

# ROP-BFT

ICCAT

ZI1946

## Implementation Report

October 2015

Submitted by

**MRAG**

In association with



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Project code:	ZI1946
Version:	03
Prepared by:	PN
Approved by:	CM

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## Acronyms

CPC	Contracting and Non-contracting Parties (ICCAT)
EU	European Union
JFO	Joint Fishing Operation
MoU	Memorandum of Understanding
PNC	Potential Non-compliance (event)
ROP-BFT	Regional Observer Programme for Bluefin Tuna
SCRS	Standing Committee on Research and Statistics
SoC	ICCAT Standards of Conduct and Behaviour for Observers





Project no:	ZI1496
Issue ref:	03
Date of issue:	15/10/2015
Prepared by:	PN
Checked/Approved by:	CM

## Executive Summary

The service provider for implementing year six (April 2015 / March 2016) of the ICCAT ROP-BFT comprises of a Consortium led by MRAG based in London and COFREPECHE in Paris assisted by regional partners located around the Mediterranean. This is the sixth year that the Consortium has been awarded the contract to implement the ROP-BFT and experience gained in previous years has been used to enhance systems in place for recruitment, training and deployment of observers and overall performance of the Programme.

The ROP-BFT allows the Commission to assess compliance with the regulatory framework. During year six of the ROP-BFT 141 observers have been trained, equipped and mobilised for 125 purse seine deployments, of which three were cancelled, and 29 deployments on farms to date, achieving 100% observer coverage on authorised purse seiners and farms, which included monitoring all fishing, transfer, caging and harvesting activities. This report describes the key issues faced in assessing compliance with the regulatory framework during implementation of year three of the ROP-BFT divided into operational and technical categories and focuses on issues that affect the observer role during deployments.

**Estimating tuna transfers from video records:** The key technical issue across all deployment types (on purse seiners and farms) was the inability to consistently estimate the amount of tuna transferred from video records. This was mainly a result of poor quality video records and/or viewing facilities [on vessels] or video availability immediately following the transfer operation. Many operators repeated transfers during caging operations because the initial video record was unsuitable for providing a means of accurately estimating the amount of tuna. Therefore further research/investigation is required to recommend a minimum standard of camera and viewing equipment for at-sea conditions. Such an investigation should also produce recommendations on procedures that should be followed by operators so that the video record covers the entire transfer process and produce a video record that could be provided to the observer immediately following the transfer to ensure they have sufficient time to review the footage during their deployment. It can also be very difficult for an observer to determine if video footage has been tampered with cuts in the video are hidden by cross fades, this problem is most likely when observers are not provided the video of the transfer immediately.

**Improved consultation between CPCs, Secretariat, SCRS and ROP-BFT Consortium:** During 2015 no meeting was held between CPCs, the Secretariat, SCRS and the Consortium. In previous years meetings were held which proved to be constructive in improving the Programme and the Consortium would propose that they be continued prior to the next fishing season.

# 1 Introduction

This was the sixth year that the Consortium (Service Provider) has been awarded the contract for the provision of services to implement the ROP-BFT (Programme). The Consortium adapted their approach incorporating lessons learned through implementing the Programme during previous years. The report covers key activities conducted in preparation for the Programme and deployments under the contract for services to implement the ROP-BFT 2015/2016.

The principle role of the Service Provider remains to implement the main clauses of the regulatory framework<sup>1</sup> relevant to the ROP-BFT through the implementation of a framework equipped to recruit, train and deploy observers in the Mediterranean; and manage and submit the observer deployment outputs within 20 days of the completion of a period of observation. Technical components of the Programme covered monitoring activities of fishing, transfer and caging phases to date. Harvesting has just begun at the time of writing for this year and continues throughout the first quarter of 2016.

There were no key changes to the observer role during the 2015 fishing season with the two key roles remaining those introduced during the 2013 season, the reporting of potential non-compliance events (PNCs) and observers not signing relevant documents unless observer and operators estimation had less than a 10% difference.

Fishing activities were conducted for one month between mid-May and mid-June; followed by caging operations which extended as far as September in some cases where environmental conditions hindered transfers at farms. This year saw the second year of the reintroduction of the purse seine fishery within Norwegian waters during September and October with a single observer deployed.

Harvesting operations were performed at one farm specialising in fresh exports. The main harvesting season will occur between October and January when the large-scale carrier/processing vessels move into the Mediterranean. As such this report only focuses on the fishing and caging operations to date.

The structure of the report summarises the implementation process before moving to operational components covering observer deployments on purse seiners and farms, the observations carried out to satisfy the requirements and reporting to ICCAT. The process concludes with a summary of the key outcomes and lessons learned; plus potential solutions for introducing improvements to the operational framework and monitoring tasks performed by observers. These solutions form the basis of a suite of Recommendations and are consolidated and presented in section 7 with an indication of the costs and benefits if they are adopted.

Each component of the report is presented in Table 1.

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<sup>1</sup> ICCAT Recommendations. 14-04, Annex 6 sets out the specific observer tasks for recording fishing, transfer and farming activities.

Table 1: Report Content

<b>Implementation Activity</b>	<b>Section</b>	<b>Main Content</b>
Programme Development and Implementation	2	Outline of development activities Summary of observer coverage on purse seiners and farms
Methodologies used for estimating the amount of tuna	3	Techniques used by operators and observers Transfer video record availability and coverage
Potential Non-Compliance Events	4	Summary of PNCs
Programme outputs	5	Submitting deployment outputs Submission of data covering ROP-BFT 2011-2014 to the SCRS
Scientific monitoring activities	0	Scope of biological sampling
Summary of Key Outcomes of ROP-BFT 2013	7	Quantifying tuna through the use of Video records Stereoscopic systems
Recommendations	8	Suite of recommendations distinguishing those which are the responsibility of the Service Provider and those of ICCAT: Improving general operational framework Improving monitoring tasks and observer duties
Conclusions	9	Main findings based on lesson learned and steps required to improve future implementation

## **2 Programme Development and Activities**

### **2.1 Programme Development**

A review of data management and reporting obligations was performed prior to the operational (training and deployment) phase of the Programme. Inputs were provided by the SCRS at the point of submission of the 2014 consolidated database (Section 5) regarding overall data outputs of the programme which were taken in to consideration in the review of the data management system. This review found the existing systems to be adequate for purpose with changes relating to the new regulatory requirements for control transfers at sea and at farms.

Systems for quality management were developed further with automated data checks enhanced within the data management system.

Overall the programme development comprised of the following components:

- Review of changes to regulatory framework; obtain a good understanding of the implications and incorporate the necessary changes into ROP-BFT;
- Consultation with the ICCAT Secretariat, and SCRS on operational and technical requirements;
- Production of revised and improved Programme Manual and training material for approval incorporating lessons learned during implementation.;
- Complete observer recruitment;
- Procure and distribute observer equipment that required replacement and purchase additional sets.
- Deliver training prior to the purse seine season.

### **2.2 Operational**

#### **2.2.1 Deployments on Purse Seiners**

During the 2015 ROP-BFT, observers were deployed on 121 purse seine vessels (Table 2). Observers were mobilised to 30 ports in the Mediterranean and one in Norway, and embarked on vessels specified in the official observer request.

Observers were assigned vessels on the basis of nationality and language skills so as to adhere to the requirements of the programme. All deployments were performed without incurring any delays caused by the Consortium or observers.

The deployments by flag State/CPC are set out in Table 2. In total 2,277 observer sea days were completed on 121 purse seine vessels.

Table 2: Observer coverage on purse seiners monitoring fishing and transfer operations

Flag State/CPC	Vessels (n)	Obs. Sea Days*(n)
Albania	1	16
Algeria	12	403
Croatia (EU)	9	195
Egypt	2	28
France (EU)	17	229
Italy (EU)	12	107
Libya	12	311
Malta (EU)	1	16
Morocco	2	18
Norway	1	37
Spain (EU)	6	57
Tunisia	25	439
Turkey	20	414
<b>Total</b>	<b>121</b>	<b>2277</b>

\* Sea days defined as the time between the observer embarking and disembarking in port

### 2.2.2 Deployments on Farms

Table 3: Observer coverage on farms and traps monitoring caging and harvest operations

Farm State/CPC	Deployments (n)	Obs. days (n)
Croatia (EU)	2	111
Italy (EU)	2	79
Malta (EU)	4	243
Spain (EU)	6	422
Morocco	2	17
Tunisia	6	54
Turkey	7	75
<b>Total</b>	<b>29</b>	<b>1001</b>

## 3 Methodology for Quantifying Amount of Tuna

### 3.1 By Operators

#### 3.1.1 On Purse Seiners

Three principle techniques were employed by vessels and remain unchanged from previous years:

- Those vessels equipped with acoustic fish finder were able to obtain an approximate estimate of the amount of tuna. However, anecdotal information reported by observers suggests that these were mainly deemed as indicative and vessels would rely on the following two techniques for a more accurate estimation.
- Visual estimation provided by divers from either the purse seiner or dive vessels supporting transfer operations; or
- Visual estimation from video records covering transfers between the seine and towing cage.

The scope of *potential non-compliance* reporting continued to incorporate increased requirements introduced by Recommendation 12-03 and 13-07. As a result observers were required to report those instances where the quality or coverage of the video record was insufficient to estimate the quantity of tuna (in conformity with Recommendation 14-04, Annex 8) or if there is more than 10 % of difference between the observer estimation and the vessel estimation. In addition, in these situations the observer was also not authorized to sign the ITD.

A new regulation for this season was the introduction of control transfers. The monitoring of these operations was conducted in the same manner as other transfers by the observers.

#### 3.1.2 On Farms

##### Caging

Similarly, farms relied on video records of transfer operations between towing and farm cages to quantify the amount of tuna. In general, farms repeated transfers, if the quality of the initial video record was insufficient to allow an accurate estimate of tuna. These repeated transfers were performed in cooperation with national competent authorities and ROP-BFT observers and in the spirit of the regulatory framework.

All farm National Authorities have used stereoscopic camera systems at caging and the Secretariat has forwarded the results to the Consortium. These provide very interesting information and give the opportunity to cross check information collected by the observers in watching the video and the results of the stereoscopic investigation.

## 3.2 By Observers

### On purse seiner operations

Observers relied on the video records of transfers to estimate the amount of tuna transferred. Estimates of incidental mortalities could be made if dead tuna became apparent as the purse seine net was hauled on-board; after the fishing operation and then upon completion of the transfer operation.

Of the 187 transfers recorded by video, the quantity of tuna was estimated by number on 173 occasions (93 %), but estimates of weight were not possible. This is a slight increase from 2014 (90%) and 2013 (90%) which was a considerable increase from 2012 when observers provided estimates for 55% of transfers. This continued high level of observer estimation can be attributed to the introduction of minimum video standards for transfers. A breakdown by flag State is shown below in Table 4.

Table 4: Observer estimations of quantity of BFT from at-sea transfers

Flag State	Number of Transfers (n)	Video record of transfer taken (n)	ITD Signed	Count of BFT estimations from video record	
				By number (n)	By Weight (n)
Albania	1	1	1	1	
Algeria	5	5	4	4	0
Croatia (EU)	62	62	61	61	0
France (EU)	16	16	12	13	0
Italy (EU)	10	10	7	8	0
Libya	13	13	5	9	0
Morocco	4	4	4	4	0
Norway	0	0	-	-	-
Spain (EU)	16	16	16	16	0
Tunisia	20	20	17	17	0
Turkey	39	39	39	39	0
<b>Total</b>	<b>187</b>	<b>187</b>	<b>167</b>	<b>173</b>	<b>0</b>

Observers commented that estimating the weight of fish remains impossible due to the following reasons:

- Broad range of size variability between tuna;
- Quality of the video image;
- Density of fish obstructed the view of individual fish;
- Lack of size reference tool combined with depth of field of the image.



Observers were able to estimate the amount of fish by number in over 90% of cases for recorded transfer operations. In cases where they were not the factors that prevented a reliable estimate of the amount of tuna included:

- The density of tuna obscured individual fish and therefore prevented an accurate count;
- Densely packed fish moving in both directions during the transfer.

#### Availability of video records

The original video record is retained by the towing vessel and accompanies the tuna to the receiving farm. The practice of *providing* video records to observers has improved considerably with most observers receiving copies of the videos for review in a timely fashion.

The best option remains to provide observers with a copy of the original video record immediately following transfer. This ensures there is sufficient time and better conditions to review the video several times.

#### Caging

A summary of observer estimations of quantity of tuna during caging operations is set out in Table 5. The same problems noted for transfers between purse seiners and towing cages at-sea were also relevant to caging operations. Overall there were fewer issues than in 2014 and the observers' rate of estimation for caging decreased slightly from 2014 to 89% from 93%. Similarly to the at sea transfer estimation rate this maintained a significant increase from the rate of estimation by number from 2012 (47%).

Table 5 Observer estimations of quantity of BFT during caging

Farm State/CPC	No. Caging Ops (n)	Stereoscopic Video System (n)	ITD / ICD Signed	Count of BFT estimations from video record	
				By number (n)	By Weight (n)
Croatia (EU)	14	14	14	14	-
Italy (EU)	6	6	1	5	-
Malta (EU)	37	37	32	36	-
Morocco	3	3	9	3	
Spain (EU)	28	28	19	25	-
Tunisia	12	12	32	9	-
Turkey	34	34	19	24	-
<b>Total</b>	<b>128</b>	<b>128</b>	<b>85</b>	<b>113</b>	<b>0</b>

## Harvests

During harvest operations, observers conduct monitoring activities either from the killing platform, carrier/processing vessel or on the farm premises for fresh exports or a combination, depending on where the most accurate count of tuna and weight can be recorded. In all instances of harvesting, facilities both at farms and on the carrier/processing vessels permit an accurate count of tuna removed and individual or average weight for fish harvested.

## 4 Potential Non Compliance Events

Observers record and report PNCs under the codes listed in Table 4 below. In the event that something happens that does not fit to a code then it will be listed as other and a description of the event recorded. For data management purposes PNC codes are divided by operation type, as such there exist certain multiple PNC codes for the same type of event but occurring in a different type of operation.

Table 4: Potential Non Compliance event description and code

<b>Operation Type</b>	<b>Potential Non Compliance Event</b>	<b>Code</b>
Fishing	Observer access to communication facilities denied	FACD
Fishing	Aerial support used during searching operations	FAER
Fishing	No BFT Catch document (BCD)	FBDA
Fishing	Fishing outside designated season	FFOS
Fishing	Transfer declaration (ITD) not completed	FITN
Fishing	Landing in port	FLDP
Fishing	Dead tuna not adequately recorded in the vessel logbook	FMOR
Fishing	Observer prevented from carrying out duties	FOBS
Fishing	Observer catch estimate >10% than vessel's	FOGO
Fishing	Tuna transferred to a vessel(s) without an ICCAT number	FTNN
Fishing	Transfer conducted before receiving Authorisation	FTRA
Fishing	Pre-transfer notification not sent	FTRN
Fishing	Transshipment in port	FTRP
Fishing	Transshipment at-sea	FTRS
Fishing	Fish below minimum size transferred	FUNT
Fishing	Vessel without an ICCAT number involved in fishing operations	FVSF

<b>Operation Type</b>	<b>Potential Non Compliance Event</b>	<b>Code</b>
Transfer	Video record of transfer did not show closing of door at the end of the transfer	TCDT
Transfer	Video record of transfers did not show date continuously	TDDT
Transfer	Video record of transfers did not show time continuously	TDTT
Transfer	Video record did not show 100% of transfer	TLTO
Transfer	Transfer not monitored by video	TNVT
Transfer	Video record of transfer did not show opening of door at the start of transfer	TODT
Transfer	Video record of transfers did not show Transfer Authorisation number at beginning or end of each video	TRAT
Transfer	Independent observer estimate of transfer amount was not possible due to video quality	TTNP
Transfer	Video record of transfer not transmitted to the observer on the fishing vessel	TTTO
Transfer	Video record of transfer not provided to the observer immediately after transfer	TVRO
Release (PS)	Video record of release did not show closing of door	RCDR
Release (PS)	Less than the correct amount of tuna released	RINR
Release (PS)	Video record did not show 100% of the release	RIVR
Release (PS)	Release not monitored by video	RNVR
Release (PS)	Video record of release did not show opening of door	RODR
Release (PS)	Tuna not released following a release order	RRLI
Release (PS)	Video record of release did not show date continuously	RVDD
Release (PS)	Video record of release did not show time continuously	RVDT
Release (PS)	Video of released tuna not provided to the observer immediately after release	RVOR
Caging	Observer access to communication facilities denied	CACD
Caging	No BFT Catch document (BCD)	CBDA
Caging	A group BCD reference number was allocated to more than one farm cage	CCCD
Caging	Video record of transfer did not show closing of door at the end of the transfer - (Caging)	CCDN
Caging	Independent observer estimate of amount caged was not possible due to video quality	CCNP

<b>Operation Type</b>	<b>Potential Non Compliance Event</b>	<b>Code</b>
Caging	Video record of transfers did not show date continuously	CDDT
Caging	BFT caged by a vessel(s) without an ICCAT authorisation number	CDNI
Caging	Tuna caged before Authorisation	CDPA
Caging	Tuna not released following a release order	CDRO
Caging	Video record of transfers did not show time continuously - (Caging)	CDTT
Caging	Video record did not provide 100% coverage of the transfer	CFTO
Caging	Video record of transfer not provided to the observer immediately after transfer	CFVA
Caging	A group BCD reference number was allocated to fish from more than one JFO	CJCD
Caging	Caging after 15th August	CLAT
Caging	Landing in port	CLDP
Caging	Dead tuna not adequately recorded by the farm	CMRA
Caging	Farm cage without identifiable and different reference number	CNAC
Caging	Caging Declaration (ICD) not completed	CNCR
Caging	Transfer declaration (ITD) not completed	CNDR
Caging	Video record of transfer not transmitted to the observer on the farm	CNTO
Caging	Video record of transfer not taken	CNVD
Caging	Observer prevented from carrying out duties	COBS
Caging	A group BCD reference number was allocated to caging operation > 1 day	COCD
Caging	Video record of transfer did not show opening of door at the start of transfer - (Caging)	CODN
Caging	Observer estimate more than $\pm 10\%$ different than farm's	CODO
Caging	Dead tuna during the towing operation not recorded in the ITD	CPUD
Caging	Fish not separated by JFO	CQJF
Caging	Fish not separated by flag of the catching vessel	CQUF
Caging	Fish not separated by year [of catching]	CQUY
Caging	A group BCD reference number was allocated to fish from more than one vessel outside JFO	CSCD
Caging	Video record of transfers did not show Transfer Authorisation number at beginning or end of each video	CTNM

<b>Operation Type</b>	<b>Potential Non Compliance Event</b>	<b>Code</b>
Caging	Transshipment in unauthorised port	CTRP
Caging	Fish below minimum size caged	CUND
Caging	Less than the correct amount of tuna released	CWNA
Release (F)	Video record of transfer did not show closing of door at the end of the transfer	RCDN
Release (F)	Video record did not show 100% of the release	RFVR
Release (F)	Release not monitored by video	RMVI
Release (F)	Video record of transfer did not show opening of door at the start of transfer	RODN
Release (F)	Video of released tuna not provided to the observer immediately after release	RODV
Release (F)	Video record of release did not show date continuously	RFVD
Release (F)	Video record of release did not show time continuously	RFVT
Harvest	Observer access to communication facilities denied	HACD
Harvest	No BFT Catch document (BCD) -	HBDA
Harvest	Landing in unauthorised port	HLDP
Harvest	Observer estimate for harvested tuna 10% greater than farm's	HMSH
Harvest	Observer prevented from taking size measurements or biological samples	HOBP
Harvest	Observer prevented from carrying out duties	HOBS
Harvest	Transshipment in unauthorised port	HTRP
Harvest	Undersize fish harvested	HUNH
Harvest	Vessel without an ICCAT number involved in operations	HVSH

As seen in Table 5 the most prevalent number of PNCs reported during the purse seine season were sent under the 'Other' category. Of these 89 reports 65% related to issues regarding the vessels fishing logbook. The lack of recording of mortalities remains a sporadic issue.

Table 5: Potential Non Compliance Events reported during the 2015 fishing season

Flag								
	Algeria	Croatia (EU)	Italy (EU)	France (EU)	Libya	Tunisia	Turkey	TOTAL
<b>Other</b>	21	0	21	0	19	25	3	<b>89</b>
<b>TCDT</b>	2	0	0	1	1	0	0	<b>4</b>
<b>TCNP</b>	1	0	0	0	0	1	0	<b>2</b>
<b>TLTO</b>	1	0	0	0	0	1	0	<b>2</b>
<b>FMOR</b>	0	2	2	3	0	1	1	<b>9</b>
<b>TDDT</b>	0	0	1	0	0	0	0	<b>1</b>
<b>TODT</b>	0	0	1	2	0	1	0	<b>4</b>
<b>TTNP</b>	0	1	2	2	0	0	0	<b>5</b>
<b>FVSF</b>	0	0	1	0	0	0	0	<b>1</b>
<b>TVRO</b>	0	0	0	4	0	0	3	<b>7</b>
<b>FACD</b>	0	0	0	1	0	0	0	<b>1</b>
<b>FITN</b>	0	0	0	0	3	0	0	<b>3</b>
<b>FODT</b>	0	0	0	0	0	1	0	<b>1</b>
<b>FTRS</b>	0	0	0	0	0	0	2	<b>2</b>
	<b>25</b>	<b>3</b>	<b>28</b>	<b>13</b>	<b>23</b>	<b>30</b>	<b>9</b>	<b>131</b>

As with the fishing season the most reported PNC on farms came under the 'other' category (Table 6). Unlike the fishing season there was no discernible pattern within this category. The next most prevalent PNC reported at farms and traps was the lack of an estimation due to video quality. In the vast majority of these cases this was due to the water quality and beyond control.

Table 6: Potential Non Compliance events reported on farms during 2015

Farm State							
	Spain (EU)	Malta (EU)	Morocco	Tunisia	Turkey	Italy (EU)	TOTAL
CDPA	1	0	0	0	0	0	1
Other	2	0	3	0	10	1	16
CODO	2	3	0	1	2	0	8
RMVI	1	0	0	0	0	0	1
CCNP	2	4	0	0	7	0	13
RCDN	0	2	0	0	0	0	2
CCDN	0	2	0	0	1	0	3
CFTO	0	3	0	1	0	0	4
CMRA	0	3	0	0	1	0	4
CNDR	0	3	0	0	0	0	3
CLAT	0	1	0	0	0	0	1
CNCR	0	0	1	0	0	0	1
TRAT	0	0	0	1	0	0	1
CDRO	0	0	0	1	0	0	1
CTNM	0	0	0	1	0	0	1
TTNP	0	0	0	1	0	0	1
CDDT	0	0	0	0	7	0	7
CDNI	0	0	0	0	8	0	8
CDTT	0	0	0	0	7	0	7
CFVA	0	0	0	0	6	0	6
HMSH	0	0	0	0	1	0	1
HUNH	0	0	0	0	1	0	1
CBDA	0	0	0	0	0	4	4
FBDA	0	0	0	0	0	1	1
FITN	0	0	0	0	0	1	1
	<b>8</b>	<b>21</b>	<b>4</b>	<b>6</b>	<b>51</b>	<b>7</b>	<b>97</b>

## 5 Submission of Deployment Outputs

Article 7d) of Annex 4 Rec. 14-04 requires that observer deployment reports are submitted to the Secretariat within 20 calendar days from the end of the period of observation. Table 7 shows conformity with the submission deadline during the current and previous years reflecting continued development of the Programme. In 2013 the submission rate did drop but has improved since, with over 90% submitted within 20 days and all outputs submitted no more than one day after the deadline.

**Table 7: Submission of deployment outputs by implementation year**

Year	Submission date (days)	No. of Deployments (n)	% of Deployments
2010	≤ 20	36	38
	>20	57	62
2011	≤ 20	76	95
	>20	4	5
2012	≤ 20	87	100
	>20	0	0
2013	≤ 20	87	88
	>20	12	12
2014	≤ 20	100	94
	>20	7	6
2015	≤ 20	120	95
	>20	7	5

The Consortium has previously submitted a consolidated database containing all data from year's two to five of the Programme. Year one has been excluded from this database with the agreement of the Secretariat given the differences in the data collection framework for that year compared to the other years of the programme. The data from year six is maintained in a separate but compatible database to these data.



## **6 Scientific Monitoring and Activities**

### **6.1 Length & weight sampling**

Observers were instructed to perform length and weight sampling on all accessible bluefin tuna which had died during capture and transfer phases of the purse seine operation. A total of 177 individual tuna were measured for CFL, with a further 110 being measured for SFL, while 55 of these individuals had both measures taken and 84 for weight, with 10 individuals having all three measurements recorded; this is compared with 341 length and 151 weight measurements in 2014. The Consortium received guidance that SFL should be recorded preferentially, ideally with CFL. Observers only record LD1 when it is not possible to take any other measurements.

### **6.2 Tagging**

The GBYP outlined the research necessary for improving the scientific advice that the Committee provides to the Commission which includes a tagging and programme. ROP observers have been provided with material publicising the tagging programme, its importance and the implications for sampling during harvest operations 2015/2016.

A number of tags were recovered by ROP observers during the 2015 fishing and caging seasons, these data have already been sent to the GBYP coordinators.

### **6.3 Scar tissue sampling**

The SCRS/GBYP coordination group has requested ROP observers collect data that indicates bluefin tuna and smalltooth cookiecutter shark (*Isistius brasiliensis*) interactions. This activity has been conducted during the previous number of harvest seasons and will continue in to the coming season.

## 7 Summary and Key Outcomes

The following section provides a brief overview of the range of components covered by observer deployments and identifies the key outcomes and lesson(s) learned. Potential solutions required to deliver improvements are also introduced. The key issues are consistent with those reported last year.

Activity	Key Outcome	Lessons learned	Potential Solution
Quantifying weight of tuna using video records	Observers were unable to make an accurate estimate by weight from the video records	Alternative system than standard video system is required for observers to be able to estimate weights	Regulatory framework amended to ensure:  Observer access to stereoscopic systems and other technical innovation used to estimate the weight of fish with an official protocol.
Video Tampering	It can be very difficult for an observer to determine if video footage has been tampered with cuts in the video are hidden by cross fades, this problem is most likely to occur when observers are not provided the video of the transfer directly.	Despite the introduction of minimum standards for video this still remains a weak point in the overall control of operations.	Observers are provided with the original video immediately and a full chain of custody is ensured for the video recording.
Logbook Issues	A large number of PNCs reported pertaining to logbook issues.	Knowledge of the logbook requirements and how to correctly apply and record the Joint Fishing Operation (JFO) allocation key could be improved among vessel masters.	Improved instruction from CPC authorities to vessel masters prior to the season.

## **8 Recommendations**

The Consortium has sought to continually improve and develop the Programme over the past five years of implementation through consultation and direction with and from CPCs and the Secretariat on all technical and operational components. Recommendations for future improvements are presented below, clearly identifying the party responsible for introducing the improvements covering the general operational framework of the Programme and specific technical improvements associated with observer monitoring tasks and duties.

### **8.1 Consultation with CPCs**

During previous years the Consortium found the consultation with CPCs and the Secretariat on operational and technical components of the Programme informative for improving the Programme and also for communicating and receiving direction on specific areas of data collection and reporting. Reintroduction of this approach expanded to include as many CPCs as feasible would be welcome in the future.

### **8.2 Verifying Quantity of Tuna**

Equipment used by operators proven to provide reliable estimates of tuna by number and weight throughout the fishery, i.e. transfers at sea and at caging should be provided to observers in order to validate and verify control documents. This action will maintain the integrity of the programme.

### **8.3 Logbooks**

Given the considerable number of PNCs associated with logbooks it is recommended that increased guidance be given to vessel masters by CPC authorities regarding the logbook requirements and detailed instruction regarding how to complete it. Areas that featured particularly were the incorrect application of the JFO allocation key and the requirement that the logbook be completed on a daily basis regardless of whether a fishing or transfer operation took place that day or not.

## **9 Conclusions**

As in year five it was the case that observers could again consistently estimate the amount of fish transferred by number (93% of at sea transfers, 88% at caging). The key problem remains the estimation of amount of tuna by weight using standard video equipment.

In 2014 there were a small number of incidents in which observers reported receiving verbal and racial abuse, these type of events did not occur during the 2015 season.

To conclude, overall the ROP-BFT provides outputs which permit the Commission to assess compliance with the regulatory framework.