



Pacific  
Community  
Communauté  
du Pacifique

# ER and EM

## From trials to implementation in the WCPO

**Malo Hosken – Oceanic Fisheries Programme - SPC**

*HARNESSING TECHNOLOGY FOR FISHERIES MANAGEMENT*  
*A side event presented by ISSF at the IOTC 20 – 23 May 2016 – La Reunion*

- **Improving data flow and data quality**
- **Building capacity for new skills**
- **Operational frameworks**





## E-Reporting (ER)

- Catch logsheets (elogs)
- Observer reports
- Transshipment reports
- Port sampling records



SPC / FFA REGIONAL PURSE SEINE LOGSHEET											
VESSEL INFORMATION		CATCH INFORMATION		EFFORT INFORMATION		OBSERVER INFORMATION		PORT INFORMATION		ADDITIONAL INFORMATION	
VESSEL NO.	VESSEL NAME	CATCH NO.	CATCH DATE	EFFORT NO.	EFFORT DATE	OBSERVER NO.	OBSERVER NAME	PORT NO.	PORT NAME	ADDITIONAL INFO	REMARKS
1		1		1		1		1			
2		2		2		2		2			
3		3		3		3		3			
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## E-Monitoring (EM)

- High definition video cameras + GPS
- Gear sensors
- Hard drives
- Office observers



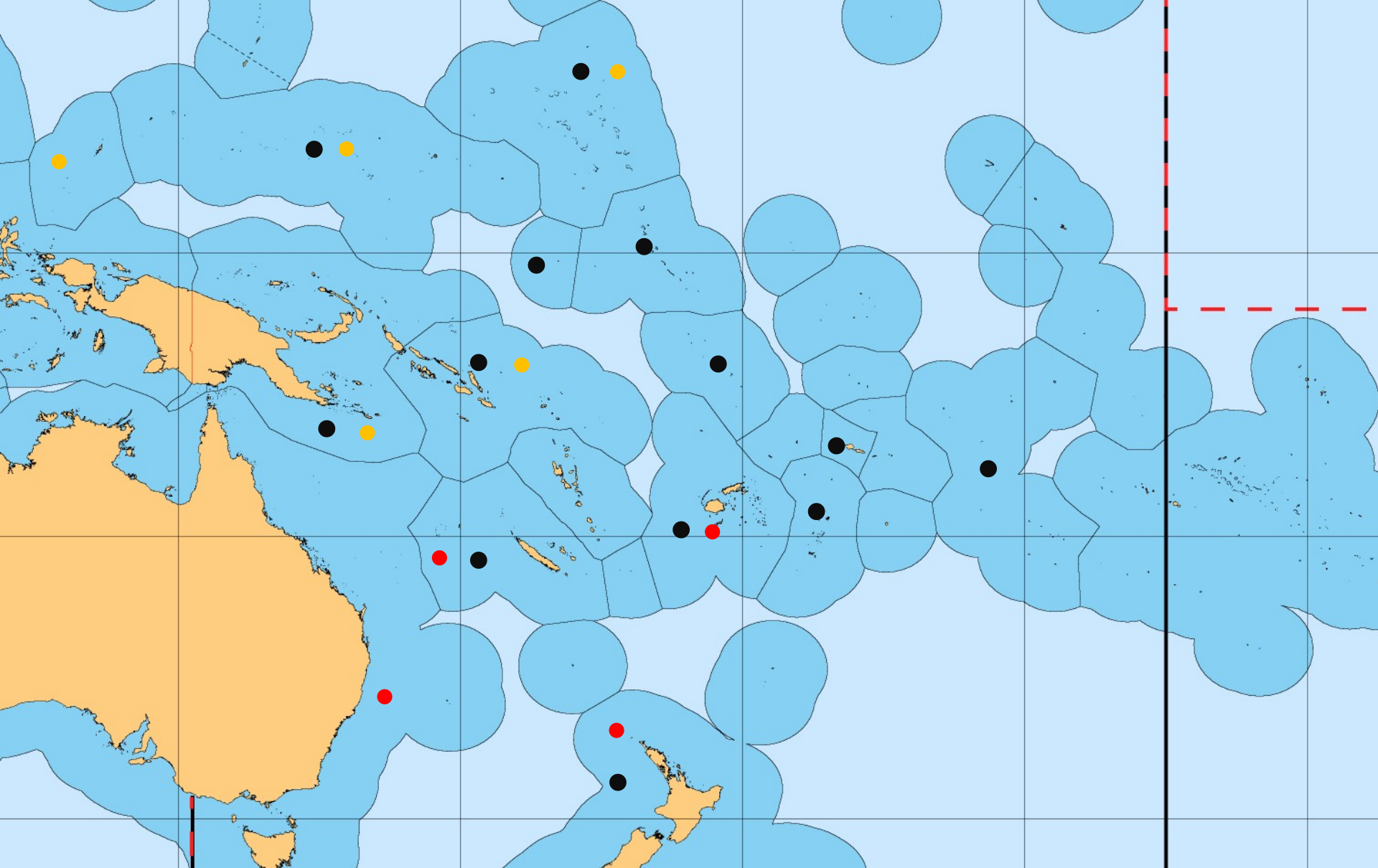
# How will ER and EM help achieve sustainable fisheries?

- **Benefits of ER:**

- Faster data flow – Stock assessment & MCS
- Built in data checking and calculations tools

- **Benefits of EM:**

- Increased observer coverage
- Detailed review of fishing activities
- Logsheets verification



• ER • EM • EM Plans

# E-Reporting (Logsheet) – Purse Seine

## **FIMS for purse seine (PNG/PNA initiative)**

- Fisheries Information Management System – provides industry with a platform to manage and eLodge data in near real time
- Catch reporting and other functions available for any country
- Over 260 purse seiners currently registered
- Android tablet based application

# E-Reporting (Logsheet) – Southern Longline



## eTUNALOG for longline (SPC initiative)

- Suitable for LL vessels in the South Pacific Albacore Fisheries
- Current situation and plans:
  - New Caledonia: 3 vessels currently, rest of fleet by end 2016?
  - Fiji: 4 vessels currently, rest of fleet by end 2016?
  - Cook Islands: 5 vessels currently, further rollout in 2016
  - Kiribati: 1 vessel
  - Tonga: 3 vessels
  - Samoa: 3 vessels
  - Vanuatu and French Polynesia in 2016

# E-Reporting (for Observers)

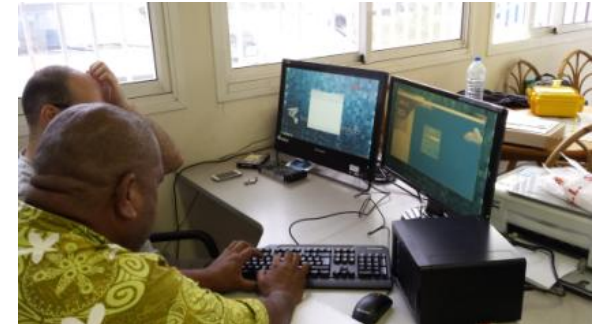
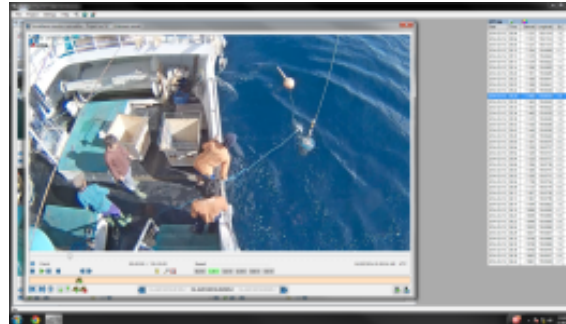
- FIMS on PS vessels 2014-2016 – 150+ observers trained
- Built in data checking and calculation tools
- FIMS can use the data for CDS and VDS NFD Validation





# Video E-Monitoring for LL vessels

- 2014: Two vessel trial in Solomon Is
- 2014: Two vessel trial in Fiji
- 2015: Single vessel trial in New Caledonia
- 2015: Fifteen vessel trials in Fiji, extended to 50 vessels by 2020
- 2016-2017: Palau, FSM, RMI, Solomon Is, PNG.



# E-Monitoring Focus

Raw EM footage  
and position data

- **Operational frameworks**
- **Office observers**
- **Greater automation**

Curated data for  
Science and MCS

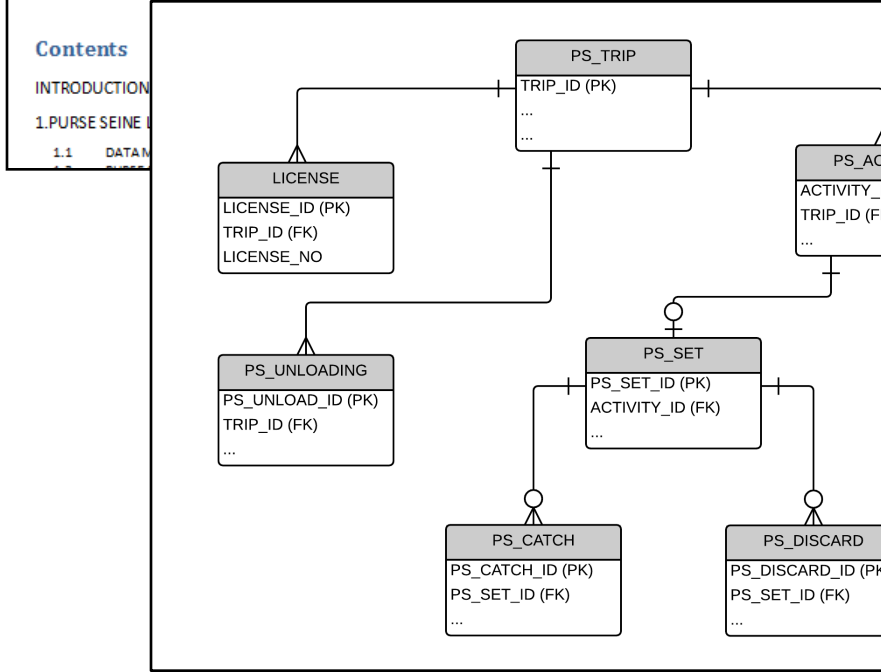
# E-Reporting Officers (EROs)

- Present in MH, FM, CK and SB
- Role: Facilitate collaboration between fisheries authority, fishing industry, SPC and service providers
- Finite funding– cost recovery mechanisms needed

# WCPFC ER and EM Data Standards

Guide WCPFC member countries on how to submit E-Reporting data in the future ...

Western and Central Pacific Fisheries Commission (WCPFC)  
**E-REPORTING STANDARD DATA FIELDS**  
OPERATIONAL LOGSHEET DATA  
*Draft – Version 2.0*  
7<sup>th</sup> June 2015



**1.6 PS SET LEVEL DATA**

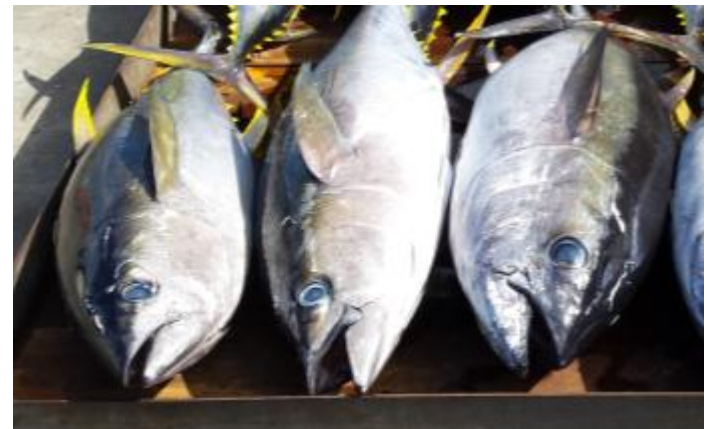
PS SET						
PROVIDE information for each FISHING SET						
FIELD	Data Collection Instructions	Field format notes	Validation rules	RAF CODE	EMG TAG	WCPFC FIELD
TRIP IDENTIFIER	Internally generated. Can be NATURAL KEY or unique integer. NATURAL KEY would be VESSEL + DEPARTURE DATE		Link to TRIP information		<TRIP_ID>	
ACTIVITY IDENTIFIER	Internally generated. Can be NATURAL KEY or unique integer. NATURAL KEY would be DATE + START TIME OF ACTIVITY		Link to ACTIVITY (SET)		<ACTIVITY_ID >	
START DATE/TIME OF SET	PROVIDE the start time of the set which is defined at the time the SKIFF is launched.	REFER TO APPENDIX A1	Expect to be automatically integrated/generated with GPS DEVICE The chronology of SET START TIME with respect to other dates/times for the trip must be valid.	ST	<SETSTART>	Y
END DATE/TIME OF SET	PROVIDE the end time of the set which is defined as the time when the "RINGS UP" ON DECK.	REFER TO APPENDIX A1	Expect to be automatically integrated/generated with GPS DEVICE The chronology of SET END TIME with respect to other dates/times for the trip must be valid.	ET	<SETEND>	Y
SCHOOL ASSOCIATION	PROVIDE the School Associated Code	REFER TO APPENDIX A6	The code must be within the valid range.	SA	<SCHOOL>	Y
SCHOOL ASSOCIATION NOTE	PROVIDE information of the SCHOOL ASSOCIATION in cases where the school association is not covered in the list of School association codes 1, To 7.	VARCHAR(30)	used only when the SCHOOL ASSOCIATION = s	SA	<SCH_NOTE>	Y

# SPC's Role in ER and EM in the WCPO

1. **FACILITATE** the flow of electronically-generated data into regional and national databases
2. Establish **STANDARDS** in collaboration with WCPFC, FFA, PNA and member countries
3. Establish formal **FRAMEWORKS** (e.g. MOUs) to conduct trials leading to implementation
4. **CAPACITY BUILDING** in member countries for managing ER and EM programmes

# Take home messages

- ER and EM improve data flow and data quality
- Capacity building for new skills – no jobs at risk
- Legal, operational and financial frameworks are essential



# Thank you



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- <http://iss-foundation.org/issf-e-news-19-may-2016/>
- [http://www.spc.int/DigitalLibrary/Doc/FAME/Reports/Hosken\\_2016\\_SI\\_EReport.pdf](http://www.spc.int/DigitalLibrary/Doc/FAME/Reports/Hosken_2016_SI_EReport.pdf)
- <http://iss-foundation.org/knowledge-tools/reports/technical-reports/download-info/issf-technical-report-2016-07-international-workshop-on-application-of-electronic-monitoring-systems-in-tuna-longline-fisheries/>