

UPDATE ON THE IMPLEMENTATION OF THE IOTC REGIONAL OBSERVER SCHEME

PREPARED BY: IOTC SECRETARIAT, 8 DECEMBER 2016

PURPOSE

To inform the Scientific Committee (SC) of the status of implementation and reporting to the IOTC Secretariat of the Regional Observer Scheme (ROS) set out by Resolution 11/04 *on a Regional Observer Scheme* at the 15th Session of the Commission (S15) in 2011

BACKGROUND

At the 13th Session of the Commission (S13), the Commission adopted Resolution 09/04 *on a Regional Observer Scheme*, which was superseded in 2010 by Resolution 10/04, and again in 2011 by Resolution 11/04. In 2010, the Commission addressed concerns raised by some CPCs with artisanal fleets, on which it is difficult to deploy on-board observers due to the small-size of the artisanal vessels and/or to their large numbers which would require high deployment levels and in 2011, the Commission extended the period for submitting the Observer Trip Report from 90 days to 150 days.

Resolution 11/04 *on a Regional Observer Scheme* makes provision for the development and implementation of national observer schemes among the IOTC CPCs 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 meters if they fish outside their EEZ, the above mentioned coverage should be achieved progressively by January 2013*”.

Moreover, the Resolution states that “*the number of the artisanal fishing vessels landings shall also be monitored at the landing place by field samplers*” and that “*the indicative level of the coverage of the artisanal fishing vessels should progressively increase towards 5% of the total levels of vessel activity (i.e. total number of vessel trips or total number of vessels active)*”.

The Resolution goes on to state “*CPCs shall provide to the Executive Secretary and the Scientific Committee annually a report of the number of vessels monitored and the coverage achieved by gear type in accordance with the provisions of this Resolution*”.

At its 13th Session the IOTC Scientific Committee (SC13) reviewed the report of the technical workshop organised in May 2010, and endorsed the documents produced by the Secretariat; an Observer Manual¹ and an Observer Trip Report template² containing the minimum reporting requirements. These were formally adopted at the 15th session of the Commission where it was noted³ “*Minimum data requirements were adopted as well as an observer report template that will be reviewed and revised as necessary.*”

¹ IOTC-2010-SC11

² IOTC-2010-SC12

³ IOTC-2011-S15-R[E]

DISCUSSION

Implementation of the observer scheme

As of 8th December 2016, fifteen CPCs (Australia, China (including Taiwan,China), Comoros, EU (France⁴, Spain and Portugal), Indonesia, Japan, Kenya, Rep. of Korea, Madagascar, Maldives, Mauritius, Mozambique, Seychelles, South Africa and Thailand) have submitted a list of observers and have been allocated an IOTC observer registration number. This makes a total of 348 currently registered observers.

As of 16th November 2016, 429 observer trip reports have been submitted to the IOTC Secretariat by Australia, China (including Taiwan,China), EU(France, Portugal and Spain), France OT, Indonesia, Japan, Rep. of Korea, Madagascar, Mauritius, Mozambique, Seychelles, Sri Lanka and South Africa.

Appendix A provides a summary of the status of implementation of the ROS by all IOTC CPCs. Appendix B and Appendix C provide an estimation of the level of effort covered by observers between 2010 and 2015 for industrial longline and purse seine vessels (data updated as of 8th December 2016). Reported scientific observer coverage for the artisanal fleets is currently zero.

IOTC observer data reporting templates

At the 17th session of the Scientific Committee, “*the SC **NOTED** the revisions to the observer reporting templates proposed by the WPEB10 and the WPDSC10 to improve the quality of the data submissions for scientific purposes such as stock assessments and other such scientific work as requested by the IOTC Scientific Committee*”. Further “***NOTING** that improving the quality of data submissions is a process that evolves and develops over time, the SC **ADOPTED** the revised observer templates as interim reporting templates for immediate use by CPCs where ready and for preliminary use by CPCs where further time is required for review. The SC **AGREED** that the IOTC Secretariat will make these templates available in 2015 and update the guidance in the manual accordingly. Following implementation in interim format, the SC **AGREED** that these will be reviewed and modified further as appropriate in 2015*”.

The interim reporting templates, updated version of the manual and data collection forms have been made available on the IOTC website: www.iotc.org/science/regional-observer-scheme-science

All CPCs are reminded that the data can be submitted in any electronically readable format as long as the agreed data required for reporting are provided.

The Scientific Committee also commented on this issue (para. 134, SC18): “***NOTING** that many CPCs report Regional Observer data in .pdf format, or as data embedded within documents, and also in hard-copy format, the SC **ENCOURAGED** CPCs to report Regional Observer data in any non-proprietary electronic format (e.g. csv, xml, txt, etc.) or in an electronic format that can be easily exported and processed into standard spreadsheet, database or statistical software (e.g. xls, dbase, mdb, etc.). This may be in any electronically readable format as long as all of the agreed minimum data reporting requirements have been fulfilled*”.

Since the adoption of the interim reporting templates, Australia, China(partial), Indonesia, Japan and Mauritius (partial) have begun reporting in electronic format (Sri Lanka has also been reporting set level information in hard copy format).

ROS database and electronic reporting tool

While the quantity of observer data reported to the IOTC Secretariat is increasing, the majority of observer data are still currently submitted as word, pdf, scanned or hard copy documents. This is a highly inefficient arrangement, requiring a substantial amount time to be dedicated to data entry, cleaning and processing, which the IOTC Secretariat does not have the capacity for, and is not conducive to data management or analysis. To improve the situation, a project has been developed which will allow the electronic reporting of observer data to improve the consistency, efficiency, quality, timeliness and accuracy of data reporting and management for analysis. This project is targeted particularly at developing country CPCs which have not yet developed observer data collection and management processes and will be an important capacity building tool for these fisheries, providing a template database structure for data storage as well as exporting functions for regional data reporting. The interface is intended to be simple and user-friendly and will be trialed in two CPCs and reviewed by experts at NOAA, IATTC, WCPFC, ICCAT, OSPESCA and SPC so that existing processes and proven successes can be built into the system.

⁴ Including Mayotte due to its status as a French outermost region since January 2014

The data management system will be integrated into the new IOTC database structure currently under development to streamline data management processes and facilitate the provision of data by the IOTC Secretariat. This project has been jointly funded by the European Union (EU) and the National Oceanic and Atmospheric Administration (NOAA) and began in early 2016. The development of the ROS database and e-reporting system is due to be completed by the end of the year, after which pilot trials and roll-out workshops will be held. Following the completion of the database, all the historic observer data will be uploaded to the system so that data can be processed, summarised and analysed where possible. These results can then be presented at the relevant working party meetings while the more general updates on the overall progress of the scheme, including items such as coverage rates and projects will be presented to the Scientific Committee.

IOTC Species ID guides

Table 1. Summary of priority languages and species groups for translation and printing as identified by the SC16 and SC17.

	1. Tuna & like	2. Billfish	3. Turtles	4. Sharks and rays	5. Seabirds
Farsi	2	1	1	1	1
Arabic	2	2	2	2	2
Urdu	4				
Bahasa Indonesian	1	3	5	5	5
Swahili		4			
Spanish		5	3	3	3
Portuguese		6	4	4	4
Thai		7			
Sinhala	3	8			
Tamil		8			
Bahasa Malaysia	1				
Hindi	3				

Progress to date:

- Translation of IOTC species ID guides into Farsi has already been completed for sharks and turtles. Other species are underway and all are due to be printed shortly (IOTC, IFO and WWF-Pakistan)
- Translation and printing of IOTC species ID guides into Arabic has been completed for tuna and tuna-like species and translation of the others is currently underway (IOTC and WWF-Pakistan)
- Translation and printing of tuna, billfish, turtles and shark ID guides into Urdu is complete (WWF-Pakistan)
- Translation and printing of tuna and billfish ID guides into Bahasa Indonesian is complete (OFCF)
- Translation of turtle ID guides into Bahasa Indonesian and Spanish is complete and cards are being printed, while translation of sharks and seabirds is underway (IOSEA & IOTC)
- Translation of tuna and tuna-like species ID guides into Hindi is almost complete (CMFRI and IOTC)
- Translation of tuna and tuna-like species ID guides into Malaysian is underway (IOTC)
- Translation of tuna and tuna-like species ID guides into Sinhala and Tamil is underway (NARA, DFAR and IOTC)
- Translation and printing of all IOTC species ID guides into Portuguese has been completed (WWF-Mozambique)
- Translation and printing of all IOTC species ID guides into Maldivian is underway (Ministry of Fisheries and Agriculture, Maldives)

RECOMMENDATIONS

That the Scientific Committee:

- 1) **RECOMMEND** that at the next revision of Resolution 11/04, it is specified that all observer data must be submitted to the IOTC Secretariat in an electronically readable format.

- 2) **RECOMMEND** that capacity building activities continue to be supported via the Commission's annual budget, to improve the lack of compliance with the implementation of observer programmes by CPCs for their fleets and lack of reporting to the IOTC Secretariat as per the provisions contained within Resolution 11/04 *on a Regional Observer Scheme*.

APPENDICES

Appendix A: Update on the implementation of the IOTC regional observer scheme

Appendix B: Estimated observer coverage for longline vessels

Appendix C: Estimated observer coverage for purse seine vessels

APPENDIX A

UPDATE ON THE IMPLEMENTATION OF THE IOTC REGIONAL OBSERVER SCHEME

CPCs	Active Vessels LOA≥24m or High Seas vessels ⁵				Progress	List of accredited observers submitted	Number of observer reports provided ⁶					
	LL	PS	GN	BB			2010	2011	2012	2013	2014	2015
MEMBERS												
Australia	2	6			Australia has implemented an observer programme for the longline fleet	YES: 21	2(O)	1(O)	3(O)	No	2(O) + 3(E)	No
Belize					No information received by the Secretariat.	No	No	No	No	No	No	No
China –Taiwan,China	53 233				China has implemented an observer programme	YES: 3 YES: 54	1(O) No	No No	1(O) 1(O)	1(O) 19(O)	2(O) 17(O)	1(O) 24(O)
Comoros					Comoros does not have vessels ≥ 24m. Two observers have been trained under the IOC Regional Monitoring Project, and 5 by SWIOFP.	YES: 7	N/A	N/A	N/A	N/A	N/A	N/A
Eritrea	No information received				No information received by the Secretariat.	N/A	N/A	N/A	N/A	N/A	N/A	N/A
European Union	17 6 18 1	12 0 17 0			EU has an observer programme on-board its purse seine and longline fleets. To date, no information has been received from EU,UK.	Partial: EU,France: 64 EU,Portugal: 4 EU,Spain : 9 EU,UK : No	FRA 6(O) No No No	FRA 12(O) PRT 1(O) No No	FRA 17 (O) PRT 1(O) No No	FRA 15 (O) PRT 1(O) ESP 1(O) No	FRA 32(O) PRT 1(O) ESP 2(O) No	FRA 25(O) PRT 1(O) ESP 23(E) No
France (OT)					N/A	N/A	No	9(O)	7(O)	7(O)	NA	NA
Guinea					Guinea has had no vessels operating in the Indian Ocean since 2006	N/A	N/A	N/A	N/A	N/A	N/A	N/A
India	22				India has not yet developed an observer programme.	No	No	No	No	No	No	No
Indonesia	550	18	1		Indonesia has 13 registered IOTC observers and a number of initiatives in place and has recently begun reporting to IOTC.	YES:9	No	No	No	No	5(E)	No
Iran, Isl. Rep. of		5	1190		IOTC observer training took place in 2015. 30 observers have now been selected and are due to be deployed in 2016.	No	No	No	No	No	No	No
Japan	53	2			Japan started its observer programme on the 1 st of July 2010.	YES: 19	8(E)	11(E)	10(E)	7(E)	8(E)	No
Kenya					Kenya has had no vessels listed in the active vessel registry since 2010, however, Kenya is developing an observer programme and 5 observers have been trained by SWIOFP.	YES: 5	No	N/A	N/A	N/A	N/A	N/A
Korea, Rep. of	14	5			Korea has had an observer programme since 2002 and has 28 observers registered in the Indian Ocean.	YES: 29	2(O)	No	2(O)	3(O)	3(O)	No

⁵ The number of active vessels is given for 2015

⁶ Year in which the observed trip has started (E: Electronic; O: Other)

CPCs	Active Vessels LOA≥24m or High Seas vessels ⁵				Progress	List of accredited observers submitted	Number of observer reports provided ⁶					
	LL	PS	GN	BB			2010	2011	2012	2013	2014	2015
Madagascar	7				Madagascar has developed an observer programme. Five and three observers have been trained through SWIOFP and IOC respectively. However, observer data reported are not to IOTC standards.	YES: 7	No	No	18(O) ⁷	8(O)	7(O)	No
Malaysia	10				Malaysia is developing plans for the implementation of an observer programme.	No	No	No	No	No	No	No
Maldives	28			339	Maldivian vessel landings are monitored by field samplers at landing sites. Maldives is currently developing an at-sea observer programme.	YES: 4	No	No	No	No	No	No
Mauritius		7			Mauritius has developed an observer scheme and started submitting data for 2015.	YES: 8	No	No	No	No	No	5(O)
Mozambique	9				Mozambique has an observer programme and has submitted one trip report, but did not have any active vessels ≥24m in 2013.	YES: 11	No	No	1(O)	N/A	No	7(E)
Oman	1				IOTC observer training took place in 2015, however no observer reports have been submitted as yet.	No	No	No	No	No	No	No
Pakistan					IOTC observer training took place in 2015 and Pakistan is committed to establishing an observer scheme. A crew-based observer scheme has already been initiated by WWF-Pakistan, however no data has yet been submitted to the IOTC Secretariat.	No	No	No	No	No	No	No
Philippines					No information received by the Secretariat.	No	No	No	No	No	No	No
Seychelles	37	10			Seychelles initiated an observer programme in 2014 and has started to report observer data	YES: 78	No	No	No	No	6(O)	46(O)
Sierra Leone	No information received				No information received by the Secretariat.	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Somalia	No information received				No information received by the Secretariat.	N/A	N/A	N/A	N/A	N/A	N/A	N/A
South Africa	15				South Africa operates an observer programme for foreign vessels operating within the EEZ as well as for national vessels (since 2014).	YES: 16	No	12(O)	10(O)	13(O)	8+2(O) ⁸	7+9(O)
Sri Lanka	1		1564		Sri Lanka has begun an observer initiative and submitted observer data from pilot trips in 2014 and 2015.	No	No	No	No	No	2(O)	2(O)
Sudan	No information received				No information received by the Secretariat.	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tanzania, United Rep.of	3				Tanzania does not currently have an observer programme in place.	No	No	No	No	No	No	No
Thailand	6				Thailand conducted observer training in 2015 and is due to begin deployment in 2017 as there were no active vessels in 2016	YES: 8	No	No	No	No	No	No

⁷ Reports from Madagascar include observers onboard foreign vessels

⁸ Reports submitted for foreign vessels operating in the EEZ of South Africa between 2011 and 2013, and foreign + national flagged vessels for 2014 and 2015.

CPCs	Active Vessels LOA≥24m or High Seas vessels ⁵				Progress	List of accredited observers submitted	Number of observer reports provided ⁶					
	LL	PS	GN	BB			2010	2011	2012	2013	2014	2015
United Kingdom (OT)					The UK(OT) does not have any active vessels in the Indian Ocean.	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Yemen	No information received				No information received by the Secretariat.	No	No	No	No	No	No	No
COOPERATING NON-CONTRACTING PARTIES												
Bangladesh					No information received by the Secretariat.	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Djibouti					No information received by the Secretariat.	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Liberia					No information received by the Secretariat.	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Senegal					Senegal has not had any active vessels in the Indian Ocean since 2007.	N/A	N/A	N/A	N/A	N/A	N/A	N/A

APPENDIX B

ESTIMATED OBSERVER COVERAGE FOR LONGLINE VESSELS

	Total effort (no.hooks)							Observed effort (no. hooks)						Coverage rate							
MEMBERS	2010 (total)	(>July)	2011	2012	2013	2014	2015	2010	2011	2012	2013	2014	2015	2010	(>July)	2011	2012	2013	2014	2015	
Australia	622,461	304,347	359,832	672,398	609,995	449,387	430,015	15330	6232	89490	0	41066	0	2.46%	5.04%	1.73%	13.31%	0.00%	9.14%	0.00%	
Belize	642,400		680,140	1,620,234	1,857,864	1,857,864	1,857,864							0.00%		0.00%	0.00%	0.00%	0.00%	0.00%	
China	16,993,970	10,859,640	4,136,710	11,295,050	23,439,470	19,212,540	26,616,190	95205	0	185742	216640	178413	105201	0.56%	0.88%	0.00%	1.64%	0.92%	0.93%	0.40%	
–Taiwan,China	219,630,038		182,770,834	170,633,711	195,560,569	187,349,160	175,717,038	0	0	121675	4344678	3776042	3576314	0.00%		0.00%	0.07%	2.22%	2.02%	2.04%	
Comoros																					
Eritrea																					
EU - France	3,781,554	1,978,611	3,769,250	3,367,941	4,042,077	3,573,448	3,533,544	75360	113269	120478	107065	141819	78131	1.99%	3.81%	3.01%	3.58%	2.65%	3.97%	2.21%	
EU - Portugal	949,134		903,600	685,206	1,558,000	1,460,464	1,398,400		140317	73685	127580	90894	156536	0.00%		15.53%	10.75%	8.19%	6.22%	11.19%	
EU - Spain	3,174,705		3,758,516	4,673,785	6,262,822	6,262,823	6,262,824							0.00%		0.00%	0.00%	0.00%	0.00%	0.00%	
EU - UK	61,400		92,300	71,400	55,000	84,700	388,300							0.00%		0.00%	0.00%	0.00%	0.00%	0.00%	
France(OT)	75,099		93,718	120,000	120,000																
Guinea	569,943													0.00%							
India	66,990,303		85,679,113	64,201,523	67,379,998	60,995,362	16,295,414							0.00%		0.00%	0.00%	0.00%	0.00%	0.00%	
Indonesia	121,489,485		144,494,143	207,478,039	199,339,487	203,668,655	210,093,998	0	0	0	0	195,780	0	0.00%		0.00%	0.00%	0.00%	0.10%	0.00%	
Iran, Isl. Rep. of																					
Japan*	37,032,932	15,746,978	28,854,054	31,460,928	29,125,098	31,780,765	24,573,763	1197302	1791161	1407715	1355396	1895419	0	3.23%	7.60%	8.43%	5.41%	7.58%	7.67%	2.46%	
Kenya	186,774													0.00%							
Korea, Rep. of	6,013,391	1,602,804	5,862,681	4,350,708	5,337,464	6,740,247	7,370,326	389042	0	282656	546927	213225	0	6.47%	24.27%	0.00%	6.50%	10.25%	3.16%	0.00%	
Madagascar	456,585		374,307	348,653	326,494	300,488	357,480	0	0	21582	14429	0	0	0.00%		0.00%	6.19%	4.42%	0.00%	0.00%	
Malaysia	17,282,525		13,283,122	4,047,677	4,261,851	3,623,561	5,066,047							0.00%		0.00%	0.00%	0.00%	0.00%	0.00%	
Maldives					3,054,590	3,054,590	585,981										0.00%	0.00%	0.00%	0.00%	
Mauritius	267,063		252,480	182,300	150,560	105,120	195,850							0.00%		0.00%	0.00%	0.00%	0.00%	0.00%	
Mozambique	383,323		383,323	383,323		7,177	223,937	0	0	1100		0	42715	0.00%		0.00%	0.29%			19.07%	
Oman, Sultanate of	17,358,307		16,122,591	6,370,133	2,611,412	1,472,017	477,063							0.00%		0.00%	0.00%	0.00%	0.00%	0.00%	
Pakistan																					
Philippines	2,784,696		560,653	7,317,740	3,759,626	2,025,299	0							0.00%		0.00%	0.00%	0.00%	0.00%	0.00%	
Seychelles	4,375,885		3,080,822	3,400,912	3,876,173	21,366,998	18,694,524							0.00%		0.00%	0.00%	0.00%	0.00%	0.00%	
Sierra Leone																					
Somalia																					
Sri Lanka	118,364,092		113,229,416	141,488,655	146,513,857	172,219,506	161,060,039	0	0	0	0	550	0	0.00%		0.00%	0.00%	0.00%	0.00%	0.00%	
South Africa*	1,751,043		1,219,015	1,176,125	959,285	565,705	390,098	0	(640045)	(293685)	(852759)	17895(543543)	70258(603777)	0.00%		0.00%	0.00%	0.00%	3.16%	18.01%	
Sudan																					
Tanzania, United Rep.of	1,505,810		2,903,621	4,326,514	3,482,703	3,706,106	894,758							0.00%		0.00%	0.00%	0.00%	0.00%	0.00%	
Thailand	1,489,193		1,041,600	1,061,363	784,881	1,821,217	1,225,987							0.00%		0.00%	0.00%	0.00%	0.00%	0.00%	
United Kingdom																					
Vanuatu	893,684			1,237,516										0.00%			0.00%				
Yemen																					
COOPERATING NON CONTRACTING PARTIES																					
Bangladesh																					
Djibouti																					
Liberia																					
Senegal																					
Other	7,368,361		7,854,251	10,832,417	5,017,737	10,634,831	8,547,171							0.00%0.00%0.00%0.00%0.00%0.00%							
Total	652,494,155		621,760,093	682,804,251	709,487,012	744,338,029	672,256,612	1,772,239	2,050,979	2,304,123	6,712,715	7,084,661	4,510,350	0.27%		0.33%	0.34%	0.95%	0.95%	0.67%	

NB: the ROS came into force mid-way through in July 2010 so annual coverage rates are expected to be lower for 2010 (some countries were able to provide estimates of effort from July-December 2010 so in these cases coverage rates are reported from July onwards).

EU,Portugal: 2012 and 2013 total effort values are estimates provided by provided by EU,Portugal which are to be updated

Madagascar: the number of observed hooks have been estimated based on the number of reported fishing days and previous hook:fishing day ratios.

Japan: this includes observer coverage reported by S.Africa for Japanese flagged vessels operating within the EEZ.

Numbers in brackets indicate hooks observed on foreign flagged vessels

Key: TOTAL EFFORT (#HOOKS): Total number of hooks set by longliners, by fishing fleet and year, including:

- Total effort available (green font)
- Total effort not available: total effort estimated using the nominal catches available and sampled effort or catch rates from other fleets or year periods (red font)

APPENDIX C

ESTIMATED OBSERVER COVERAGE FOR PURSE SEINE VESSELS

MEMBERS	Total effort (no. fishing days)						Observed effort (no. fishing days)						Coverage rate					
	2010	2011	2012	2013	2014	2015	2010	2011	2012	2013	2014	2015	2010	2011	2012	2013	2014	2015
Australia	175	130	148	133	113	148							0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Belize																		
China																		
–Taiwan,China																		
Comoros																		
Eritrea																		
EU - France	1968	1947	1795	2115	3467	3168	360	425	364	560	598		0.00%	18.49%	23.68%	17.21%	16.15%	18.88%
EU - Portugal																		
EU - Spain	3531	3555	3684	3899	4238	3838	0	0	48	86	324(sets)		0.00%	0.00%	0.00%	1.23%	2.03%	unk
France (OT)	833	1167	1257	1276			252	188	171				0.00%	21.59%	14.95%	13.40%		
EU - UK																		
Guinea																		
India																		
Indonesia																		
Iran, Isl. Rep. of	128	139	168	172	179	164							0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Japan	96	95	72	36	35	86							0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Kenya																		
Korea, Rep. of			94	387	507	451				33	45	0			0.00%	8.52%	8.88%	0.00%
Madagascar									(14)	(118)								
Malaysia	12												0.00%					
Maldives																		
Mauritius				27	271	299				0	0	81				0.00%	0.00%	27.06%
Mozambique																		
Oman, Sultanate of																		
Pakistan																		
Philippines																		
Seychelles	2144	2166	1969	1670	1947	3012					235	1404	0.00%	0.00%	0.00%	0.00%	12.07%	46.61%
Sierra Leone																		
Somalia																		
South Africa																		
Sri Lanka				62							12					0.00%		
Sudan																		
Tanzania, United																		
Rep.of																		
Thailand	137												0.00%					
United Kingdom																		
Vanuatu																		
Yemen																		
COOPERATING NON CONTRACTING PARTIES																		
Bangladesh																		
Djibouti																		
Liberia																		
Senegal																		
Other						132												0.00%
Total	9,025	9,199	9,188	9,777	10,756	11,298	0	612	613	616	938	2,083	0.00%	6.65%	6.67%	6.30%	8.72%	18.44%

NB: the ROS came into force mid-way through in July 2010 so annual coverage rates are expected to be relatively lower for 2010

Numbers in brackets indicate observers onboard foreign flagged vessels

Key: TOTAL EFFORT (#FDAYS): Total number of days fished by tuna purse seiners, by fishing fleet and year, including:

- Total effort available (green font)
- Total effort not available: total effort estimated using the nominal catches available and sampled effort or catch rates from other fleets or year periods (red font)