IOTC Regional Observer Scheme
E-Reporting &
E-Monitoring systems

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IOTC ROS: CURRENT CHALLENGES

1. **Data reporting**: all observer data should ideally be submitted to the IOTC Secretariat electronically in machine readable format (.xls, .csv, etc.)

2. **Low levels of coverage**: – particularly for artisanal fisheries. Coverage also low for many industrial fleets.

3. **Artisanal fisheries**: due to the difficulties in implementing on-board observer coverage for small vessels, a variety of alternative methods of obtaining good scientific data are currently explored more fully.

4. **Capacity building activities**: Focused on training of observers, species identification, assistance in reporting and data collection mechanisms.

IOTC REGIONAL OBSERVER SCHEME

Complimentary objectives of ROS E-Monitoring and E-Reporting initiatives.

1. **E-Monitoring:**

   - Improve the **data collection** and **coverage**, particularly for artisanal (gillnet) fleets.

   - Intended to complement the role of on-board observers – particularly for fisheries where there are practical difficulties placing observers on-board (e.g., safety, lack of space, logistics).

2. **E-Reporting:**

   - Improve the efficiency of **data capture**, processing and **quality** of data collected by observers, and timeliness of **reporting** to the IOTC Secretariat.

Resolution 11/04

➢Resolution 11/04 *on a Regional Observer Scheme*

Starting in July 2010 and covering *"at least 5 % of the number of operations/sets for each gear type by the fleet of each CPC while fishing in the IOTC Area of competence of 24 meters overall length and over, and under 24 meters if they fish outside their EEZs shall be covered by this observer scheme".*

"For vessels under 24 metres if they fish outside their EEZ, the above mentioned coverage should be achieved progressively by January 2013."

Reporting status (as of December 2015)

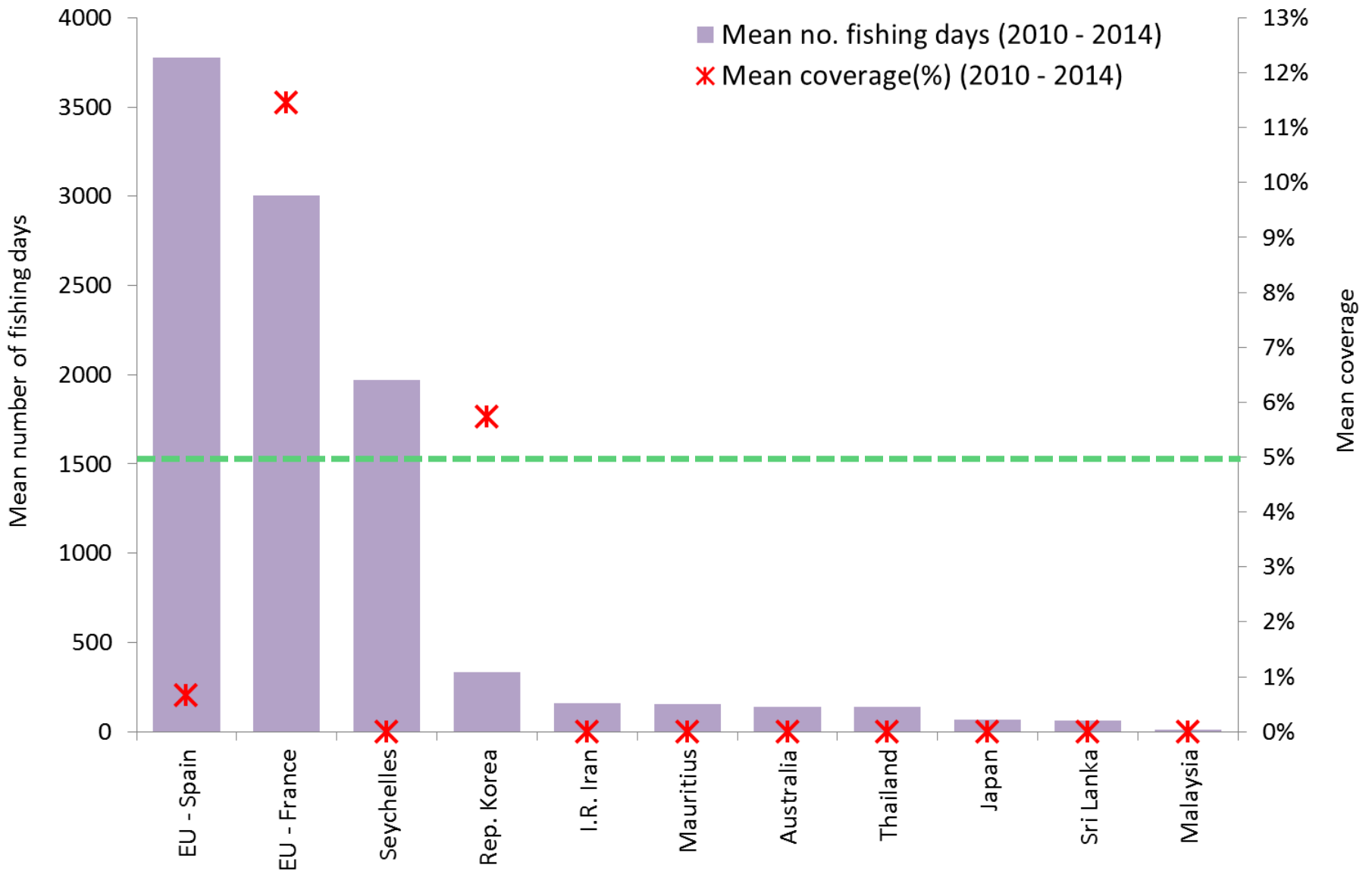| CPCs	Active Vessels LOA≥24m or High Seas vessels[1]				List of accredited observers submitted	Number of observer reports provided[2]					
	LL	PS	GN	BB		2010	2011	2012	2013	2014	2015
MEMBERS											
Australia	3	5	0	0	green	green	green	green	red	green	red
Belize	4	0	0	0	red	red	red	red	red	red	red
China	47	0	0	0	green	green	red	green	green	red	red
−Taiwan,China	241	0	0	0	green	red	red	red	red	red	red
Comoros	0	0	0	0	green	N/A	N/A	N/A	N/A	N/A	N/A
Eritrea	No information received				N/A	N/A	N/A	N/A	N/A	N/A	N/A
European Union	15 / 6 / 22 / 2	13 / 0 / 15 / 0	0	0	green (rows 1–3), red (row 4)	green	green (row 1), red (rows 2–4)	green (row 1), red (rows 2–4)	green (row 1), red (rows 2–4)	green (row 1), red (rows 2–4)	green (row 1), red (rows 2–4)
Guinea	0	0	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A
India	0	0	0	0	red	red	red	red	red	red	red
Indonesia	458	0	0	0	green	red	red	red	red	red	red
Iran, Isl. Rep. of	0	5	1223	0	red	red	red	red	red	red	red
Japan	53	0	0	0	green	green	green	green	green	green	red
Kenya	0	0	0	0	green	red	N/A	N/A	N/A	N/A	N/A
Korea, Rep. of	10	4	0	0	green	green	red	green	green	green	red
Madagascar	7	0	0	0	green	red	green	red	green	green	red
Malaysia	11	0	0	0	red	red	red	red	red	red	red
Maldives	27	0	0	317	green	red	red	red	red	red	red
Mauritius	0	7	0	0	green	red	red	red	red	red	red

Reporting

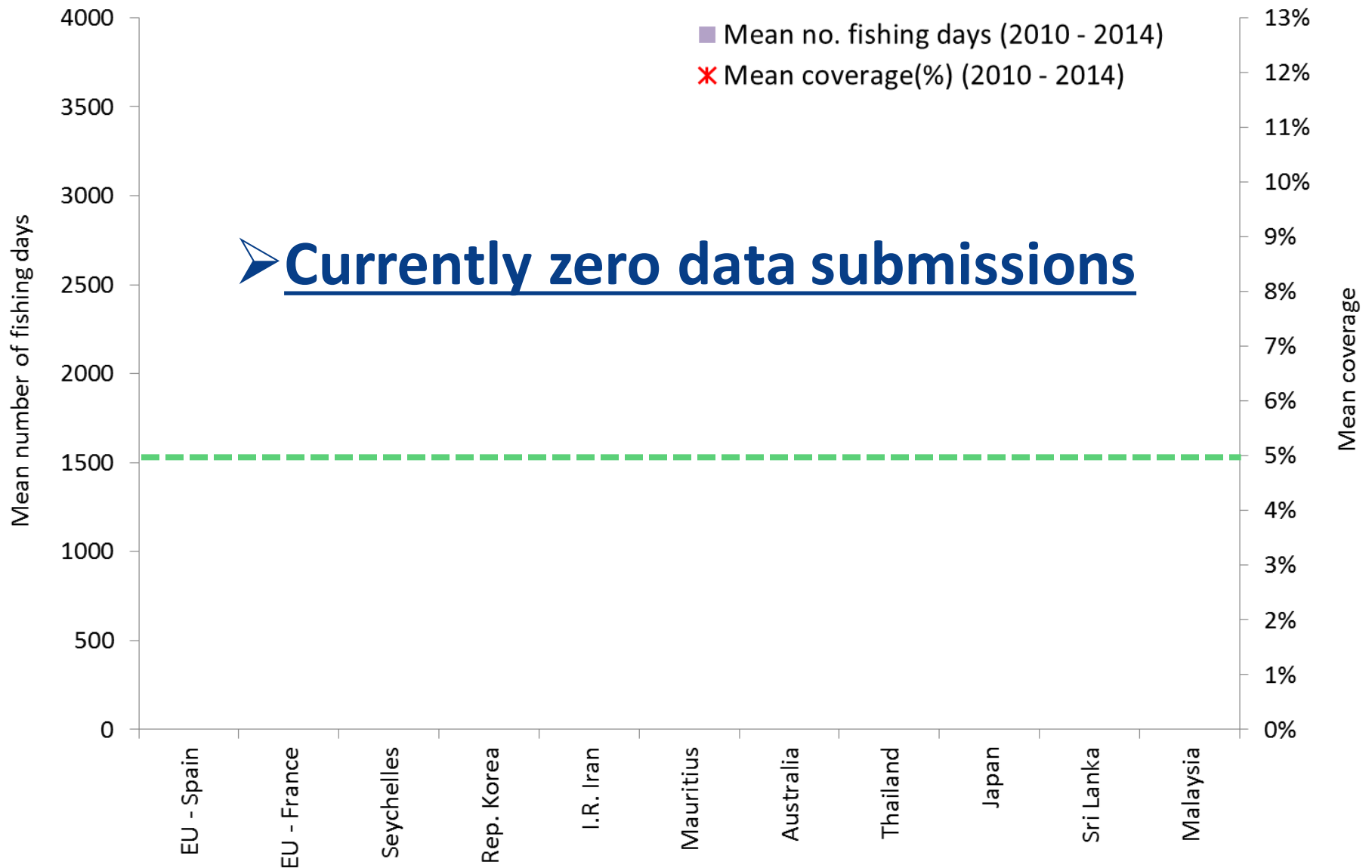| CPCs | Active Vessels LOA≥24m or High Seas vessels[1] | | | | List of accredited observers submitted | Number of observer reports provided[2] | | | | | |
	LL	PS	GN	BB		2010	2011	2012	2013	2014	2015
MEMBERS											
Mozambique	2	0	0	0	green	red	red	green	N/A	red	red
Oman	3	0	0	0	red	red	red	red	red	red	red
Pakistan	0	0	0	0	red	red	red	red	red	red	red
Philippines	4	0	0	0	red	red	red	red	red	red	red
Seychelles	31	8	0	0	green	red	red	red	red	red	red
Sierra Leone	No information received				N/A	N/A	N/A	N/A	N/A	N/A	N/A
Somalia	No information received				N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sri Lanka	13	7	1589	0	red	red	red	red	red	green	green
Sudan	No information received				N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tanzania, United Rep.of	3	0	0	0	red	red	red	red	red	red	red
Thailand	6	0	0	0	red	red	red	red	red	red	red
United Kingdom (OT)	0	0	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Vanuatu	0	0	0	0	red	red	N/A	red	red	red	red
Yemen	No information received				red	red	red	red	red	red	red
COOPERATING NON-CONTRACTING PARTIES											
Bangladesh	0	0	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Djibouti	0	0	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Liberia	0	0	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Senegal	0	0	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A
South Africa	6	0	0	0	green	red	green	green	green	green	green

ROS: Longline coverage (average 2010-2014)
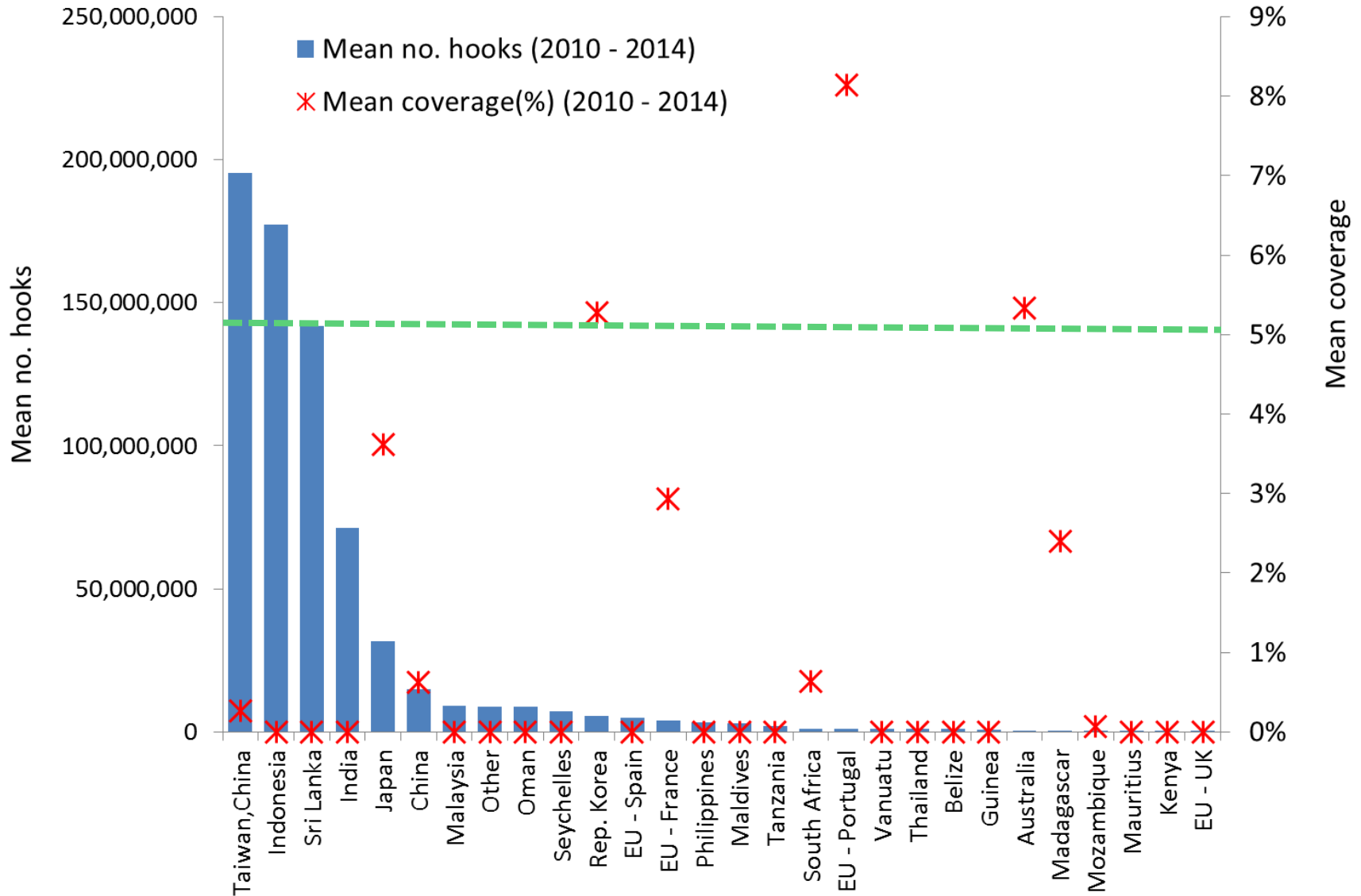
ROS: Purse seine coverage (average 2010-2014)

ROS: Artisanal fisheries (average 2010-2014)

Legend:
- Mean no. fishing days (2010 - 2014)
- ✖ Mean coverage(%) (2010 - 2014)

➢ **Currently zero data submissions**

Y-axis (left): Mean number of fishing days — 0, 500, 1000, 1500, 2000, 2500, 3000, 3500, 4000

Y-axis (right): Mean coverage — 0% to 13%

X-axis categories: EU – Spain, EU – France, Seychelles, Rep. Korea, I.R. Iran, Mauritius, Australia, Thailand, Japan, Sri Lanka, Malaysia

1. IOTC ROS: Electronic monitoring

Aim: to support implementation of the ROS in gillnet fleets and to complement port-sampling schemes

➢ Why E-Monitoring for the ROS?

- Enables collection of data on smaller sized vessels which are impractical for on-board observers.

- Results are verifiable – to a greater extent than ROS reports.

- Can be used to compare and validate the information from on-board observers.

- Technology is developing rapidly, with potential to collect increasingly accurate information, in real-time.

- High initial costs may be offset in the long-term by reducing the cost of training of observers and no. of observers required.

1. IOTC ROS: Electronic monitoring

Aim: to support implementation of the ROS in gillnet fleets and to complement port-sampling schemes

➤ <u>Proposal developed for gillnet fisheries with support from</u>:
  - ABNJ/WWF-Pakistan
  - NOAA
  - Australian Fisheries Management Authority/Archipelago Marine Research
  - Digital Observer Services (DOS)

➤ <u>Potential pilot CPCs (gillnet fisheries)</u>
  - Pakistan; I.R. Iran
  - Case studies: NOAA: shrimp trawl, ABNJ Pakistan

➤ <u>Timeline</u>
  - Funding now confirmed (EU-IOTC)
  - EOIs to be published soon on IOTC website
  - Project start – 3rd quarter of 2016…?

1. IOTC ROS: Electronic monitoring

Full assessment required of available technologies and level of complexity best suited to small-scale/gillnet fisheries.:

Issues for consideration
1. **Potentially high costs** in the purchase, installation and maintenance of equipment required on the number of small sized vessels.
2. **Logistics**: limited space on small vessels for monitoring equipment (e.g., cameras, memory discs, dry areas, etc.).
3. **Compliance**: levels of acceptance by fishers may be lower than on-board observers.
4. At this stage, on-board observers able to collect a broader range of information than some e-monitoring (e.g., biological samples).
5. Potential for data capture of huge amounts of data – which may take time and resources to process.

➢ No IOTC regular budget allocated in the long-term; funding currently allocated under EU-IOTC Science Grants.

1. IOTC ROS: Electronic monitoring

➢ Nevertheless, as a **complementary** approach to on-board observers/port samplers, E-Monitoring has a role for ROS.

➢ Particularly for fleets which are not able to achieve the minimum levels of coverage of human observers, where safety standards, space and cost prohibit on-board observer coverage.

2. IOTC ROS: Electronic reporting

➤ **Aim: Improve the efficiency of data capture , processing and quality of data collected by observers, and timeliness of reporting to the IOTC Secretariat.**

Why E-Reporting?

- Many ROS statistical returns received in paper form, .pdf, or data embedded within documents - including scanned Excel datasheets submitted in hard copy...

- Resource intensive for Secretariat to compile and increases the probability of errors during the processing and data input stages.

- Difficulties processing data received in multiple formats, often inconsistency in terms data reporting fields – currently ROS data not stored in database format at the Secretariat.

- ***Need to improve processing, validation and accessibility of ROS data.***

2. Electronic reporting

➤ **Aim: Improve the efficiency of data capture , processing and quality of data collected by observers, and timeliness of reporting to the IOTC Secretariat.**

➤ Capacity building – three major components:
  1. User-friendly interface – e.g., interactive/smart pdf
  2. National database
  3. Regional database integrated within the new IOTC DB

➤ Collaborations
  • WWF
  • Peer Review: including NOAA, WCPFC, IATTC, ICCAT, SPC

➤ Project funding has now been obtained (for 2016)
  • NOAA / EU / IOTC

2. IOTC ROS: Electronic reporting

Aim: to support implementation of the ROS in gillnet fleets and to complement port-sampling schemes

➢ Potential pilot CPCs
- Indonesia/Thailand – longline
- Pakistan – gillnet

➢ Timeline
- End-May: development of the IOTC Regional database
- End – July: development of National database
- End-Sept: development and testing of E-Reporting interface

Future ROS submissions

2015 ROS data

2016 ROS data