceptance of the WCPFC E-reporting data standards and procedures which relate to Secretariat managed data sets.
2. Working collaboratively with Scientific and Data Services Provider (SPC-OFP) staff to as needed, maintain, version and update the WCPFC E-reporting data standards and procedures documentation.
3. Design processes and systems to collect and assimilate E-reported data received from CCMs into the Commissions databases, as requested.
4. Plan, in collaboration with the Compliance Manager and IT Manager, the IT development work needed to test the standards and to enable automated loading procedures for data submitted as per the E-reporting data standards.
5. Where requested, prepare draft proposals to establish additional WCPFC E-reporting data standards and procedures for Secretariat managed data sets
6. Monitor E-reporting and E-monitoring based data-quality, and implement means to improve data quality.

Metadata database development and maintenance

7. Work collaboratively with the Compliance Manager, ICT Manager and IT contractors, on technical matters, including the development and maintenance of a WCPFC metadata database system for the E-reporting and E-monitoring data standard data fields
8. Communicating regularly and working collaboratively with the Scientific and Data Services Provider (SPC-OFP) on all matters relating to E-reporting and E-monitoring data standards and procedures, including the coordination of SPC's input into the WCPFC metadata database system for the E-reporting and E-monitoring data standard data fields.

Liaising and advice to CCMs and the Commission

9. Be the primary point of contact at the Secretariat for CCMs in their testing of the E-reporting data standards.
10. As required, and in collaboration with other responsible agencies, advise national agencies on overall structure, administration, logistical support, costs and cost recovery, funding options, staffing, training and the provision of resource material for their trials and implementation of E-reporting and E-monitoring technologies.
11. Promote and support initiatives that will contribute to further development and implementation of E-reporting and E-monitoring technologies across the WCPO by direct liaison with CCMs, regional and international agencies and non-government bodies including industry authorities and environmental non-governmental organizations.
12. Contribute to Secretariats work to research new and emerging technologies and procedures that could be utilized by the Commission and/or CCMs.

Other duties

13. Provide technical reports/papers and presentations where required.
14. Participating as an active member of the Secretariat, including providing support, as required, to the Technical and Compliance Committee and its working groups particularly the ERandE IWG, including support to inter-sessional work and preparation of reports.
15. Perform other relevant duties as required.

Qualifications and Experience

Essential

- Tertiary qualifications in fisheries management or a related field;
- Broad knowledge of marine science, fisheries biology, oceanography and socio-economics,
- A desire to contribute to improved data management
- Appreciation of the nature of the Western and Central Pacific Fisheries Commission, the role of the Secretariat and the aspirations of CCMs;
- Detailed knowledge of oceanic pelagic fisheries, with emphasis on tuna;
- Demonstrate understanding of the role of information and communication technology in fisheries management;

- Interpersonal skills of a high order, including the ability to establish and maintain relationships;
- Communication skills in English of a high order, particularly in written and oral presentation of fisheries advice to multicultural audiences including fishermen and policy makers;
- Computer literacy with working knowledge of Microsoft Office applications.

Desirable
- Post-graduate qualification in fisheries management, international law or a related field;
- At least 4 years' experience working on fisheries management and/or MCS;
- Experience in regional (multinational) fisheries management and fisheries compliance;
- Good working knowledge of WCPFC Conservation and Management Measures and the fisheries interests and characteristics of individual CCMs;
- Familiarity with the Information Management System tools used in the WCP region;
- Experience in computer database administration and/or information management system development, preferably in a fisheries context;
- Readiness to undertake travel in support of the Commission's work.