

Information Paper 7

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## Report of the Eleventh Meeting of the Tuna Fishery Data Collection Committee (DCC11)

*Pacific Community (SPC) and the Pacific Islands  
Forum Fisheries Agency (FFA)*



Pacific  
Community  
Communauté  
du Pacifique

11<sup>th</sup> SPC Heads of fisheries Meeting, 11–15 March 2019, Noumea, New Caledonia

11<sup>e</sup> Conférence des Directeurs des pêches de la CPS, 11–15 mars 2019, Nouméa, Nouvelle-Calédonie



## Executive Summary

The Tuna Fishery Data Collection Committee (DCC) was established by the Pacific Community (SPC) and the Forum Fisheries Agency (FFA) in 1995 as a mechanism for developing standardised tuna fishery collection forms to reduce the complexity of data collection, processing and analysis in member countries. The DCC is composed of fisheries monitoring and data management staff from SPC and FFA, along with invited guests from national programmes and with occasional attendance from industry. The main output of the DCC is an updated set of regional standard tuna fishery data collection fields and forms, covering logsheets, unloadings, observer, port sampling and others data types.

DCC meetings are usually convened on a biennial basis and the DCC report is then adopted by Pacific Island Country and Territories (PICTs) member countries through the Forum Fisheries Committee (FFC) and the Heads of Fisheries (HOF) meetings.

The Eleventh Meeting of the Tuna Fishery Data Collection Committee (DCC11) was held in Brisbane, Australia on 20–24 August 2018; the report of this meeting, including the recommendations, is available in ATTACHMENT 1.

The main outcomes of DCC11 were:

- Agreement on updated versions of the regional standard data collection forms;
- Continued focus of work to establish standards of MCS data through the DCC and related regional meetings. For example, the outcomes of DCC will become a standing agenda item for the FFA MCS working group to better integrate the DCC developments;
- An acknowledgement that the work of the DCC has transitioned from providing updates of hard-copy regional standard forms to the establishment of standards for electronic data fields. The DCC will now focus their efforts on standardising and implementing electronic reporting (ER) standards, since the process and implementation of paper forms was inefficient. This work will also include the provision of standards around data quality control of electronic data;
- A review of the DCC Strategic Plan will be conducted by SPC/FFA for DCC during 2019, and formal endorsement sought by members in 2020. This review is to ensure DCC reflects current fisheries monitoring requirements, processes and tools.

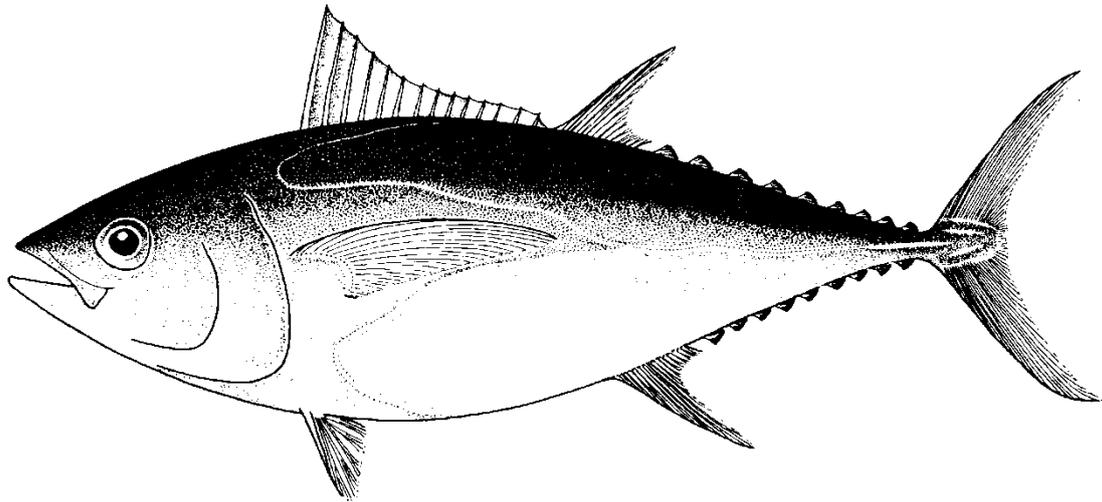
### Recommendations

Heads of Fisheries are invited to:

- i. note the main outcomes of the DCC11; and
- ii. adopt the Report of the Eleventh Meeting of the Tuna Fishery Data Collection Committee (DCC11)

# REPORT OF THE ELEVENTH MEETING OF THE TUNA FISHERY DATA COLLECTION COMMITTEE<sup>1</sup>

Brisbane, Australia  
20 – 24<sup>th</sup> August, 2018



Pacific Community



Forum Fisheries Agency

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<sup>1</sup> NB: FFA and SPC to update Annexures prior to MCSWG in March 2019.

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## 1. PRELIMINARIES

### 1.1 Appointment of chairman and rapporteurs

Pamela Maru (FFA) opened the meeting as designated Chair. The Vice-Chair for the meeting was Tim Park from SPC. Following brief introductions the Chair advised of the need to have rapporteurs in place for each session and noted that Tim Park and Hugh Walton would coordinate the meeting rapporteurs and the production of a meeting record. She noted the need for participants to volunteer to rapporteur sessions throughout the meeting.

The Chair noted that a new chair would need to be chosen at the end of the meeting, and noted that the requisites for the role included being staff of FFA or SPC, that they have attended at least one if not more prior DCC meetings, and that they have a good overview of fisheries science and data management. This would be considered under agenda item 14.

### 1.2 Adoption of the agenda

The draft agenda contained items that were struck out and the Chair confirmed that these items would not be considered by the DCC. FFA noted that a presentation on the draft WCPFC CDS standards would be presented under a new agenda item 11. The meeting adopted the agenda with these amendments.

### 1.3 Opening remarks

The Chair noted the focus on the meeting on Electronic Reporting (ER) and Monitoring (EM) data standards, and that the purpose of the DCC was to regularly review data forms in pursuit of regionally standardized forms. The development of MCS data and process standards is a significant area of work that DCC that will require DCC's attention in the coming years. DCC is going through a transitional period as it continues maintenance of existing paper based data collection programs, whilst identifying areas where ER developments and implementation can be progressed. Holding mini-DCC's may help to progress some of this work.

## 2. REVIEW OF THE DCC STRATEGIC PLAN

### 2.1 Strategic Plan

The Chair noted DCC's strategic plan requires review in 2019 as the current plan expires in 2019. SPC provided a brief summary on the strategic plan and associated priorities.

In regard to immediate progress areas, SPC noted the following:

- **Implement ToR engagement processes across stakeholders:** Engagement with stakeholders and integration of stakeholder groups perspectives into DCC processes is well progressed in terms of data needs feedback, and promoting DCC meeting outcomes and outputs into the WCPFC Technical Compliance Committee (TCC).
- **Implement environmental scanning processes:** DCC is integrated into ROCW and MCSWG. FFA noted that it would propose that DCC reports are considered as a standing agenda item at the annual FFA MCS Working Group.

- **Maintain current paper-based standards and processes:** Paper forms and processes remain for all data systems and definitions of fields are also being duplicated into an ER format based on the layout of the paper forms, for now.
- **Develop web-based access point for data and process standards:** There have been two EM process standards workshops and ER applications are continuing to evolve as electronic reporting processes are developed. ER is envisaged to be structured with web-based access points to facilitate updates and version control. However, current ER tools are loaded applications and are not yet web based].
- **Develop ER/EM Data standards (use of gap analysis):** ER regional data and process standards have been agreed to through the SPC/FFA Data Collection Committee (DCC). SPC have developed ER tools to collect logsheet (OnBoard) and observer (Ollo) data electronically. PNA have developed a separate system in iFIMS, based on the same standards.

A set of regional EM data and process standards have been agreed to for longline and purse seine through two EM standards technical workshops hosted by SPC. These were meant to assess which among the minimum data fields could be collected by EM, and to provide guidance to EM developers on data communication formats.

- **Conversion of paper to electronic data fields with decisions of pre-population and range checks etc:** The DCC10 and the two EM workshops discussed data processes, which emphasized the importance of debriefing of electronic data and potential methods. This included the combination of human data checks, as well as automated verification and validation tools. ER data processes are being developed with consideration of the appropriate human and electronic verification checks and validation processes.
- **Determine standards for how to collect EM information (event capture):** The two regional EM data and process standards workshops (June 2016, November 2017) and a subregional technical workshop (May 2018) have addressed data process standards. Implementation is ongoing.
- **Develop EM Image analysis standards:** Definitions of events captured and other data collection processes such as hook counting are in the process of being defined, and the Fiji Subregional EM Technical process standards workshop was part of this process.
- **Development of user interface standards:** ER interface standards have been agreed at DCC and are being adopted through OnBoard, Ollo and FIMS. EM interface standards are progressing, though differ somewhat among EM developers, developing interface standards remains work-in-process.

In terms of short Term progress, SPC advised as follows:

- **Develop data transmission standards: Data formats for transmission have been agreed to through DCC10 and the first EM process standards workshop.** Systems or security and data management are being developed with use, appropriate security requirements, standards and protocols for data transmission need to be developed.
- **Define transmission standards:** The requirements of the database to which it will be uploaded. This may be determined by whether the data is being transferred by satellite, or mobile networks or via USB, or other means, and whether it is required in real-time or at the end of a trip. Currently ER data are submitted at the end of the trip.

- **Malfunction events (prevention and cure):** Currently observers are also completing hardcopy workbooks while a process for dealing with this is determined as ER applications are further developed.
- **Development of Certification standards:** Certification standards require finalising of data transmission standards, processes and malfunctions protocols to assess and certify the transmission standards.
- **Feedback (error) notification / correction (especially EM and Logsheets):** This work is still being developed into data capture systems.

In considering medium term targets, SPC noted progress as follow:

- **Develop validation processes through cross-checking multiple databases (logsheets, observer reports, landing monitoring):** The development of Tufman2 is complete and integrated. This utilizes integrated validation processes.
- **Training process standards:** Pre-requisites and Competencies developed under PIRFO, but training and assessment standards are not yet in place.
- **Develop "E-de-briefing" queries and interfaces:** FIMS has a debriefing facility though this needs review. DCC needs to consider ease of automating checks versus robustness of manual checks. Work is ongoing.
- **Modify training manuals and regional vocational training:** This work has yet to commence.
- **How to manage multiple hardware / software applications:** This matter is yet to be addressed.
- **Determine frequency of change and version control:** Currently DCC is anticipated to be an annual meeting with to set a cycle of period of change and version control. However more frequent changes could be coordinated by DCC representatives. A system for version control standards for electronic systems is not yet in place, but still under development.
- **Examine all pre-certification data:** Validation procedures for data collected prior to the adoption of standardised certification procedures for EM/ER systems is not yet standardised.
- **Determine rules around data accessibility (especially EM):** The WCPFC data rules set a benchmark for accessibility of the data. However, the requirements of independence of EM providers and accessibility in an EM environment is yet to be determined but likely to be through the WCPFC EM/ER Working Group.
- **Determine standards for boarding interrogation of EM/ER database:** This work has yet to commence.

Noting the expiry of the DCC strategic plan in 2020, it was agreed that the Chair and Vice-Chair would commence an intersessional process to develop a new strategic plan for DCC consideration in 2019 and member endorsement through MCSWG and FFC in 2020.

## 2.2 DCC Work Plan

SPC provided a progress report against the DCC work plan, which was prescribed at the DCC10 meeting in December 2016. In the work plan DCC tasked meeting members with a series of undertakings and these are considered as follows:

1. **SPC and FFA** were tasked to submit the report of the DCC10 (highlighting all form changes and the DCC 2016 versions of the forms) for adoption at the next SPC Heads of Fisheries (HOF – March 2017) and the next FFC (May 2017). The DCC10 meeting record was completed and considered by MCSWG, and FFC.
2. **SPC and FFA** were tasked to conduct a general review of the catch offloading processes (on-shore and transshipments) in the longline and purse seine fisheries with a view of updating DCC data fields and protocols. This review should consider the requirements for science, fisheries management, CDS and compliance. SPC advised that they are in discussion with Pew Charitable Trusts to develop improved capturing of data on high seas transshipments. The project is still in the development stage, with Pew offering funding to implement the project. It was noted that at SC14 there was a PNA/FFA proposal to do a holistic data needs review to cover data used for all purposes (not just science), and it is not sure how this will impact DCC11, for example particularly in relation to Recommendation 5.
3. **SPC and FFA** were tasked to request industry and national programmes to submit all non-DCC data forms used by industry and other entities in their national tuna fisheries (overlapping with data types covered by DCC forms) well in advance of the next DCC12, noting that the introduction of non-DCC data forms / standards can impact current DCC data collection protocols. It was noted that the transshipment project and CDS advancement will take into consideration the industry forms, and some forms have been provided by members. Though regional agency involvement in industry data collection has been an issue in the past as these were industry, rather than fisheries MCS or scientific data forms. Regional agencies needed to maintain a clear perception of being unbiased among competing certification brands. The ROCW17 also suggested that observers' involvement in industry certification compromised observers' independence.
4. **FFA and SPC** were tasked to investigate the potential for establishing minimum regional data fields for MCS that will assist in the development and enhancements to the IMS systems used throughout the region. The outcomes of this review will be presented to DCC11. It was noted that this matter would be addressed in the course of the agenda, with much work still underway.
5. **SPC and FFA** conduct a more thorough review of current DCC data fields and forms to determine which fields are no longer used (redundant) for consideration at DCC11. This review will need to include scientists and consider the move to ER and EM. It was advised that SPC didn't formally ask scientists but have definitely done this for ROP LL fields through the Emery et al. paper. The SPC understanding is that all fields are still relevant. It was further noted that SC14 endorsed an FFA proposal to do a holistic data needs review that covers data used for all purposes (not just science). The scope and how this work will be undertaken is yet to be detailed, but will be noted in the context of relevant DCC11 agenda items. How this proposal may impact DCC work is uncertain, for example particularly in relation to recommendation 5.

6. **SPC** were asked to include agenda items to review data collection protocols for each data type at DCC11. It was noted that this is a significant endeavour and will take some time. Protocols were examined through the EM Process Standards Workshops but perhaps there are some additional important protocols that need review.
7. In regards to **observer forms** and data, **SPC** were recommended to:
  - a. Enhance the database system to include the entry of debriefer evaluation form information with the other observer data (this will help researchers understand data quality issues for example). SPC advised that the development of the Tufman2 debriefer component has been completed and will soon begin to take data. SPC will demonstrate this for the meeting.
  - b. Review the potential issues around having the Observer Trip Report supported in the E-Reporting environment. SPC noted that the PNA were looking at this development through their FIMS observer modules.
8. **SPC** was asked to proceed with organising the EM standards workshop for the purse seine fishery to be conducted in 2017, but also include enough time to review the progress with the EM standards from the longline fishery (conducted in 2016). The results of this workshop are to be reported to, inter alia, DCC11. The meeting noted that there have been two EM standards workshops held since DCC10, on LL and on PS standards.
9. **SPC** were asked to liaise with **FFA** and **PNA** to confirm access to their respective observer placement data systems (e.g. OPM), and plan the enhancements required to improve the observer document management process at SPC. This will require (i) a report of the outcomes of the gap analysis between SPC requirements and the FFA and PNA observer placement systems and data registration systems, (ii) the work then conducted by SPC, FFA and PNA/QAC on enhancing and aligning their systems (based on the gap analysis), (iii) informing member countries through the next ROCW and (iv) continuing to highlight to observer coordinators and senior management the importance of, and benefits to member countries for observer data management using the respective observer placement systems. The meeting noted that the submission of observer placement information was discussed at ROCW17 and observer programmes agreed to submit placement data for SPC to verify the submission rates of observer trip data.
10. **FFA** were requested to proceed with enhancing the FFA Regional Monitoring Strategy based on comments received by member countries and regional agencies, with a goal of setting out a plan and key actions for ER and EM implementation during 2017 and 2018. The meeting noted that FFA has presented the strategy to different meetings and the document is now well developed and will be discussed in the course of the DCC meeting.

### **2.3 Developing new work (self-auditing)**

SPC advised that this work had been delayed and there is no update at this time.

### **2.4 Frequency of form changes**

SPC presented a summary of the adopted versions of observer and logsheet paper forms. Adoption of observer forms versions 2009, 2014, 2016 took almost a year for SPC to see initial returns of each form for example members started returning the 2016 observer forms from 3<sup>rd</sup> quarter 2017.

The adoption rate of PS and LL observer forms was similar though purse seine observer form adoption was slower with 2014 logsheets, with only 50% of forms submitted this year. There are also differences in the forms adopted among programs, with three programs (FM, NC and FP) not yet implementing the 2016 version of observer forms.

Logsheets have a greater variability in adoption rates among versions for example 2009 and 2014 longline forms are still the most common, while there has been poor adoption of 2016 longline logsheets. This is a problem in that obligatory data changes are not reflected in the data recorded.

Purse seine logsheets show differing trends in adoption. For instance the US fleet seem to still persist in using the 2000 version logsheet. Among all fleets, the 2014 form is still main version used, while the 2016 logsheets have been particularly poorly adopted, comprising only 1.5% of data received by SPC.

In considering the shift to ER forms any changes need to anticipate version control. This is easier with observer forms as it is driven by SPC/FFA members, whereas adoption and version control of logsheets is more difficult as it is driven by DWFNs who may not be as motivated to implement change.

SPC are thus seeking endorsement for logsheet version control to reflect the changes among members rather than to be driven by WCPFC requirements.

FFA noted that the version control of DCC endorsed forms can be independent of WCPFC as long as regional minimum requirements are met. Separating the version endorsement from WCPFC requirements allows being able to make changes more frequently than regional adoption processes to suit the PICs. DCC forms must be compliant with WCPFC but can have more data or anticipate changes as long as they meet minimum standards

FFA also noted that the paper reflected adoption of paper forms, not ER. However, SPC does not yet receive many ER trips and there were only about 100 ER longline forms submitted to date. SPC would be presenting a proposition of effort on ER and think about steps to address issues of adoption – Information Paper 3 for this meeting.

FFA further noted the need to be aware of how DCC would adopt ER changes as there were costs associated with change (e.g. software updates, awareness and outreach, training needs) and to be mindful of change requiring costs and resourcing requirements. SPC advised that even if it was easy to update, some people do not update ER platforms frequently.

SPC queried as to when the WCPFC decisions to restrict the lack of flexibility for DCC revisions was introduced. WCPFC noted that SC4 used the DCC data fields to originally establish the WCPFC ROP minimum data standards. However, it was further noted that there is nothing restricting DCC going beyond the minimum data standards. SPC also asked whether DCC needed a recommendation to establish standards and procedures for ER version control.

PNAO noted that managing ER content is complex. The PNA use data internally such as managing fishing day information on FADs, which are based on changing business decisions that are made. Managing version control is not simple where there may be a subset of data that changes and national or subregional entities may wish to add to data collected without requiring approval. It was also noted that the Commission does provide minimum standards for ROP data but not logsheets.

It was suggested that when establishing adoption standards, DCC should also consider what the process be to limit or reject individual country requests. FFA commented that the metadata database can manage the change and the level of change, such as managing the differences between industry and DCC data collection. PNAO noted that not all members adhered to the DCC standards for example such as the Australian e-log which is very different to the DCC logsheets. It was noted that one of the purposes of the DCC is to determine among members a shared pool of data standards and the DCC strategy suggests what is that shared pool of data and what is not.

FFA suggested that it was within the scope of DCC to set standards for exchange of data interfaces.

PNAO noted that DCC standards were to establish standards so that the regional databases can communicate, not to restrict individual data needs. FFA agreed that DCC decisions were not hinged on WCPFC processes and developing regional baselines. Version control will change with the platform.

Version control would be discussed elsewhere, though it was noted that service providers will need to know how and when changes are made. Thus, there was a recommendation that there needs to be collaborative work among FFA, SPC and PNA on how version control is managed in ER.

### **3. REGIONAL DEVELOPMENTS**

#### **3.1 New WCPFC data requirements since DCC10**

WCPFC Secretariat gave an update on developments since DCC10, and noted there were no major changes to required data fields that have been approved since the last DCC meeting. It was noted that there were some recent discussions at SC14, but these were yet to be finalized and approved by the Commission. At SC14 there was a proposal for the use of hook shielding devices as a stand-alone seabird mitigation device. However, there was no decision about whether they would be added, and this will need to be considered at the Commission. There was discussion around turtle mitigation measures but no proposed changes to data fields. There was continued discussion on a comprehensive shark measure at SC14 and there will be further discussion at TCC14 on whether data fields need to be changed. One recommendation was to ensure sharks are pulled to the side of the boat to support best practice release and species identification.

At WCPFC there have been proposed changes for reporting on Fish Aggregating Devices (FADs). The Commission has decided that operators will be required to provide further data on FAD use, and there may be impacts on required observer data that will need to be considered by DCC.

#### **3.2 Outputs from the WCPFC ER and EM Working Group**

The WCPFC Secretariat gave an update on the outcomes of the recent ER and EM working group meeting held prior to the SC in August 2018. The main discussion points focused on how the Commission may develop an e-monitoring program, presented by the EREM WG Chair in the form of a concept paper outlining a proposed CMM. There was broader discussion around the role of EM and how this is driven by data needs of the Commission. A review was proposed to assess the Commission's information needs and align these with data collection programs including EM. This was noted at the WCPFC SC14 and the SC supported this review, noting that this work

would be conducted by Secretariats of WCPFC, FFA, SPC and PNAO and several CCMs expressed interest to be involved.

PNAO noted that the review is a priority for PNA noting that there have been many changes on how data can be collected and verified. PNAO noted that there has been a strong focus on enhancing the responsibility of fishers to report data adequately and reporting can be improved through the use e-reporting and verification with e-monitoring.

In respect of high seas transshipment declarations and high seas transshipment notification (in reference to CMM 2009-06 requirements), a draft set of E-reporting standards were recommended by the ERandEMWG for adoption by the Commission, subject to TCC endorsement. The WCPFC Secretariat is 75% of the way into the development of a Secretariat e-reporting system for high seas transshipment declarations and high seas transshipment notifications that includes a E-reporting data receipt system and a e-reporting tool. . WCPFC Secretariat provided a demonstration of the E-Reporting data entry tool under agenda item 5.1.

### **3.3 Regional MCS Strategy**

The FFA Secretariat gave an update on the FFA Regional MCS Strategy (RMCSS) that has been endorsed in 2018. The previous strategy document lapsed in 2015 and provided a comprehensive overview of all the components required for fisheries MCS and tackling IUU fishing.

The current RMCSS (2018-2023) was developed following a Ministerial evaluation of MCS in the region. The strategy focuses on current priority areas identified by FFA Members through national consultation. The target group of the strategy is senior compliance/MCS managers within national jurisdictions to help provide ownership by Members. Regional implementation of actions under the strategy will be coordinated by the FFA Fisheries Operations Division.

A key activity for Members under the RMCSS is the development of national MCS plans that Members can use to drive national implementation.

The priority objectives under the RMCSS are 1: Regional standards are in place for effective and efficient MCS systems, 2: Quality information is available and accessible to national and regional officials to assess IUU risks and plan MCS activities. 3: Procedures established and operationalised to conduct effective MCS activities, 4: Effective compliance and enforcement through efficient use of available information, analyses and intelligence, achieved through whole of government engagement. There are strong linkages to the DCC through each of these objectives, particularly through areas dealing with standards development (e.g. CDS and ER/EM), improving quality of information provided and ensuring operational processes are in place (e.g. E-reporting systems, boarding and inspections).

It was noted that there are numerous strategies in place already or in development. The RMCSS takes an inclusive approach to reflect the progress made and has been developed to provide an inclusive framework for regional MCS. Monitoring and evaluation is an important component of the strategy and performance indicators have been developed against each of the objectives. Reporting opportunities are provided through the MCSWG, FFA annual reports and reports to FFC meetings. It was noted that there could be an annual update against activities and indicators to DCC as well, regarding relevant data collection and standardisation work areas.

### **3.4 FFA Regional Monitoring Strategy**

FFA provided an update on the FFA Regional Monitoring Strategy, and requested feedback as to how to proceed with the EM recognition process in the WCPFC context. It was noted that the focus to date has been more as a mapping exercise between Secretariats working with existing processes. FFA noted that there is a profound change needed in order to move towards the wider adoption of EM systems and suggested that DCC use current processes to develop baselines before making decisions.

WCPFC sought clarification regarding the purpose on whether the strategy was forward looking or for current practice and what the expected deliverable is. FFA clarified that this was a high level strategy document and suggested that members need much more detail. SPC stressed the importance of highlighting the difference between verification and validation of data.

FFA noted the drivers for EM were to improve safety of observers at sea, mitigate misreporting, improve the reliability of catch data and improving monitoring on LL fleet. FFA highlighted that EM has broader context that also contributes to ER monitoring. To date development has been somewhat ad-hoc in nature with a general lack of planning particularly in regard to resourcing.

FFA noted the need for a more common understanding of ER and highlighted what EM can and can't do, stressing that EM is essentially a modular system meaning members can mix and match components to suit needs. For example the HD imagery and constraints on transmission due to costs.

FFA then suggested the following actions and deliverables for the strategy:

- National Monitoring Plans that fit in with Regional MCS strategy;
- Dedicated monitoring and data specialists in each country (technical knowledge on the ground);
- Regional standards and legal approach for EM and possible revised HMTIC's for FFA members;
- Overarching frameworks with MCSWG and DCC;

FFA queried what the DCC role should be for in the context of the Monitoring strategy and EM development and whether there should be a specific work plan for actions identified at DCC. raised a question of what the role is for the monitoring strategy and should it be updated? Is there a need to develop specific work plan actions identified at DCC?

There was general discussion on the link between the Monitoring strategy and the wider RMCSS and how these were reflected in the DCC work plan noting that the DCC role is to set standards and schema's.

SPC suggested that with standards in place, it was possible to develop a number of systems to meet national needs noting that there remains a challenge with the adoption by the flag States of ER logsheets for transshipments.

FFA highlighted a possible aspirational goal of having EM and ER required by HMTIC by 2020 and queried what approach should be taken at WCPFC in regard to and whether there should be voluntary requirement OR move to mandatory requirements.

FFA advised of the need for regional standards along with legal support, and the need to define the objectives and possible revised HMTCS for members, and how this might be implemented via regulations or license conditions noting that the FFA legal team has developed advice. FFA further suggested that National-level technical support is needed including National plans and CSLA, and at the regional level a need for model legislation and HMTC's with minimum standards. For WCPFC the target should be to set long-term goals to use EM on longline for high seas fishing and possible CMM standards.

WCPFC noted that SC14 has identified that a data needs analysis will be undertaken and asked if this is something that FFA will also be doing in support of the Regional MCS Strategy. FFA noted that the Commissions data requirements are a subset of FFA Member needs, and highlighted that this work will require a more comprehensive review of FFA Member data needs in conjunction with that of WCPFC requirements.

WCPFC noted that during the ERandEMWG meeting that some FFA/SPC members had indicated that there were many challenges in scaling from a trial system to broader implementation of EM. but acknowledged the value in SPC and FFA working closely with their members as they seek to define their national EM programmes and as they shift from trials to implementation of EM at a national level.

FFA noted EM programs can be as extensive or as small as members need. National decisions about how much to implement can be based on priority. FFA noted commonalities across all jurisdictions but acknowledged that implementation is still complex. SPC noted that the benefit is that EM forces DCC to look carefully at the data collected, and ask how and why data is collected.

### **3.5 CDS and other Traceability updates**

SPC provided an update on a blockchain initiative supported through an innovation fund. The aim is to help understand how the technology works by building a proof of concept. The project only applies to South Pacific longline Member countries. A report will be provided on how whether the tool is useful, and whether it should be scaled up for use by Members. The project includes 100 days of consultancy inputs, split into several stages and SPC will share the outcomes of this with FFA at the end of the proof of concept. SPC also noted that Tufman2 has been developed with an API and is ready for plugging into whatever CDS system eventuates.

PNAO updated DCC on the e-CDS developed under FIMS and noted that some PNA Members have been using this for some time. The system checks and verifies data based on feeds from multiple sources, with officers verifying and validating data feeds. Based on authorisation codes and reconciliation of mass balance.

FFA queried whether work on conversion factors to inform verification and checking mechanism through parts of the e-CDS, and PNAO confirmed this has not been done.

SPC raised questions about multiple work streams and whether there were any consolidation efforts. PNAO confirmed that there was and SPC highlighted the needs for this to be shared.

WCPFC advised that an initial technical meeting is being held in early September by the Northern Committee for the development of a Pacific Bluefin CDS.

FFA noted that Wetjens Dimlich is leading the development of the draft WCPFC CDS standards, and will provide an update under Agenda item 11.

FFA advised that it has recently finalised an NZD\$ 4.9 million, five year CDS development project, and is holding a project planning meeting scheduled for 11-12 September in Honiara. The new project has four output areas focusing on a regional framework, National strategies for electronic CDS requirements, regulatory and policy frameworks, development of implementation tools. A project steering committee will meet for the first time in November. FFA advised that they were already fielding enquiries and responding to support request with regard to the CDS project.

FFA noted the link to another project to support enhanced approaches to Port State Measures (PSM).

#### **4. ELECTRONIC MONITORING**

SPC presented WP01 proposing the collection of EM-NP (EM Not Possible) fields. The meeting discussed EM in the context of the WCPFC ROP.

FFA asked about the natural key that would be used for the identification of an EM trip, mentioning that there are multiple vessels with the same name in the region so the use of vessel name (along with departure date) might end up with double values. SPC noted that UVI could be added to ensure unicity.

The paper responds to a question asked by Members as to whether EM could be used to achieve the WCPFC 5% longline observer coverage requirement. EM collects mostly catch data but cannot collect gear related information, therefore EM data cannot meet ROP data requirements. In order to fill this gap SPC proposed that new forms LL EM-1 and 2/3 be implemented to capture EM-NP fields, by national fisheries authority authorised personnel.

In discussion, PNAO thanked SPC for this work and noted that there are long standing high level policy positions that FFA members have held in relation to observers not being replaced by EM. EM should supplement observer collected data. Any data gaps should be collected by ER means, in particular the focus to review data collection from observers to vessel operators.

Other issues such as maintaining ‘independent and impartial’ coverage will be difficult if EM data is filtered through flag States rather than providers from another CCM. The proposal would effectively provide the opportunity for CCMs to replace observers, as stated at the recent EMERWG3, and does not consider the economic value of observer programs to Pacific Island providers.

Counting EM data against the ROP 5% LL coverage requirement would require a consensus decision by Commission Members, and this would never be the case.

WCPFC confirmed that FFA member participants had clearly expressed at the ERandEMWG3 meeting the position that in the WCPFC context EM should not replace observers.

FFA noted the need to consider resourcing and cost requirements for filling EM gaps, particularly if EM is meant to provide a cost effective monitoring solution. Any EM deficiencies or data gaps needs further consideration in the context of the broader data needs analysis.

SPC queried whether not adopting these forms as regional standard would impact Fiji’s ability to implement them. FFA recognised the work undertaken to answer members’ questions about whether EM could collect all ROP data fields, and further advised that how national monitoring

programs are implemented is each country's prerogative. DCC develops and maintains minimum regional standards that must cater for all member's needs.

## **5. ELECTRONIC REPORTING**

### **5.1 ER Implementation**

#### ***SPC updates on ER***

SPC reported on tuna fishery e-reporting and e-monitoring data submitted by Member countries (IP-03). The SPC-developed software Onboard is the main application being used and is deployed on about 30 longline vessels to date. Other ER data received has been from the FIMS system. All data reported so far is from logsheets, with no observer data as yet directly submitted to SPC. Observer data is submitted via a complex path, undergoing several conversions before importing to the database. Over time there continues to be a steady increase in ER data.

For purse-seine, mainly the PNA fleet is submitting data via FIMS system, eg in 2017 this comprised 30% of total ER data. SPC noted that not all trips were received from FIMS but had to be exported then re-entered in Tufman2, an inefficient process but discussions are ongoing on ways to improve the situation as well as ensure appropriate data quality checks. However, currently it is a manual process. The lack of data from foreign fleets was questioned and SPC explained that while some Pacific countries required ER from foreign fleets it seems that data has not been received. Some discussions are currently underway to get data from foreign vessels.

SPC demonstrated some interesting differences between EM and observer data, noting EM was better at capturing total numbers of fish on a trip, as observers take a rest every few sets, and ER records may be analysed in entirety. It was mentioned that EM also produces improved length distributions.

SPC discussed the Onboard system in some detail, noting it is rolling out over more fleets, along with training underway for skippers. Although developed for use on Android devices, some countries are requesting Onboard be made available on PC. PC-based applications are now being trialed in New Caledonia on 1 vessel. There is no real target for wider rollout but development is progressing steadily. When asked about rollout for other countries SPC reported that the technology works, so theoretically it could lead to large scale deployment. The next country would logically be Fiji, who would need to lead this if they want it. Tonga is also a possible candidate for rollout but human resource capacity is a limiting factor.

In general, data is uploaded directly into the database from Onboard, and is sent when back in port over wifi. However, some countries, eg. Cook Islands want vessels to report while at sea. Trials on longline vessels have been attempted but there are complications as the system relies on email and some security questions have been raised on levels of encryption required. The new version of Onboard can send email from sea, which goes directly into Tufman2, but complications seem to arise around the requirement for skipper signatures.

SPC advised that some trials have been carried out over a number of vessels double entering on paper logsheets and via ER to check completeness in reporting between the two systems. Skippers have not been very happy with these trials, wanting to enter just once, either paper or ER. There is a need to emphasise the importance of follow up to ensure software and hardware is being used correctly and that just handing over tablets and equipment is not sufficient.

It was further noted that paper logsheets were relatively easy to inspect by compliance officers during boarding operations and the ease of access to ER records on board was questioned. SPC suggested that this is beyond their mandate but certainly something that should be taken into consideration. It was also noted that as it was possible for skippers to retrospectively alter paper logbook data it was also necessary to make it possible to alter e-logbook data, however it is possible to track these changes if desired.

SPC explained that in New Caledonia's observers have the option to enter the data from paper logs into the TUBS system for later uploading when reaching shore. This however is not desirable but SPC are developing a new application (working title Ollo, 'online longline observer') to mirror OnBoard for onshore use, which is more efficient. The issue was being able to enter the data offline at sea - TUBS worked offline, TUFMAN required online access, but this is just an IT problem. Longline trials only and these should take place soon.

Also under development is an application for port sampling, tested in Fiji and still in testing. This may be useful but progress may be challenging as the port sampling process lacks funding and it is also very hard to design an app that works in the manner to support the speed and operation of samplers who employ a diverse array of working style and methods.

### ***PNAO updates on ER***

PNAO updated the group on the e-logbook application for vessel operators which is fully developed and implemented, incorporating many modules, covering many aspects of vessel operation including use of aircraft to assist during a set and also cetacean and whale shark interactions. All can be e-reported via the application directly to FIMS and this is now in training and rollout.

For observers PNAO is rolling out the use of a Garmin-based application for e-reporting purposes which reports encrypted data over satellite link directly into FIMS. Also implemented is a system of electronic debriefing to check and correct data if necessary, however SPC note some caution should be used on automating electronic debriefing process when standards have not yet been developed for this. If any compliance actions are needed this will take place after vessel returns observer to port. Although observers continue using paper as well, PNG is already moving to paperless system within months. The application also allows observers to generate a pdf file of their trip. Outside PNG only Solomon Is long line vessels are using FIMS

### ***WCPFC updates on ER***

WCPFC provided a presentation on the development of a high seas transshipment declaration and high seas transshipment notification E-reporting System, noting that phase 1 is 75% complete. The system is comprised of a set of E-reporting standards (recommended by ERandEMWG), an E-reporting data receipt system and an E-reporting tool. A demonstration of the E-reporting tool was provided, noting that it will provide a PC application (there is also a tablet version and there will also be an IPAD version) that is able to operate in a low internet environment. Currently data is received via email with forms in varying formats, and it is expected this new application will result in more accurate, efficient, timely data. It is expected that by the end of the 2018 the Secretariat will have the ability to receive data that conforms to the E-reporting standards that are recommended by the ERandEMWG for Commission adoption, and it is expected that third party apps will also be able to be used as long as they conform to agreed standards. It was noted that this work may be a precursor to further developments, e.g. the ability of the Secretariat to receive CDS data.

## 5.2 Metadata Database

SPC reported on activities to establish a metadata database. This work addresses the range of standards across the region by linking different sources at the data field level. The online database was demonstrated for the DCC11 participants. In response to a question on how the database has been populated so far, SPC explained that all the different standards were examined and at this stage the exercise has generally been to replicate those.

Much of the discussion focused on possible solutions to facilitate future changes to fields, noting that at this stage any changes are made directly to database contents, but it was agreed that a better way to edit these was needed, and solutions such as GitHub were suggested as a relatively easy way to share this between organisations. However, this required further investigation.

## 6. LOGSHEETS

### 6.1 General

No substantive changes were proposed.

### 6.2 Longline logsheets – including the ‘extended’ form

SPC presented a proposal to record the discard condition code for the two shark species that were regulated by specific CMMs, oceanic white tip (OCT) and silky sharks (FAL), ‘A’ for alive and ‘D’ for dead directly in the "discarded number" column of the form, using comma separated values in case of a mix of both condition codes.

WCPFC suggested that the more detailed observer condition codes could be used (A0 to A3) rather than a basic "A" to provide more details. However the group acknowledged that it would require training for the captain/crew to distinguish the condition of the shark in a standardised way, and using a simple code may be more appropriate. SPC noted that as this would require changes to the Tufman2 database.

PNAO asked why the proposed change was restricted to sharks, recommending to also include turtles in this change. The reason turtles are not part of this form is that there is no CMM requiring logsheets to record turtle condition at release.

In discussion, some concern was expressed regarding the size of the field on paper forms being too small to accommodate the change. One member suggested creation of a supplementary form to accommodate condition of species of special interest (SSI), however this was not supported. It was noted that DCC limited the changes made to forms or introduction of new forms due to their slow adoption, and a similar supplementary logsheet was developed in the past but did not get used.

SPC noted that with the current introduction of electronic logsheets, that adoption of changes to operational data should rely on ER. SPC reminded that this change doesn't actually need to change the form itself, but rather to change the instruction regarding the shark catch. This way, any form, regardless of the version, could accommodate this change.

WCPFC reminded that this was a response to two CMMs that requires estimates of OCT and FAL catches (CMM 2011-04 and CMM 2013-08). However these CMMs were expected to be replaced

by a new comprehensive all shark CMM that is being developed through a virtual intersessional working group, and that this new CMM is considering that it may not require estimates of catch of the OCT and FAL condition. Discussions on the new CMM look as though the comprehensive shark measure is considering instead requiring CCMs shark catch data to be submitted under CMM's Annual Scientific Data Submission.

Based on the anticipated comprehensive shark measure, the proposed changes to logsheets to record condition of the two species of sharks and hence the change to the instructions was thought to be unnecessary. If the future WCPFC shark measure did require condition reporting then SPC and FFA could prepare a recommendation to propose these changes to MCSWG in March 2019.

The Chair noted that in the context of electronic reporting and work to progress e-log implementation, DCC may want to hold off on making minor changes such as these, and maintaining the 2016 extended version for now. Whilst this might not be viable for other data collection sources such as observers, port sampling etc, progress on e-logsheet development seemed more advanced. Noting the delay in implementation by Members of latest logsheet versions, and the resources needed to adopt new forms, these resources and effort may be more effectively targeted at ER roll-out. Any future changes to data fields could be captured through electronic-logsheet development.

### **6.3 Purse seine logsheet**

SPC presented the supplementary form on cetaceans and whale sharks that was designed in 2017 in collaboration with MIMRA, but has not been reviewed by DCC. This form is already available on the SPC website and has been distributed but there has been no data submitted to SPC on this form.

It was noted that most Members with purse seine fleets currently capture this data via FIMS, and includes more fields than those on the paper form. Consequently, it was suggested that SPC work with PNAO to review the data already collected by FIMS, and to ensure that all regional requirements were catered for, and presenting these data fields in to a standardized format appropriate for ER application, for MCS Working group consideration and recommended adoption. To avoid any confusion with the paper form, it was recommended that the paper form be moved to the archive directory on the website.

PNAO and SPC would provide field definitions to be reviewed intersessionally and will be attached to the DCC11 report as an appendix.

### **6.4 FAD logsheet**

PNAO presented its planned changes to FAD data provided by vessel operators through PNA FIMS, noting that the initiative was originally a US proposal to WCPFC. However, the proposal was unsuccessful as some CCMs did not want their fleets to collect FAD data. This position has slowly changed, and the US extracted the FAD data components and presented it to the WCPFC FAD Management IWG.

PNAO provided an overview of the developments of the FAD Management IWG, which has progressed this proposal, leading to a specific recommendation being made to the Scientific Committee in 2016. This proposal covers the following main elements: a) more data on board regarding inventory of FADs or buoys on board; and b) GEN-5 observer forms being translated into a vessel operator form (with some additional elements).

The FAD-IWG2 made specific recommendations regarding FAD data that were supported by SC13. These changes included recommended revisions to the ROP Minimum Standard Data Fields to both add and delete fields. The recommendations were also forwarded to TCC13 for consideration. The meeting queried the nature of the WCPFC14 decisions regarding these recommendations, and highlighted potential uncertainty as to whether the FAD data recommendations were adopted.

PNAO also noted that a recent PNA workshop on FAD management was held, which was strongly supported by PNA Members, in particular the provision of additional FAD data by vessel operators through e-reporting.

PNAO noted that currently PNAO has not proposed any changes to required forms (subject to any existing Commission decisions). Instead, PNAO are focusing on the ongoing development of FIMS to incorporate these changes. In the future, a proposal (for revision of Scientific Data rules) will likely result in the need for e-logbooks to be revised to include the proposed changes.

The meeting discussed the process of how these changes have evolved, and also the role of DCC in considering this. Participants agreed that further work is required from SPC/FFA Members prior to DCC considering any form changes. PNAO noted that ongoing consultation with SPC and FFA is proposed.

PNAO then discussed the proposed data standards and displayed how the FIMS platform will record this information, showing screenshots of the FIMS interface which is currently in the development phase.

The meeting also looked at the specific data field changes (as outlined in the proposal/paper), including the set of FAD activities that data fields would relate to.

PNAO noted that there is a future need to look at the FAD tracking data upon consideration of what data is actually needed (i.e. whether any data are redundant).

SPC noted that this whole body of work, considered under the proposal, is useful in determining what fields are actually needed.

No recommendations were proposed for DCC to make.

## **6.5 Implementation of DCC11 version of the SPC/FFA regional logsheets**

SPC noted that this agenda item had been covered under previous agenda items. Further, implementation of DCC11 versions of the SPC/FFA regional logsheets will depend on whether the changes are adopted at the WCPFC level. Therefore, at the present time, no changes are needed.

Regarding the purse seine whale shark encirclement form, there is work to be done first between SPC and PNAO before DCC can consider these. SPC queried whether this form should be removed from the SPC website now, as it is only used by PS e-reporting. A proposed approach was to include a note on this form, or watermark it, noting its status.

SPC also queried whether it would be useful to have a summary of the latest version of every form available on the SPC website. A small matrix with the most recent year for each form would be

very informative. The meeting thought that this would be a useful addition that would provide more clarity over versions and improve accessibility to various stakeholders.

## **7. OBSERVER DATA FORMS**

### **7.1 Review of observer forms**

SPC gave an overview of proposed changes to observer data forms. A mini-DCC was held prior to DCC10 which resulted in a comprehensive review where many changes were considered and made to observer forms. Currently, only two changes were proposed by SPC with the intention to:

1. Improve FAD buoy identification to allow better geographic and among-boat tracking of beacons and, hence, FAD use. This proposed change is to indicate that buoy number should be populated by serial number, and to include a reference to beacon number.
2. Improve detail of SSI condition for both SSI landed and SSIs interacting with primary gear. This involves using interaction codes for landed SSIs, and amendments to protocol and instructions.

Participants discussed any proposed changes that might be needed and did not raise any specific issues with the two proposals from SPC.

It was noted that there is another Observer Trainers' workshop being organised by FFA, which is a good forum to discuss changes to observer forms.

### **7.2 Transshipment**

SPC outlined that it is having current discussions with Pew (as donor) on a project to develop transshipment forms (observer carrier vessel forms), with the intent to explore what data can be collected with respect to transshipment events. This links to what level of monitoring can occur for transshipment activities. It is proposed that a consultant will be engaged to undertake this work however, a ToR has yet to be finalised. The scope of the work is beyond just high seas transshipment and extends to any transshipment activities. FFA/SPC do not have regional standards for observer workbooks for transshipment, and this is the genesis of the current work streams, along with a specific tasking from ROCW.

It was queried whether the work is focusing on scientific work, or whether it is compliance related. FFA noted that SPC will be looking at the scientific aspects, while FFA will be more focussed on the compliance implications. FFA also noted that it has started reviewing data fields required for developing carrier vessel observer forms for transshipment events. However, there are potential issues regarding protocols and sampling considerations from a monitoring perspective that requires further work from SPC.

CCSBT queried whether any CCSBT-related information would be considered by a consultant in their work. SPC noted that no terms of reference had been finalised and therefore it will have to be worked out. There has been delays in the progression of this work due to staff changes. WCPFC noted that MRAG may have access through its sister agencies that operate transshipment observing programs in other tuna RFMOs, to some potentially useful resources regarding transshipment monitoring that could be used as a guide in this work.

As an aside, CCSBT noted that it had signed a Memorandum of Cooperation (MOC) with WCPFC which will allow southern bluefin tuna (SBT) to be transhipped in the High Seas of the WCPFC Convention Area if observed by a CCSBT-endorsed WCPFC ROP observer. CCSBT is currently working towards operationalising this MOC, and has provided the DCC Chair with a copy of its transshipment observer data requirements (for transshipments involving SBT) so that these can be considered as the DCC develops its own minimum data standards for observers on carrier vessels.

WCPFC and CCSBT noted their interest in staying engaged with any transshipment data collection analysis, and consideration of what data is required.

### **7.3 Implications for PIRFO**

SPC noted that PIRFO training competencies for ER and EM have been developed and adopted but not yet documented into PIRFO training. The PNAO proposed changes to the collection of FAD data currently collected by observers on GEN-5 forms but proposed to be collected by vessel operators on logs, has implications for PIRFO. SPC has recently advertised a request for quotes (RFQ) to look at PIRFO EM/ER accreditation and overall PIRFO accreditation to meet the Education Quality Assessment Program (EQAP) which is the SPC education standards assessment organization for qualification accreditation. This requires a comprehensive review of current materials, resources, teaching guides and assessment material. A PIRFO Trainers Workshop in October will feed in to this. A second RFQ is in development for getting bird and shark identification guides.

FFA advised that the workshop in October would bring together the PIRFO trainers and PNAO to further advance the PIRFO training.

## **8. UNLOADING DATA COLLECTION**

There were no changes to the purse-seine unloading forms, the longline unloading forms or the transshipment monitoring forms.

## **9. PORT SAMPLING FORMS**

SPC provided a summary of the number of longline port samples collected from 1994 to 2018 by quarter. There had been an overall increase in the number of longline vessel trips sampled to over 450 per quarter in 2016. However there were currently no purse seine catches being sampled during transshipment since the advent of 100% observer coverage and there were no requests for port sampling form changes.

Port sampling e-reporting has been developed but has been difficult to operationalise as the port sampler was often needing to collect both weight and length data, and the ER application requires the sampler to move between pages which is too slow to do in practice. This requires further work to improve its practical application.

## **10. ARTISANAL DATA COLLECTION**

SPC presented a list of changes to the Artisanal data forms that had been proposed by Phil James from the coastal fisheries section of SPC.

As the ER application TAILS was now the primary data collection tool, the paper forms were no longer being used and the changes reflected the data collected in the TAILS application. The proposed changes were a late submission for DCC consideration and were presented as a list.

It was recommended that the changes be adopted. It was also agreed that the changes be attached to the record as an appendix, in the standard template for changes as adopted by DCC10.

It was noted that SPC was the primary user of this data, and queried whether future changes to data fields (given for ER applications paper is now redundant) would more efficiently be managed outside of DCC. Whilst this was a logical approach, it was suggested that further consultation was required with senior data staff before DCC formally considered this. In addition, DCC needs to find investigate ways to share and promote any data field and process changes particularly in the context of ER.

## **11. OTHER FORMS**

### **11.1 MCS data standards**

PNAO reported on the implementation of a compliance module in FIMS, which can be used for the entry of incidents being collected by compliance officers from observer reports and other sources. A similar inspection module has also been developed. In the case of incidents, officers are able to manually access FIMS and enter any info provided by informants or by observers using GEN-3 forms. Also any info collected by boarding officers, for example, can be sent by internet to FIMS where the reports can be checked and more info added within the system. This creates a critical incident report in FIMS, containing details about the incident and even any penalty fees related to the offence. The system is also able to maintain case logs which link back to original critical incident reports (CIR) and the incident itself along with status of the incident, whether it is open, active, etc.

WCPFC provided a brief update on their online compliance case file system and an outline of recent developments of high seas transshipment data standards with an eye to getting them adopted. Record of fishing vessels has had standards for some time, supporting online direct entry by countries (or by excel file). There is adopted E-reporting standards for operational-level catch and effort data and observer data that have been adopted, that are the basis of SPC meta database development.

WCPFC raised some questions relating to GEN-3 form, suggesting the assault/intimidate section may need some revision and expanded/rationalised. FFA responded that it was not so easy just to change the form but agree it does need complete review of entire process. WCPFC noted that the original purpose of the GEN-3 was not meant to be for compliance purposes but simply to point to the observer report section where infringements were reported fully.

In response to a question, PNAO advised that GEN3 incident reports are handled in FIMS through the debriefing process. FIMS is able to produce pdf reports as needed but there is uncertainty about the process of releasing this to Members. PNAO noted they are looking into directly linking FIMS to the WCPFC compliance case file system.

### **11.2 Licensing data and process standards**

FFA Secretariat presented an overview of control standards covering registrations, authorisations and verifications for entities that are involved in fishing. The core drivers for this work include issues around complexity between regional and national systems, uncertainty over transition from paper based to electronic systems and scope creep. The requests and scope of work required by members varies greatly and is often expanded as the needs and understanding evolves. Establishing standards is proposed as an approach to address the scope creep and ensure that systems can talk to one another and are compatible.

It was noted a key goal is to establish a common language between technical staff and the fisheries management and compliance staff to ensure common understanding of the purpose for information systems.

FFA referred to an electronic licence system that has been developed with NORMA in FSM that includes an electronic registry that enables licence forms to be generated and electronically, printed on paper with QR codes. Key outcomes of the system change was a decrease in time from 14 days to 2 days in the required time for generating permits. There are bottle necks with compliance checks that require up to two days for consideration. The key challenge is that the system is highly customised which makes it difficult to scale up regionally. However, standardising the key fields and forms would ensure that systems are scalable and the goal is to develop these standards through DCC to ensure commonality across the region.

It was noted during discussion that several countries have been developing their own systems with support from different regional agencies but no common standards have yet been established. This DCC provides the first opportunity for common standards to be developed across the full FFA membership based on the lessons learned and experience from members.

Through the system developed for NORMA, vessel operators are able to apply for vessel registrations online which includes a review checklist. During the review process, licencing officers are able to link to compliance data and complete any checks against compliance history, complete due diligence, generate an invoice and complete authorisation. Generating invoices within the approvals process was a top priority identified by FSM and other members to ensure they can effectively monitor revenues and collection of fees.

All events are logged within a transaction registry so that licensing staff can follow the complete history of interactions with a vessel or other fishing entity.

There was discussion around the challenges of designing systems to effectively meet the needs of members and ensure the ongoing costs can be managed. Within the system developed for NORMA each component can be costed and there will be greater cost efficiencies if the core elements are standardised and used across multiple members.

PNAO noted the need for systems to be developed based on members needs and that this is easier to achieve with smaller groups of Members that have common interests. This has proven effective with the development of the FIMS system. There was general discussion around the benefits of having standards that draw from all members experience and that they need to be carefully developed at a level that will be beneficial to support communication across different national systems where this is required.

FFA Secretariat gave an overview of the process used for developing draft standards. This included identifying a clear purpose, collecting baseline information on what people are doing,

applying analysis processes, building prototypes to evaluate if it works in real life. Draft standards were developed following feedback and evaluation of prototypes with member countries.

The standards themselves include considerations of the purpose, function, standard level and user group for each standard. Standards were categorised into three levels: level 1; for use in operational MCS systems, level 2; for use in analytical MCS systems, level 3; for use in data feed systems.

It was clarified that this set of standards was focused on both what the minimum data required is and also how that data can be linked. The core standards would enable links to other data fields stored elsewhere to ensure efficiency.

There was discussion around whether MCS data fields should be housed in a relational database or message based? This was left as a decision for a later meeting. However, participants noted it would be helpful to look at the wireframe for how all the data fields link together to ensure there us complete picture of what we need without duplication or gaps. Ultimately standards should be higher level than a prescribed schema as existing work has already evolved beyond that level.

It was noted that UVI and IMO are used for the same purpose. However, both terms are used in different contexts so recommend adding a specific field for IMO as well. The goal internationally is to move towards the use of IMO.

Vessel communications - remove installer name and email. Note that VMS details are necessary for that system but for communications we need to keep it broader so that the communication process doesn't require a type approval which is specific to VMS

### **11.3 Port State Measures**

FFA advised that the Pacific Islands Port State Measures Project (PIPSMP) is heading in to its second year of implementation. A key focus of this work is ER implementation and coordination with SPC is required to advance this aspect. Significant work is underway to develop standardised elements of PSM, including how best to capture and share data amongst Members. In relation to the SC14 proposal for a holistic data needs analysis, the PSM project has already commenced some of this work, but it will require the scope to be broadened. Work has been slow to implement, however additional staff and preferred suppliers have been engaged and will hopefully progress this work more quickly. Given the wide range of issues and scope to address under this topic, the need for dedicated mini-DCC meetings is likely.

### **11.4 Catch Documentation Scheme**

FFA presented the draft WCPFC Catch Documentation Scheme Standards.

FFA explained that the development of draft WCPFC CDS standards has had set backs, but Wetjens is now taking the lead on its development (formerly led by Fraser McEachan). In addition, a specific CDS project proposal has been finalized with NZ MFAT funding to support CDS development for FFA members valued at NZD\$4.9 million over 5 years. The first stage will be a planning meeting in Honiara in October this year among relevant partners. The approach covers multiple disciplines and work areas, with the scope of the project aimed at providing assistance to interested FFA members in the development of national CDS. A steering committee will meet in November to approve workplans and budgets. FFA was already fielding requests from members and providing support under this project.

FFA noted that the push transition and develop 'electronically based' tools, thus, the approach is to identify and use appropriate technologies in CDS development. The definition of the project started 2 years ago, initially as a single project, but had since evolved to where it was now two projects – port State measures and CDS.

SPC noted that innovation funding is supporting their trials on a block chain initiative related to CDS development as a proof of concept to help understand its potential usage and how it works. The study will focus on the south Pacific longline fisheries. There will be 100 days of consultancy, split into several stages to determine the utility, versus hype, of its application. The outcomes will be shared with FFA at the end of cycle. Furthermore, a Tufman2 application program interface (API) has been developed and is ready for plugging into CDS systems.

PNAO noted that a CDS has been developed under FIMS, and PNA members have been using this for some time. It uses checks and verification based on data feeds coming in from multiple sources that dedicated officers use to match data. It is based on the use of authorisation codes for the reconciliation of mass balance.

FFA asked whether the PNA CDS incorporated conversion factors in catch reconciliation. PNA responded that it did not.

SPC noted that there are multiple work streams (port Sampling, CDS, MSC) that collected similar information often at the same time and asked if there was a consolidation of effort? PNA responded that there was consolidation of data. SPC suggested that this could be further shared among parties.

WCPFC noted that the Northern Committee will move on a Bluefin CDS.

PNA noted the decision of PNA ministers that EM is to be FIMS based.

## **12. DATA MANAGEMENT ISSUES**

SPC provided a summary on development of data quality checks for observer data. Until now the primary data quality checks were made by the Data Control Technicians (DCTs) within SPC and a score recorded against the trip. SPC has now just completed a debriefer evaluation component within Tufman2 which was demonstrated to the meeting. The debriefer evaluation component does not yet have a reporting aspect but will be developed. SPC estimates they will receive around 1,200 trips with debriefer evaluations per year (projecting from the 464 received for 2018 trips in the first four months since they started being sent), and this shows the significant amount of data entry work to be undertaken.

WCPFC noted that for 2018 there were only 276 trips debriefed, though in a previous presentation SPC had said they had received 770 observer trips. SPC noted that the request for debriefing evaluations forms had only been agreed to last February at the ROCW18 and while they are receiving data, it was not yet from all observer providers.

FFA asked whether the debriefing evaluations would be entered at SPC or at the national level and SPC advised that this was still in the development testing stage, and for now would be at SPC as there was some training needed prior to application of the component, and that ultimately it could be done by national programs. At the ROCW18 according to the coordinators declarations for 2017 coordinators indicated that about 80% of observer trips were debriefed in 2017. SPC also

noted that the application would allow the debriefer to see the historic performance of the observer and comparisons of the evaluations' scores among debriefers.

FFA asked if there would be an e-debriefing application and SPC noted that there was one already developed by Quick Access in FIMS. However, this highlighted where technology was moving faster than the DCC process as the DCC had not yet discussed the standards for e-debriefing. WCPFC asked whether the e-debriefing data in the FIMS e-debriefing application would be incorporated into the SPC observer databases, and SPC suggested that as the application had been based on the debriefer forms, it should be able to be uploaded.

SPC further advised that the key issue was that there were no process standards for e-debriefing and the application had some fields that were automatically checked whereas a debriefer using the paper forms did this manually. SPC reiterated that we urgently needed to establish process standards for e-debriefing.

WCPFC advised that one of the Asian observer programmes was also using e-debriefing, in which the observers were entering their own data and error checks were done in the application.

SPC then displayed the Tufman2 application that has built-in validation workflows. Upon data entry, quality checks are applied. The system provides warnings, and errors must be resolved before data gets a 'thumbs up'. There was an issue in logsheet data that should be accessible to multiple countries as the data sharing is only allowed after thumbs up is triggered. This requirement has made a lot of data invisible to countries other than at the entry point, as it is dependent on a country completing validation and error checks.

The Tuna Data Workshop (April 2018) recommended that manual validation for trips be applied that are in thumbs down status for two months, and the DCTs at SPC can access and validate manually for thumbs up.

SPC had also released a publically available checker to deal with the large number of observer trips that were not accepted and hung in the system. Now the data quality checks can be made externally at the source, so that the provider can check their data before sending to Tufman2. This is a way of avoiding data with errors blocking them in the system. With ER this allows the data to be checked as close to the source as possible allowing for quality checks to be corrected at the source.

A question was raised whether the DCC should assess data quality checks for the regional data. There was a need to find a balance between rigor and flexibility with the development of standards particularly with ER developments as these seem to be happening rapidly. It was suggested that DCC determine its role in the establishment of quality controls with respect to standards to be applied and validation rules.

PNAO noted that in FIMS data quality control is done by Parties because it is their data, so it would require the agreement of Parties to adopt particular data quality control standards.

## **13. FUTURE WORK**

### **13.1 Review of future work areas of the DCC as identified by the First Strategy Meeting**

SPC presented a summary of work plan progress, in which many of the immediate and short term targets have been met so focus is now on medium term elements which are divided into four work

areas and priorities. The Chair noted that there is a need for DCC to undertake more work on the transition to ER and the development of data collection platforms and related systems, and that this needs to be reflected in the meeting recommendations and DCC's work plans.

The Chair further noted the need for wider consideration of data platforms other than GitHub which is used by technical data systems developers but not for fisheries technical advisers and users who require a more functional platform. Such platforms should support progress and collaboration between FFA, SPC and PNAO in developing ER data fields, processes and data quality controls.

The Chair noted that there will likely be the need for a mini-DCC to be held where technical personnel identify the need to advance progress in the development and endorsement of ER related standards, as well as MCS data and process standards. This needs to be reflected in the record as well as upon review of DCC work plans and the beginning the process of reviewing and developing a new strategic plan that focusses on DCC priorities.

## 14. DCC11 RECOMMENDATIONS

DCC adopted the following recommendations:

1. **SPC and FFA** submit the report of the DCC11 (highlighting all form changes or introduction of electronic data fields, and the DCC 2018 versions of the forms/fields) for adoption at the next SPC Heads of Fisheries (HOF) and the next FFC (May 2019).
2. [Agenda item 2.1] **SPC and FFA** undertake a review of the DCC Strategic Plan (2016-2020) and commence a process to develop a new strategic plan (2021-2025) for DCC to adopt in 2019, and formal endorsement by members in 2020. This should also include a review of DCC priorities.
3. [Agenda item 2.2] **FFA** will include the DCC as a standing agenda item for the MCS working group, to consider and endorse DCC meeting outputs, raise awareness on efforts to further implement electronic reporting, and to promote to members the importance of implementing the most recent data and process standards in their fisheries data collection systems.
4. [Agenda item 3.4 and 4.0] DCC noted the increased use of e-monitoring and the varied objectives across FFA members and other WCPFC CCMs. To continue support for members with e-monitoring the DCC recommended that:
  - a. the outcomes of data needs review proposed at the WCPFC SC be considered at the next **DCC**.
  - b. **SPC, FFA and PNAO** continue work to develop e-monitoring data, process and transmission standards, along with procedures for analysis, training and quality control.
5. [Agenda item 5.2] DCC recommends that **SPC** continues the development of the MetaData Database, and in particular, to develop standardised outputs.
6. [Agenda item 6.2] With regards to WP03 and in the context of ER roll-out and time lags in the uptake of the latest logsheet versions, the DCC considered that there was little value in revising the paper logsheets, and recommended that no further changes

be made to the 2016 extended longline logsheet form. **FFA and SPC** should instead focus their efforts on implementing electronic reporting amongst their Members, noting the ease in which species specific reporting, and minor adjustments can be made to ER software.

7. [Agenda item 6.3] **SPC** will work with PNAO to develop ER data fields and instructions for the whale shark and cetacean's purse seine logsheet, noting it is being implemented via electronic reporting. This may extend to other species of special interest, such as key shark species, turtles and seabirds. This is attached at Annex [x].
8. [Agenda item 6.4] **SPC and PNAO** will continue work to develop vessel operator reporting requirements on FAD data fields and instructions to be captured using electronic reporting methods. Once this is completed, and sufficient time has lapsed to address implementation issues, the DCC will have to consider revisions to the observer GEN-5 form. This will be included as an Annex to the DCC11 Record at Annex [x] by Feb 2019, for presentation to the MCS Working Group in March 2019.
9. [Agenda item 6.5] **SPC and FFA** will collaborate to advance the roll-out of electronic reporting, and develop tools to support further ER implementation.
10. [Agenda item 6.5] **SPC** will update the DCC tuna data collection forms page on the SPC website to ensure the most recent version of forms and data fields are more readily accessible.
11. [Agenda item 7.1] DCC endorsed the proposed changes in DCC11-WP05 as provided in Annex 3 for **SPC** to revise observer forms to:
  - a. Change the GEN-5 observer instructions to put a priority on recording the dFAD serial number on the GEN-5 buoy number field rather than other markings, e.g., changing the instructions to have observers record the serial number and, only if not possible, to record any other identifying information in as much detail as possible, and;
  - b. Revising the protocol and instructions on LL-4 to use the interaction codes for all SSIs, including those landed, requiring observer to record this data.
12. [Agenda item 10.1] DCC endorsed the proposed changes for **SPC** to revise artisanal data [forms/fields] as provided in Annex 2.
13. [Agenda item 10.1] DCC noted that SPC is the primary coordinator for the collection and use of artisanal fisheries data, and that requiring DCC consideration of proposed changes to artisanal data collection forms or fields delays the implementation of necessary revisions and/or updates. Noting the need for further consultation, the next **DCC** meeting will consider whether artisanal data collection should be maintained under the DCC purview, or solely managed by SPC.
14. [Agenda item 12] DCC noted that maintaining regional approaches to quality controls was a necessity, and that the implementation of electronic reporting provides the opportunity for more frequent revisions of these controls informed by research and data analyses. As such, DCC recognised that a more flexible arrangement is needed to facilitate any required revisions, and noting the need for further consultation, **SPC and FFA** will provide options or approaches to the next DCC meeting on how this might be undertaken.

15. [Agenda item 12] DCC endorsed the need for **SPC and FFA** to make data quality controls publically available, for application in the development of data and information management systems for FFA/SPC members.
16. [Agenda item 13] **FFA and SPC** to consider methods to assemble data fields into shared electronic definitions, in support of electronic reporting. FFA and SPC will present their findings and recommendations to the next meeting of the DCC.

## **15. OTHER BUSINESS**

### *Nomination of new DCC Chair*

The Chair advised that she would be stepping down from the role and noted the requisites required for the role, as such nominating Tim Park (SPC) as Chair for the next DCC meeting. DCC endorsed the nomination.

Whilst there was some uncertainty about the Chair's future participation in DCC, the Vice-Chair nominated Pamela Maru (FFA) to take the role of Vice-Chair for future DCC meetings. It was noted that if changes were required, then this could be addressed intersessionally. DCC endorsed the nomination.

## **16. CLOSING**

The Chair thanked participants for their contributions and closed the meeting to a vigorous round of applause.

## APPENDIX 1 PARTICIPANTS LIST

### SPC

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### FFA Secretariat

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## APPENDIX 2 ADOPTED ANNOTATED AGENDA



### ELEVENTH MEETING OF THE TUNA FISHERY DATA COLLECTION COMMITTEE

Brisbane

20-24 August 2018

PROVISIONAL ANNOTATED AGENDA

#### PRELIMINARIES

Appointment of chairperson and rapporteurs

*In addition to their general ability in chairing a meeting, for the DCC general requirements in selecting the Chair are that they be staff of FFA or SPC, that they have attended at least one if not more prior DCC meetings, and that they have a good overview of fisheries science and data management.*

*Lead rapporteur currently held by SPC [confirm] will develop the meeting report of data standards and processes, with an annual work plan.*

*Register of data issues and recommendations.*

*List and record of the current accepted standards and processes.*

Adoption of the agenda

Opening remarks

*See end of annotated agenda for an indicative schedule. Meeting will focus on the progress of the strategic plan, progress to develop MCS data and process standards, and consideration of request for changes to existing data standards (forms).*

#### REVIEW OF THE DCC STRATEGIC PLAN

Strategic plan

*Review progress against strategic plan, note ToR (2016-2020) requires review in 2019*

Work plan

*Review progress against the workplan*

Developing new work (self-auditing)

Frequency of form changes

Metadata database

Outstanding gaps

#### REGIONAL DEVELOPMENTS

*Note that this section of the agenda is intended to provide all participants with a general understanding of this work, and to establish what might be discussion points for later agenda items.*

New WCPFC data requirements since DCC10

*The **WCPFC representative** will summarise any new WCPFC data requirements since the previous DCC meeting, including new CMM reporting requirements relevant to DCC discussions and new fields in the minimum data standards for WCPFC Scientific and observer data. Where and how these fields should be collected will then be discuss under relevant agenda items.*

Outputs from the WCPFC E-reporting and E-monitoring (ERandEM) working group

The **WCPFC representative** will briefly report on the activities and the outputs of the WCPFC ER and EM Working Group. The meeting will consider and discuss matters of mutual interest, areas of overlap and synergy between DCC and the WCPFC ER and EM WG.

#### Regional MCS Strategy

The **FFA representative** will provide a brief overview of the RMCSS, its linkages to DCC activities, in particular performance measures and metrics to monitor progress. The meeting will consider and discuss areas of relevance.

#### FFA Regional Monitoring Strategy

The **FFA representative** will provide a brief update on the FFA Regional Monitoring Strategy, its linkages to other strategies, policy instruments. The meeting will consider and discuss areas of relevance and potential incorporation into DCC processes.

#### CDS and other traceability schemes

**Representatives from WCPFC, FFA and PNA** will each briefly report on recent initiatives related to data collection for regional/subregional CDS and other traceability schemes.

The meeting will consider and discuss how DCC might contribute to the data collection standards related to regional/sub-regional CDS in the future in more detail under Agenda item11.4.

### **ELECTRONIC MONITORING**

Update on EM process workshops and standards development. DCC will consider the 'red data fields' form.

### **ELECTRONIC REPORTING**

#### ER implementation

**Representatives from FFA, PNA, SPC and WCPFC** will each briefly present their involvement with current initiatives related to E-Reporting for collecting/acquiring tuna fishery data. This should also include an update on the development of ER data standards and processes

#### Metadata database

**Representatives from SPC** will report on activities to establish a metadata database.

### **LOGSHEETS**

#### General

**Representatives from SPC** will introduce this agenda item and include brief update on what the current standards are, standards which may be in preparation and the process(es) for standardization and form development. This is intended to be a general discussion and not specific to any particular form or data field.

#### Longline logsheets – including the 'extended' form

#### Purse seine logsheet

#### FAD logsheet

**PNAO representative (???)** - present a list of data fields on FADs (FAD buoy inventories, FAD interactions, FAD design) or scope of proposed changes to standardize FAD data collection by vessel operators across the region [Pam to liaise with Les and PW].

#### Implementation of DCC11 version of the SPC/FFA regional logsheets

The **SPC representative** will outline the steps involved and the schedule for implementing the revised DCC11 forms, including approval from the SPC Heads of Fisheries and the Forum Fisheries Committee (FFC). Also covers questions on what to do with old forms.

### **OBSERVER DATA FORMS**

#### Review of observer forms

The **SPC representative** will present the outcomes of the DCC10 meeting, and outcomes from ROCW relevant to DCC, and any requests for form changes. Participants will be asked to nominate any other changes. The meeting will discuss and agree on the updates to each form. Brief reference to the WCPFC ROP minimum data standards (**WCPFC Representative**) and the current draft WCPFC ER standards for purse seine and longline observer forms (**SPC Representative**) will also be provided under this agenda item.

#### Implications for PIRFO

The **SPC representative** will outline the implications for PIRFO of various developments, including the move to ER and EM and CDS.

### **UNLOADING DATA COLLECTION**

Purse-seine unloading forms

Longline unloading forms

Transshipment monitoring forms

### **PORT SAMPLING FORMS**

Review of port sampling forms

### **ARTISANAL DATA COLLECTION**

Review of artisanal data forms

The **SPC representative** will present the list of requested changes to the regional Artisanal data collection forms. Participants will be asked to nominate other changes. The meeting will discuss and agree on any updates [paper to be provided].

### **OTHER FORMS**

MCS data standards

**Representatives from FFA, PNA and WCPFC** will each present their current and proposed MCS standards, and/or any other relevant information on MCS in general or any specific MCS components. The meeting will consider the scope of DCC dealing with regional and sub/regional data collection standards related to MCS and how DCC might contribute to the data collection standards related to MCS. The outcome will be some understanding and agreement as to what DCC should cover with respect to MCS data standards in the future.

Licensing data and process standards

**Representatives from FFA** will report on activities to develop minimum standards for licensing data and processes.

Transshipment

**Representatives from FFA** will briefly report on initiatives to develop minimum data standards for observers on carrier vessels.

A **representative from SPC** will provide an update on initiatives to develop observer sampling protocols for catch estimation during transshipment.

Port State Measures

**Representatives from FFA** will report on activities since the last DCC meeting, and introduce any new minimum data needs or changes relevant to DCC discussions.

### **DATA MANAGEMENT ISSUES**

General discussion on any issues arising that may need consideration or addressing e.g. data sharing issues, data accessibility by members, data quality and auditing processes etc.

### **FUTURE WORK**

10.1 Review of future work areas of the DCC as identified by the First Strategy Meeting

The **SPC representative** will introduce this item which will look at a number of priority work areas identified in the First Strategy Meeting, including:

*Using GitHub for DCC change management*

*Next meetings: review of ToR*

*Annual work plan*

**OTHER BUSINESS**

**CLOSING**

## APPENDIX 3 INDICATIVE SCHEDULE

DAY	Session	Hours	Agenda Item(s)
Mon	S 1	0830-1000	<b>1. Preliminaries</b> <b>2. Review of the DCC Strategic Plan</b> 2.1 Strategic plan 2.2 Work plan
	S 3	1300-1430	<b>3. Regional Developments</b> 3.1 New WCPFC data requirements since DCC10 3.2 Outputs from the WCPFC ER and EM working group 3.3 Regional MCS Strategy 3.4 FFA Regional Monitoring Strategy
	S 4	1500-1630	<b>4. Electronic Monitoring</b>
Tue	S 1	0830-1000	<b>5. Electronic Reporting</b> 5.1 ER Implementation 5.2 MCS activities
	S 2	1030-1200	5.3 Metadata database <b>6. Logsheets</b> 6.1 General 6.2 Longline logsheets – including the ‘extended’ form 6.3 Purse seine logsheet
	S 3	1300-1430	<del>6.4 FAD logsheet</del> <del>6.5 Shark longline logsheet</del> <del>6.6 Pole and line logsheet</del> <del>6.7 Handline logsheet</del> <del>6.8 Interim troll logsheet</del> <del>6.9 Longline logbook</del> <del>6.10 Deepwater Snapper (DWS) logbook</del> 6.5 Implementation of DCC11 version of the SPC/FFA regional logsheets
	S 4	1500-1630	<b>7. Observer data forms</b> 7.1 Review of observer forms 7.2 Transshipment 7.3 Implications for PIRFO
Wed	S 1	0830-1000	<b>8. Unloading data collection</b> <b>9. Port sampling forms</b> <b>10. Artisanal data collection</b>
	S 2	1030-1200	<b>11. Other forms</b> 11.1 MCS data standards 11.2 Licensing data and process standards
	S 3	1300-1430	11.2 Licensing data and process standards
	S 4	1500-1630	11.3 Transshipment 11.4 Port State Measures
Thu	S 1	0830-1000	11.4 CDS and other traceability schemes
	S 2	1030-1200	12. Data management issues 13. Future work (Work plan)
	S 4	1500-1630	14. OTHER BUSINESS 15. CLOSING
Fri			Report Development

## **ANNEXURES**

### **ANNEX 1 Whale shark and cetaceans**

#### **ER data fields and instructions**

**[ TO BE INSERTED ]**

### **ANNEX 2 FAD logsheet - data to be collected by vessel operators**

#### **ER data fields and instructions**

**[ TO BE INSERTED ]**

## **ANNEX 3 Observer form changes - GEN-5 and LL-4**

### **DCC11 PROPOSED AMMENDMENTS TO OBSERVER DATA FORMS**

#### **Background**

There are less changes to consider under the Observer Data Forms agenda item than in the past meetings owing to the work done at DCC10.

Prior to DCC10 a mini-DCC on Observer Data forms was held attached to a PIRFO Trainers workshop. The purpose was to allow a group of regional and national observer data collectors to assess the changes from a practical perspective, and then provide outcomes to the main DCC10. This was meant to reduce the time required to the laborious field by field review by the main DCC as had happened in the past.

Also in 2016, ER and EM data standards workshops had been held and the outcomes provided for the DCC10 consideration, this fitted the DCC Strategy develop the role of the DCC to set data standards in these new monitoring environments. Because of this work the formats for most of the Observer data fields are now established and the forms have been significantly updated. Therefore at DCC11 there are fewer changes to be considered of observer forms. The changes proposed here are driven by recent assessments and requirements for WCPFC Scientific Committee that impact on the data protocols and application of protocols to collect it. Hence, the shorter time requirement for Observer Data at DCC11.

This proposal highlights two main areas of change in the observer data fields.

To improve FAD buoy identification to allow better geographic and among-boat tracking of beacons and hence FAD use.

Improve detail of SSI condition for both SSIs landed and SSIs interacting with primary gear. The DCC forms incorporated SSI interactions to be included on LL-4 with landings. But for SSIs landed 'condition' codes are used for life status before and after landing but or SSIs that interact with gear but are not landed 'interaction' codes indicate where hooked but not life status before and after interactions. The two field capture slightly different information on the survivability and effects of mitigation measure, however with some changes to their protocols so that both fields are used for both landed and interactions with SSIs will for their use better detail on the impacts of gear and capture of SSIs.

#### **Proposal 1.**

Change observer instructions on the GEN-5 form to put a priority on recording the dFAD serial number on the GEN-5 buoy number field rather than other markings, e.g., changing the instructions to have observers record the serial number and, only if not possible, to record any other identifying information in as much detail as possible.

#### **Context**

In SC paper MI-WP-09 on the PNA's FAD tracking data, Table 2 highlights that for all dFAD deployments:

Observers recorded 18,744 FAD deployments in total;

Of those, they recorded some form of buoy ID for 2,958 deployments;

And of those 2,958 buoy IDs, 831 were recorded in the same format as the full buoy serial number provided by the manufacturer, and is therefore able to be cross-matched with the ID in FIMS)? (In practice, I assume the comparison being made is between the FIMS ID (i.e. buoy serial number) and the 'buoy number' field on GEN-5 forms?); and

Of those 831 deployments, 185 were able to be matched with the buoy track in FIMS.

One of the objectives of the PNA FAD tracking program was to link FAD life histories with info in vessel logbooks and observer reports, which is obviously somewhat challenging if we're not able to trace individual FADs/buoys. This proposal is intended to improve data available for matching.

### **Proposal 2.**

DCC10 decided to move the recording of SSIs primary gear interactions from GEN-2 to LL-4. The 'interaction' codes were added to LL-4 for SSIs that interact with primary gear but are not landed they describe where the animal was hooked or how entangled. Condition codes are also used for the life status of the SSI prior to and immediately after release, as well as for SSIs landed and discarded. However interaction codes are currently not used for landed SSIs, as was the case on the GEN-2. Thus a change in the protocol and instructions on LL-4 to use the interaction codes for all SSIs, including those landed will allow this important information to be recorded.

### **Context**

The USA has a proposal at SC14 to amend the minimum data standards for the ROP. This includes condition codes for SSI interactions before and after release. This is already covered by the SPC/FFA forms though not the location of hooking etc.

Table 1. Observer form changes - GEN-5 and LL-4

Proposed form modification details		DCC10 agreed updates			
Person proposing change	Proposed addition/modification	Record of discussions	New Remove Edit (Form/Field/Code)	ER standards Table field	WCPFC field recommendation
<ul style="list-style-type: none"> <li>FORM GEN-5 FAD / PAYAO and FLOATING OBJECTS INFORMATION RECORD</li> </ul>					
<b>Data Field : Buoy Number</b> Form Type and Section: GEN-5					
Lauriane Escalle, SPC. <b>WCPFC-SC14-2018/ MI-WP-09</b>	<i>Issue</i> Observers are recording any script that is painted on buoy as identification. This frequently has no association with the registration of the buoy. This paper gave low 'good format' reporting rates of the field <b>Buoy number</b> as the number recoded by observers from the Buoy had no connection on the FAD register to the serial number. It is suggested that if the painted ID can be collected then the serial number may be collected as it will have been on board Change the field to <b>Buoy Serial Number</b> and instructions to clarify this.		Edit field		Adopt
<b>Data Field : FAD/Payao No. and or markings</b> Form Type and Section: GEN-5					
Lauriane Escalle, SPC.	<i>Issue</i> To accommodate observers current practice of recording marking on the buoy as <b>buoy number</b> and due to the		Edit field and		Adopt

<p><b>WCPFC-SC14-2018/ MI-WP-09</b></p>	<p>change of <b>Buoy number</b> to <b>Buoy Serial Number</b></p> <p>It was suggested that <b>FAD/Payao No. and or markings</b> be modified to add Beacon to be <b>Beacon or FAD ID Marking</b> (indicate)</p> <p>Modify field to <b>Beacon / FAD ID markings</b></p>		<p>instructions</p>		
<p>Data Field : <b>FAD Lifted</b> Form Type and Section: GEN-5 FAD Details (?)</p>					
<p>Lauriane Escalle, SPC. <b>WCPFC-SC14-2018/ MI-WP-09.</b></p>	<p>As beacons may be changed as a part of servicing or removed and replaced by competing purse seiners, there needs to be a way to capture when a beacon was replaced. Changing the FAD lifted to <b>Beacon/FAD Lifted</b>. With instructions to indicate which or both by circling? Alternatively, in comments. Also to alter the header for the instructions to use a line of entry for every 9 10D, 10R or 14D and 15R. This would separate replacement of a beacon in to a removal of a beacon and a deployment of a beacon and that way capture the serial number for either.</p>		<p>Edit</p>		<p>Adopt</p>

	Instructions would also ask observers to provide buoy type in the <b>Comments</b> .				
<ul style="list-style-type: none"> <li>FORM PS-3 FAD / PAYAO and FLOATING OBJECTS INFORMATION RECORD</li> </ul>					
Data Field : <b>Buoy Number</b> Form Type and Section: GEN-5					
Lauriane Escalle, SPC. <b>WCPFC-SC14-2018/ MI-WP-09</b>	<i>Issue</i> Observers are recording any script that is painted on buoy as identification. This frequently has no association with the registration of the buoy. This paper gave low 'good format' reporting rates of the field <b>Buoy number</b> as the number recoded by observers from the Buoy had no connection on the FAD register to the serial number. It is suggested that if the painted ID can be collected then the serial number may be collected as it will have been on board Change the field to <b>Buoy Serial Number</b> and instructions to clarify this.		Edit		Adopt

**FAD/PAYAO and FLOATING OBJECTS  
INFORMATION RECORD**

**Form GEN-5**

REVISED 2018

OBSERVER NAME:	VESSEL NAME:	OBSERVER TRIP ID NUMBER:	PAGE OF
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Date (from PS-2)	Time	Set No.	Object number	Origin of FAD	Deployment date	latitude dd°mm.mmm'	N S	and longitude ddd°mm.mmm'	E W	FAD as found	Beacon/ FAD lifted	FAD as left	Comments / Change details
											Beac/FAD/ NO		
<b>FAD materials</b>		<i>net/mesh</i>											
<b>Main materials</b>		<i>size</i>	<b>Attachments</b>	<i>net/mesh</i>	<b>Max est. depth</b>	<b>FAD length</b>	<b>FAD width</b>	<b>Buoy serial number</b>	<b>Beacon/FAD ID markings</b>	<b>SSI seen</b>	<b>SSI trapped</b>		
		cm		cm	M	M	M			Y / N / U	Y / N / U		

Date (from PS-2)	Time	Set No.	Object number	Origin of FAD	Deployment date	latitude dd°mm.mmm'	N S	and longitude ddd°mm.mmm'	E W	FAD as found	Beacon/ FAD lifted	FAD as left	Comments / Change details
											YES / NO		
<b>FAD materials</b>		<i>net/mesh</i>											
<b>Main materials</b>		<i>size</i>	<b>Attachments</b>	<i>net/mesh</i>	<b>Max est. depth</b>	<b>FAD length</b>	<b>FAD width</b>	<b>Buoy serial number</b>	<b>FAD / Payao No. and or markings</b>	<b>SSI seen</b>	<b>SSI trapped</b>		
		cm		cm	M	M	M			Y / N / U	Y / N / U		

Date (from PS-2)	Time	Set No.	Object number	Origin of FAD	Deployment date	latitude dd°mm.mmm'	N S	and longitude ddd°mm.mmm'	E W	FAD as found	Beacon/ FAD lifted	FAD as left	Comments / Change details
											YES / NO		
<b>FAD materials</b>		<i>net/mesh</i>											
<b>Main materials</b>		<i>size</i>	<b>Attachments</b>	<i>net/mesh</i>	<b>Max est. depth</b>	<b>FAD length</b>	<b>FAD width</b>	<b>Buoy serial number</b>	<b>FAD / Payao No. and or markings</b>	<b>SSI seen</b>	<b>SSI trapped</b>		
		cm		cm	M	M	M			Y / N / U	Y / N / U		

Date (from PS-2)	Time	Set No.	Object number	Origin of FAD	Deployment date	latitude dd°mm.mmm'	N S	and longitude ddd°mm.mmm'	E W	FAD as found	Beacon/ FAD lifted	FAD as left	Comments / Change details
											YES / NO		
<b>FAD materials</b>		<i>net/mesh</i>											
<b>Main materials</b>		<i>size</i>	<b>Attachments</b>	<i>net/mesh</i>	<b>Max est. depth</b>	<b>FAD length</b>	<b>FAD width</b>	<b>Buoy serial number</b>	<b>FAD / Payao No. and or markings</b>	<b>SSI seen</b>	<b>SSI trapped</b>		
		cm		cm	M	M	M			Y / N / U	Y / N / U		

Diagrams- label with 'Object number'

Person proposing change	Proposed addition/modification	Record of discussions	New Remove Edit (Form/Field/Code)	ER standards Table field	WCPFC field recommendation
<ul style="list-style-type: none"> <li>FORM LL-4 LONGLINE OBSERVER CATCH MONITORING</li> </ul>					
<p>Data Field : <b>Condition Code</b> Form Type and Section: LL-4, Catch Details</p>					
<p>Aurelien, SPC. <b>US proposal to SC14</b></p>	<p><i>Issue</i> Prior to 2016 DCC, SSIs condition code recorded on the GEN-2 was more descriptive combining condition code (life status) with interaction codes (how captured and where hooked). With the transfer of SSI interactions and catches to LL4 according to the instructions the interaction codes (that have hooking information are currently only used for interactions not catches: <i>“for interactions of SSIs with the primary gear or vessel, but not landed on deck”</i> Thus the hooking details are not included. It is suggested that for SSIs the interactions field is used for all SSI interactions and captures landed on deck. Some of the discard codes would indicate if the animal was released prior to landing (DSO, DCF etc. perhaps a new Discarded Untangled (DUN) If the animal only interacted with the primary gear but was not hooked or entangled such as just feeding on bait, either escaped (ESC) or perhaps a new Fate</p>		<p>Edit instructions and codes</p>		<p>Adopt</p>

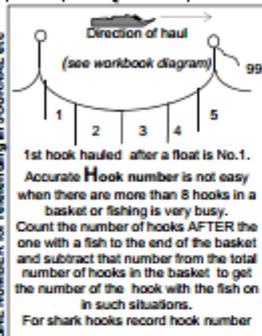
	<p>code of Interacted primary gear only (IGO).</p> <p>This would also make the discarded protected species Fate codes for protected species would become redundant (DPA, DPD DPU), as other codes will provide more information on the treatment of the SSI such as Discarded Struck Off or Discarded Cut Free (DCF) or Discarded Dehooked (DDH). With an additional note in the instructions to indicate in comments what length/type of gear remained attached to the SSI)</p> <p>Additional possible future Fate codes could include wither SSI treatment guidelines were followed.</p>				
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**CATCH MONITORING**

<b>OBSERVER NAME</b>	<b>OBSERVER TRIP ID NUMBER</b>	<b>SET No.:</b>	<b>PAGE</b>	<b>OF</b>
Line numbering Helps with data entry and observer reporting. See page 10 line 15.		This header should be filled in completely, as described in the notes for FORM LL-2/3		
SHIPS START OF SET DATE AND TIME		START OF HAUL DATE		
YY	MM	DD	hh	mm
YY	MM	DD		

CATCH DETAILS										
SHIP'S TIME	HOOK No.	SPECIES CODE	GEAR INTER-ACTION CODE	CONDITION CODE CAUGHT	DISCARD	LENGTH (cm)	FATE CODE	SEX M, F, I, U	COMMENTS / SSI TREATMENT	
1720	1	BET		A1		162	UHF	R99	F	Good sample No.3
1812	3	DCS	IHD		A2			DCF	U	crew cut free in trace attached

LINE NUMBER for referencing in JOURNAL etc



**GEAR INTERACTION CODE**

Interaction Codes to be used for interactions with the primary gear (use with best discarded Fate code or of SSIs or captured to describe how hooked)

IEN - Entangled  
 IHE - Hooked Externally  
 IHI - Hooked Internally (mouth)  
 IHJ - Hooked in jaw (circle hook)  
 IHD - Hooked deeply - throat or stomach  
 IHU - Hooked unknown  
 IFB - Feeding on bait during set  
 IGO - Interacted with primary gear only

**Condition codes to describe the animal's health status;** use for when it is first CAUGHT and again if it is DISCARDED (released, thrown away, escaped). Use also for SSIs Interactions, for condition at release

**Code Description**

A0 - Alive (not categorized into A1, A2, or A3)  
 A1 - Alive, healthy  
 A2 - Alive - injured, distressed  
 A3 - Alive, but dying  
 D - Dead  
 U - Condition unknown

**Sex:**

M - male,  
 F - female,  
 I - indeterminate - you inspected the gonads but could not decide what sex it is  
 U = unknown - the gonads were not checked)

SHIP'S TIME	HOOK No.	SPECIES CODE	GEAR INTER-ACTION CODE	CONDITION CODE CAUGHT	DISCARD	LENGTH (cm)	FATE CODE	SEX M, F, I, U	COMMENTS / SSI TREATMENT	
1920	4	BUM		D		215	LF	RHQ	F	photo #12
2052	5	TUN	IHJ	A2	A2			DCF	U	crew cut free at anchor in trace left attached to shark

**Species codes.** Use the FAO 3-letter codes. Most commonly caught longline species are listed here but you should always carry a full list of FAO species codes.

Code	Common Name	Code	Common Name
YFT	Yellowfin	FAL	Silky shark
BET	Bigeye	LMA	Long finned Mako shark
ALB	Albacore	SMA	Short finned Mako shark
SKJ	Skipjack	OCS	Oceanic white-tip shark
MLS	Striped Marlin	PTH	Pelagic Thresher shark
BUM	Blue Marlin	BTH	Bigeye Thresher shark
BLM	Black Marlin	BSH	Blue shark
SWO	Swordfish		
SFA	Sailfish		
SSP	Short-billed Spearfish		
WAH	Wahoo	TST	Sickle pomfret
DOL	Mahi mahi	BRZ	Pomfrets and Breems
LAG	Moonfish (Opah)	BIZ	Birds
OIL	Oilfish		
LEC	Escolar		

N.B. Avoid using group codes if the species code is known

**Fate codes** describe whether the fish was kept (retained) or thrown away / released (discarded). Also - how and/or reason processed / discarded. Important to select one most informative code!

RGG - Retained - gilled and gutted (for sale)  
 RGT - Retained - gilled gutted and tailed (for sale)  
 RWW - Retained - whole  
 RPT - Retained - partial (e.g. fillet, loin, trunk)  
 RFR - Retained - both fins and trunk (sharks)  
 RHG - Retained - headed and gutted (billfish)  
 RSD - Retained - but shark damaged  
 RCC - Retained - for crew consumption  
 RGO - Retained - gutted only  
 ROR - Retained - other reason (specify)

DFR - Discarded trunk - fins retained (sharks)  
 DGO - Discarded - gear damage (tuna only)  
 DSD - Discarded - shark damage  
 DWD - Discarded - whale damage  
 DIU - Discarded - uneconomic species  
 DDL - Discarded - too difficult to land  
 DSO - Discarded - struck off  
 DCF - Discarded - cut free  
 DDH - Discarded - de-hooked  
 DTS - Discarded - too small (target species)  
 DPQ - Discarded - poor quality  
 DOR - Discarded - other reason (specify)  
 ESC - Escaped

Use **COMMENTS** for other information you think is important about a particular catch item e.g. - to record sample numbers if collecting samples, or to record number of photograph if taking photos, or tag number of any landed and tagged fish. If SSIs are caught indicate how they were handled and whether you think treatment and recovery guidelines were followed.

**Length code** describes how the fish or animal was measured

Code	Description
TL	- tip of snout to end of tail
UF	- upper jaw to fork in tail
LF	- lower jaw to fork in tail
PF	- pectoral fin to fork in tail
TW	- total width (tips of wings - rays)
CL	- carapace length (turtles)
WL	- wing length tip of wing to wrist (birds)
BL	- beak length (birds)
NM	- not measured

**Baskets monitored while filling this page**

Count (tally) the baskets (floats) that come aboard as you monitor the catch. This is important to calculate percentage of hooks monitored.

The perfect observer will monitor every hook in every basket hauled on board. However, observers are human so when monitoring stops record time and reason on a line of FORM LL-4. Record time and "returned to monitoring" on the next line when observer returns. The basket count is to calculate % of hooks actually monitored by observers to give scientists a true picture of how efficiently the vessel catches fish. **DO NOT** count unmonitored baskets.

## ANNEX 4 Artisanal data form changes – ER data fields and instructions

### Activity Logs

- Suggest that you remove 'Sunday' as how do you handle a Saturday that is actually marked as a Sunday.

### Logsheets

- **Methods** – it would be helpful to streamline these, possibly to match the coastal fisheries list.
- **End use** –
  - 'other please specify' no where in the database for this at the moment.
  - Restaurant – not clear what value these really adds
  - Community obligation – suggest this is removed as it is just the same as given away and this has already been used
- **Sharks**
  - We have; "Did sharks eat any of your fish", numbers (as requested in the form) seems very hard to complete for the data collector, worth checking this one with Steve B.
- **Crew gender**
  - Currently in Tails it is only the skipper gender and not the full crew, whilst useful it is a question if DCC feel that the additional effort will actually be put into filling this in.
- **Boat power**
  - Already under vessel registration so seems unnecessary
- **Catch fish**
  - There is a 'did you catch any fish' this will be hard for analysis if someone says no but then fills in species caught
  - The 1 mile of a FAD does not seem relevant if you have a FAD name
- **Hooks**
  - Tails uses hooks per line and the form uses total hooks
- **Units on costs**
  - This is not in tails and suggest that is not needed as should be specified in the protocol documents.
- **Add habitat fished**
  - Classify as reef and lagoon, FAD, Deep, Ocean, mangrove, river

