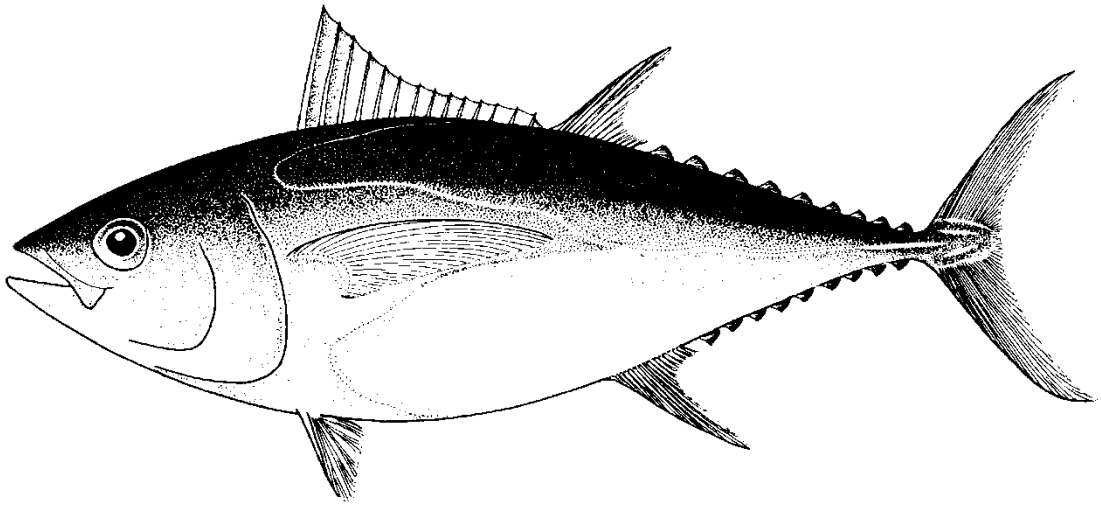
TUNA FISHERY DATA COLLECTION COMMITTEE (DCC)

STRATEGY MEETING

4-6 April, 2016

Archive Room, SPC, Noumea,

New Caledonia



— Indicative Agenda —

Purpose: This DCC meeting will focus on the changing role of the DCC in the emerging era of electronic capture of data in tuna fisheries and developing a long-term work programme for the DCC

09.30 hrs: ***Monday 4th April.***

- MEETING OPENING

Appointment of Chair
Introductions
Adoption of agenda
House keeping

- ROLE OF THE DCC

Its current role

The objectives of the DCC are provided based on the report of the first meeting.

- *SPC and FFA confirm their commitment to improve the quality, accuracy and timeliness of tuna fisheries information. SPC focuses on research and monitoring while FFA is concerned with management. The information collected through catch and effort logsheets, observer forms, and port sampling forms, is essential to the work programmes of both organisations. It is in the best interests of the region to enhance the value of this information, and both FFA and SPC can contribute to this enhancement by cooperating in the development of data collection forms.*
- *In the past (pre 1990s), tuna fishery data collection forms have been developed in an ad-hoc fashion, with the result that there was a plethora of catch and effort logsheets in use in the region. In order to minimise the number of forms, and thereby reduce the complexity of data collection, processing and analysis, SPC and FFA have organised the present (first DCC) meeting to develop standardised tuna fishery data collection forms, for use by both organisations and, whenever possible, their member countries and territories.*
- *The current role of the DCC is to provide standardised data collection forms to SPC and FFA member countries.*
- *Questions to be answered from this session:*
  - *Is the originally described role still relevant in an era of electronic data collection and recording?*
  - *Is the role still relevant given the existing WCPFC and sub-regional organisations and their processes?*
  - *Does the DCC require a formal Terms of Reference to define its role and work area?*

Linking up with other regional processes

- *What are the other current and potential regional (and global?) processes dealing affecting WCPFC Tuna fisheries data collection standards.*
- *In the future, how would DCC best work with and into other regional processes including:*
  - *the WCPFC data standards,*

- *draft ER standards, etc*
- *Enhanced port-based MCS measures?*
- *FAD monitoring, tracking and control?*
- *CMM reporting?*

Its future role in an era of electronic data capture, MSC, CDS and EU Catch Verification schemes

- *There are a number of product certification programmes (e.g. MSC) and often their main requirements are to track the source of the catch and any transfer points. Beyond that the data they require is similar or the same as captured by DCC.*
  - *How can their requirements be met?*
  - *What preparatory work for further implementation/escalation of such schemes is needed?*
- *Is there a role in developing or testing standards / approving products/builds?*
- *Other MSC certifications have seen increasingly higher standards audited over time – what is the role of the DCC in being prepared for ever higher standards*

DCC components – strategy meeting, forms meeting, EM/ER meeting

- *The current DCC format is one meeting every two years.*
  - *Would more frequent meetings or different formats of meeting be useful (e.g. specific data standard meeting, sub-groups for MCS, artisanal etc)?*
- *What are the relationship / roles participation of members of the DCC and ER / EM meetings?*
- *Is there a need for separate EM / ER meetings?*

Breadth of DCC – data in scope

- *The current data types covered by the DCC relate to scientific data and include logsheets, unloading, observer and port sampling for tuna fishery. Expanding the DCC to offer other standardised data types including MCS boarding and bio sampling etc will improve the monitoring of the tuna fishery.*
  - *Should there be separate scientific versus MCS DCC meetings or should there be a combined DCC meeting with more time allocated*
- *Does the DCC have a role in coordination and standardisation of CMM reporting?*

- STAKEHOLDERS

Who should be involved in DCC?
Respective roles

- *Dunn and Knuckey (2013 - WCPFC10-2013-16) described the tasks and lead responsibilities for preparation activities required prior to implementation of E-R and E-M in Tables 2 and 3 of their report*
- *Smith (2014 - WCPFC-EmandErW-2014-05) described roles and resources required for undertaking E-Reporting for observer and catch and effort data and E-M in Tables 2, 3 and 4 of her report*
- *What are the specific roles of the DCC members?*

Future core stakeholders and issue specific participation

- *This section looks at who should be involved in the DCC meetings. Currently the DCC is a joint SPC/FFA meeting with invited guests (mostly the WCPFC or national participants to this point). During the strategy meeting it may be beneficial to re-visit this. One option is to bring in additional groups when specific topics of interest to them are up for discussion. Who might these be?*
  Suggested membership of the ER and EM Working Groups included:
  - *End users - compliance, industry, science, policy, ENGO*
  - *Data collection users- ROP, compliance, industry, port samplers*
  - *IT capacity*
    - *IT experts from existing national agencies and institutions*
    - *Consultant IT expert?*
- *All of the above should be determined and then defined in the TOR*

- SETTING DATA STANDARDS
- *Traditionally the DCC has set data fields on data collection forms. The process for setting data standards is similar, and a scheme offered by the WCPFC for a number of years now, but has been more limited in the definition of the required data.*

The process for setting standards

- *This session should consider:*
  - *Are there existing general guidelines?*
  - *How DCC should set the data standards?*
  - *Is the process used by WCPFC appropriate or are there other approaches to be considered.*
  - *How might the DCC and WCPFC processes be complementary and interact.*

Defining the list of standards

- *Who and how the standards will be set and communicated to DCC member countries.*

Further definition and explanation of data standards

- *The interpretation of data standards can be erroneous if further definition of the standard is not conveyed to the data recorder. How should this be done best?*
- *To improve data quality, decisions should be made on which fields can be filled out by automated data capture from GPS, pre-populated data fields, drop-down boxes, range-checked on input*

Referring to and use of other standards – WCPFC, ISO, FAO, other international standards

- *Draft standards are available in WCPFC-TCC11-2015-20 for:*
  - *Electronic data standard to be used for paragraph 2 of CMM 2010-02 Conservation and Management Measure for the Eastern High Seas Pocket Special Management Area (or its replacement) (EHSPSMARPT);*
  - *Electronic data standard to be used for Attachment C paragraph 3 of CMM 2014-01 Conservation and Management Measure for Bigeye, Yellowfin and*

Skipjack tuna in the Western and Central Pacific Ocean (or its replacement) (HSP1MARPT);
  - *Electronic data standard to be used for WCPFC9 decision on the Standard format for manual position reporting in the event of ALC/MTU Malfunction or Failure (WCPFC9 Summary Report Attachment H) (or its replacement) (VMSMNLRPT);*
  - *Electronic Formatting Specifications for EHSPSMARPT, HSP1SMARPT and VMSMNLRPT;*
  - *Electronic Formatting Specifications for observer data and logbook data*

Frequency of review/change

- *Updating data standards on e-products can be done much quicker than updating the paper copy. What are the pros/cons of more frequent data standard changes?*
- *It is recognised that there may be a need for data requirements and formats to change over time. In such cases, the standards and specifications will need to be altered accordingly and products will need to be re-certified against these specifications.*
- *Updating data standards on e-products can be done at a much quicker than updating the paper copy. Is this an advantage? What are the benefits and dis-advantages of more frequent data standard changes?*
- *Future proof standards from the beginning – what new data will be needed in the foreseeable future?*
- *Add hoc reviews – as issues are identified*

Differences in e-reporting and e-monitoring data

- *Discussion on the differences which are available in some of the reference material.*
- *Potential meeting output is an updated table of the differences – perhaps include hard-copy forms also?*

E-Reporting and E-Monitoring both involve electronic technology; they are interwoven through logistics, communication demands, and the need for effective information management, but distinguished by their specific purpose and goals (Dunn and Knuckey, 2013 - WCPFC10-2013-16). For the purpose of this meeting we suggest the following definitions be adopted:

- *E-Reporting is generally considered to be "open system" because manual inputs are required and accepted, for example from skippers and observers. Examples of E-Reporting include electronic entry and transmission of catch logsheets, observer reports, transhipment reports, and offload records. E-Reporting provides the opportunity for real time reporting of critical information through satellite transmission or mobile networks, as well as to store data for download at the end of a trip. The data can be:*
  - *A mix of automatically recorded (eg time, date location), carried over (eg vessel name), from predefined lists (eg species names), restricted entry (eg heading), free entry (eg notes), multimedia (eg photos)*
  - *Is often incomplete or containing errors*
  - *Requires error checking*
  - *Once error check and imparted into the system, it should be ready to use*
- *E-Monitoring is generally considered to be "closed system" because it does not accept external or manual input that impacts on its core functionality. It relies on automated operations, and sealed and tamper-evident equipment. The most common example of E-Monitoring is a Vessel Monitoring System (VMS), where GPS position and time data are*

collected automatically, and securely transmitted at prescribed intervals to relevant agencies.

- *Contains only automatically recorded (eg time, date and location), carried over (eg vessel name) and multimedia (eg video)*
- *Is only incomplete in the event of a malfunction (in hardware, software or process such as failure to replace hard drives)*
- *Some E-M data requires analysis to generate useable data (eg video)*

08.00 hrs: ***Tuesday 5th April.***

- SETTING PROCESS STANDARDS

Defining a process standard

- *A process standard defines how the data is recorded and/or collected. Anything from the time the data are recorded, the person responsible for recording the data, to the sequence of the data recording can be considered a process standard. Many data standards require further definition to be properly interpreted.*

The process for setting process standards

- *The process for setting process standards needs to be documented and shared. The DCC would seem to be an appropriate mechanism to do this (potential meeting output)*

Implementation of process standards
Frequency of review/change
Differences in e-reporting and e-monitoring data

- *Both E-Reporting and E-Monitoring*
  - *Transmission*
  - *Validation*
  - *warehousing,*
  - *security/confidentiality,*
  - *sharing/extracting data*
- *E-Reporting*
  - *Recording and data entry of raw data*
  - *transmission,*
  - *error checking,*
- *E-Monitoring*
  - *Interpretation (for video)*
  - *Function check and contingencies*

- ELECTRONIC INTERFACES

Ensuring design meets data and process standards

- *This session aims to outline what mechanism(s) need to be established to ensure the design (and product?) meet the data and process standards. Discussion should consider what options might be appropriate with top preferences assigned. A list of factors to consider in undertaking this work (the audit?) could be an output from this session.*

- *What are the various approaches (certification, audits, ???) and what are the merits of each ? What would be the most appropriate/realistic for SPC/FFA ?*
- *Once the data standards and protocols have been established, there is a need for "certification" of the E-R or E-M systems to ensure that the created data reports meet the agreed data reporting standards. Such certification is usually done by an independent agency or the agency in control of the database into which the data is being transferred.*
- *A typical certification process involves:*
    - *Development of standards, specifications and procedures against which a product can be certified*
    - *Make available the standards, specifications and procedures to product vendors*
    - *Test the product against the standards and provide feedback to the vendors*
    - *Certify (or not) the product*
    - *Provide potential users with a list of certified products*
    - *Only certified products can be used*
    -

User accessibility (vessel, observers, boarding officers)

Regional field staff (boarding officers/observers etc.) are used to using the same regional data forms. The move to regional data standards may reduce the ability of field staff to interpret and understand the data they see from unknown products. Training in multiple interfaces may be required as vessels and observers can move between fisheries or be associated with more than one e-product.

- *Observers and boarding officers will require access to electronic data onboard vessels*
    - *They need to be familiar with the different software*
    - *Does software need to have queries to facilitate MCS*
- *Dunn and Knuckey (2013 - WCPFC10-2013-16) identified four options for EM data retrieval from vessels whether by removable hard drive or data transfer:*
    - *Fisheries regulatory officer*
    - *Other authorised officer*
    - *Observer, or*
    - *Vessel master*
- *Procedures need to be developed to facilitate all four options for E-M data retrieval, based upon a risk assessment of the circumstances of each type and variation of data retrieval.*

Malfunction events

What happens if an e-product malfunctions? What are the effects on vessels, field staff, etc. What back-ups do we need to maintain?

- *Prevention is better than cure. Control via*
    - *Good data standards and processes*
    - *Thorough certification processes*
    - *Clear, simple SOPs for use, backup and transfer*
    - *Simple troubleshooting guide*
    - *Document common issues to update user guide*
    - *Pre-trip function checks*
    - *Regular health checks – eg satellite modems transmit aggregated system 'Health Statement' data every hour*
- *Require paper logbooks to be carried as backups?*
- *Temporary parallel paper logbooks for some months/ a year until bugs ironed out?*

- *Require observers carry paper logs / or parallel paper records (useful for error checking)?*
- *EM malfunction rules (return to port/manual reporting)?*

Training (PIFRO)

All observers are trained to a regional standard. What are the implications of multiple e-products?

- *Many PICs conduct regular observer training programs*
- *Training material for observers in the use of E-reporting software and E-monitoring can be facilitated via the regular Regional Observer Coordinators Workshops. Training kits provided to Observer Coordinators, who undertake the training themselves, with the view that each country will in-turn train its observers.*
- *Education of skippers - probably requires dedicated E-reporting officers (they could also train observers) - Nationally Certified trainers to Cert IV level (eg PIRFO Trainers)*
- *SOPs / instructions (eg http://www.afma.gov.au/fisheries-services/electronic-logbooks/)*
- *Trouble shooting guide*
- *Technical support for both E-reporting and E-M*

Translations

The language of the WCPFC and DCC is English. Should electronic interfaces offer translated versions, even if only in the background. How can standards in translations be maintained. This is especially critical given the dialectal differences in some of the languages used in the region.

08.00 hrs: ***Wednesday 6th April.***

- DATA QUALITY PROCESSES

Role of Regional Bodies

Do regional bodies have a role in maintaining the quality of the e-data collected or is this the work of the e-providers. What would the regional bodies role be?

Hard copy debriefing / auditing

How will hard copy debriefing and auditing be implemented or complement other data quality process within e-data.

- *Require observers carry paper logs / or parallel paper records (useful for error checking)?*
- *Independent SPC audits to ensure*
    - *Completeness – are all required fields being completed*
    - *Accuracy – is data being misreported*
    - *Reliability - are protocols being followed*

Data curation

Data curation is the process of adjusting or improving data after the point of collection. In a simple format data curation will highlight the need to adjust a fish length or weight that is known to be beyond the maximum limits. What point should data curation be applied. How will it be done? What documentation is required? Should green data be made available during auditing, queries during data analysis etc. There are already established procedures when data from hard-copy forms are entered into databases – these systems and the data quality control checks have evolved over many years, so sensible to start from here and enhance.

Will E-reporting (with real-time data entry checks) change or reduce the data curation requirements?

Better integration of data from multiple sources

Dunn and Knuckey (2013) noted the compliance benefit of better data integration: "The improved, timeliness and quality of (electronic) logsheets, observer reports and CMM reports, offers a breakthrough opportunity to improve compliance in this fishery. Apart from better access to real-time information, there would also be significant benefits if all of the logsheet information, observer reports, catch landings, and port sampling information was available in a consistent electronic format within a week of the end of a trip. Once such a system was in place, there would be the ability to run predetermined data queries that could highlight discrepancies between these various data sources and also between them and the VMS data that has already been collected". .

Processes for reviewing data relevance

Many data standards are proposed for data collection and once implement they can stay in the system for a long time. What processes should be implemented to ensure the data standards are current and relevant.

Linking analysis issue identification to fisheries monitoring improvements

When data analysis reveals either problems with data collection or new requirements for data collection how is this best feedback to data monitoring programmes.

Better dissemination of QA feedback

The quality of the data either noted during paper copy debriefing or data curation is valuable information to those involved in working with tuna data either in monitoring, data management or data analysis. What processes should be in put in place and who should be responsible.

- FUTURE WORK

Long-term work-plan

Dunn and Knuckey (2013) noted E-R and E-M are in very different stages in terms of their development and implementation.

- *E-R relies on well-established technology, trials in the region have been largely successful, there is strong industry support because an efficiency dividend is envisaged, and E-R would replace existing reporting systems. There are challenges to ensure the data arrives in an appropriate format but these are readily achievable.*
- *E-M is completely new to most agencies and to industry and has significant unresolved (but resolvable) logistical and technology challenges. It is seen by many (including this review) as a potential solution to a range of monitoring challenges either not currently addressed in a coordinated way, or in some cases yet to be addressed.*

E-R is ready to go, whilst E-M is not.

Intersessional work-plan

Implications for PIRFO, including training for electronic data capture

- *Implementation and operation of E-R will require technical training and capacity building for both industry and SIDs*
- *Provision of short and long term training and technical support for implementation and operation of E-R is required.*
- *Education and communication will be an important aspect of capacity building*

- SUMMARY

Work-plan
Next meeting
Adoption of report
Close of meeting