



Australian Government

Department of Agriculture, Fisheries and Forestry
ABARES

Preparation of Australia's southern bluefin tuna catch and effort data submission for 2012

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Summary

The aggregated catch and effort, catch by fleet, raised catch, catch at size, and non-retained catch data sets submitted to the Commission for the Conservation of Southern Bluefin Tuna (CCSBT) by the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES), on behalf of the Australian Government, are compiled from a number of databases. The daily fishing logbooks, catch disposal records and fisheries observer reports, collected and managed by the Australian Fisheries Management Authority (AFMA), are the main data sources. The Australian catch of southern bluefin tuna (SBT) from the surface (purse seine) fishery is also sampled by contracted field staff prior to release into farm cages. The sample data includes size and weight measurements that are used to calculate representative size distributions and average weights.

Relational databases, spreadsheets and query scripts are used to integrate and process the source data sets and create the data files required for the CCSBT data exchange. This report provides facsimiles of data collection forms, as well as flow charts illustrating the data integration procedures.

1 Introduction

The Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES), within the Australian Government Department of Agriculture, Fisheries and Forestry (DAFF), provides data reports each year to the Commission for the Conservation of Southern Bluefin Tuna (CCSBT) as part of the annual data exchange. In April 2012, the following reports were submitted to the data exchange:

- Aggregated Catch and Effort data 2010 and 2011
- Raised Catch 2010 and 2011
- Total Catch by Fleet 2010 and 2011 (quota and calendar year)
- Catch at Size data 2010 and 2011
- Non-retained Catches 2010 and 2011.

The following reports are also provided directly to the data exchange by the Commonwealth Scientific and Industrial Research Organisation (CSIRO):

- Tag Releases/Recoveries and Reporting Rates
- Direct Ageing data
- Catch at Age data
- Indonesian Longline Fishery Age and Size Composition
- Raised Catch-at-age for the Australian Surface Fishery
- CPUE series
- Aerial Survey Index
- Commercial Spotting Index.

Preparation of the CSIRO data sets is described in separate papers.

2 Data Sources

For the 2012 data submission, there were four sources of data used to produce the data reports. These were: the Australian Fisheries Management Authority (AFMA) Daily Fishing Logs Database; Catch Disposal Database; Tow Cage Size Monitoring Database; and Fisheries Observer Database.

Daily Fishing Logs Database

The Daily Fishing Logs Database is maintained by the AFMA and contains data collected from logbooks that fishers are required to complete. The logbooks of relevance to southern bluefin tuna (SBT) catch for the 2012 data submission were the AL06 (pelagic longline), TPB03 (purse seine and pole log for farmed SBT), and PS01A (purse seine log for non-farm SBT). See Appendix A for samples of these logbooks. Each fishing operation is given a unique identifier in the Daily Fishing Logs Database and tables are linked using this identifier. The following tables are required from this database:

- 1) **Operations** – contains information on each operation, including start latitude, start longitude and vessel identifier.
- 2) **Catch** – contains a separate record for each species caught, together with the number of fish caught and estimated weight of the catch.
- 3) **Fishing_Effort** – contains fishing method used and fishing effort information (e.g. number of hooks for longline operations; search hours for purse seine operations).
- 4) **Operation_Longline** – contains other information on longlining operations (e.g. length of mainline).
- 5) **Operation_Pole** – contains other information on poling operations (e.g. number of poles used).
- 6) **Vessel** – contains information on each licensed vessel; vessel name is used to identify individual vessels when determining the number of vessels that fished.
- 7) **Tow_Cage_Transfer** – contains information on each transfer of fish from the capture vessel to the tow cage in each purse seine operation. Provides the link between the Daily Logs Database and the OtherInfo table produced from the Tow Cage Size Monitoring Reports.

Catch Disposal Database

The Catch Disposal Database is used by AFMA for quota monitoring and contains data collected from the CR4A (SBT Catch Disposal Record; all methods except purse seining for farms), SBT02 (SBT Farm Catch Disposal Record – Purse Seine Boat) and SBT04B (SBT Farm Catch Disposal Record; purse seining for farms). See Appendix B for samples of these forms. The following tables are required from this database:

- 1) **Catch Disposal** – contains information on trip start and end dates.
- 2) **Landing** – contains information on species caught, numbers of fish caught and weight of catch.
- 3) **Fishing_Method** – provides the fishing method information.
- 4) **Tow_Catch_Transfer** – contains identification of capture vessel for purse seine operations.

Tow Cage Size Monitoring Database

Tow cage size monitoring data are collected by Protec Marine Pty Ltd, a company contracted to AFMA, and its primary purpose is for estimation of total weight of SBT in tow cages prior to transfer of fish to farm cages. In 2006, the Bureau of Rural Sciences (BRS) developed a database for Protec Marine to record this information, the Tow Cage Size Monitoring Database, replacing a series of spreadsheet forms. Data for the 2006–07 and previous fishing seasons were then entered into this database from the original spreadsheets. From December 2007, data were entered directly into the database rather than using spreadsheets as an intermediate step. The database has been used as the source of SBT length samples for the purse seine component of the Catch at Size reports for 2009 to 2011. A sample of one of the reports produced by the database is given in Appendix C.

For each tow cage, fish were sampled until 40 fish weighing 10 kg or more were measured and weighed. The length and weight of all fish sampled were entered into the database, including fish smaller than 10 kg, as were the total number of fish transferred to farm cages. Data were then collated to produce a table of statistics for each tow cage, named Analysis – OtherInfo, which was used in preparation of Raised Catch and Total Catch by Fleet reports (see Appendix D). The raw lengths and weights of all sampled fish for the year were combined and used in conjunction with the Daily Fishing Logs data to prepare the Catch at Size report.

In the 2010–11 fishing season, stereo video was used to measure fish lengths and determine the average weight for some of the tows. These data were initially recorded in another database. However, for the purposes of the data preparation, all necessary data were migrated to the Tow Cage Size Monitoring Database.

Fisheries Observer Database

AFMA employs fisheries observers to collect data on board fishing vessels in a number of domestic fisheries and opportunistically on the high seas. Observer coverage of pelagic longline vessels has been variable between 2001 and 2011, mainly concentrated in the eastern Exclusive Economic Zone (EEZ). A database of observed fishing operations is maintained by AFMA, including records of retained and discarded catch and biological data collection including length measurements. Length data collected by observers were used to compile the longline and New South Wales purse seine components of the Catch at Size reports for 2010 and 2011. The AFMA observer data were also used to produce the “Non-retained Catches” reports for 2010 and 2011. These reports provided numbers of non-retained fish observed in the longline fishery and were not raised or imputed from logbook data. The total longline fishing effort for each five degree cell is provided from the Aggregated Catch and Effort report with the corresponding observed effort and non-retained catch. AFMA implemented a new Observer Database in September 2008, so this new database was used for the 2010 and 2011 data submissions. The following observer database tables contributed data to the Non-retained Catches report:

- 1) **Activity** – describes vessel activity (e.g. setting, hauling, searching and time, location, environmental conditions).
- 2) **Opn_Biological** – describes biological attributes of animals caught including life status of retained and discarded fish.
- 3) **Opn_Biological_Length** – gives the length type and length measurement of each sampled fish.
- 4) **Vyg_Project** – provides the name of the project under which the observer was operating.

3 Data Preparation

Raw data files of database tables from the AFMA Daily Fishing Logs, Catch Disposal Records and Observer databases are acquired late in the first quarter of each calendar year. The data are loaded into an Oracle relational database server to enable analysis using Structured Query Language (SQL) via Microsoft Access software on client workstations. The length data for the Catch at Size reports are processed at least partly in MS Excel to enable estimation of size distributions for month-location strata that have not been sampled by observers or Protec Pty Ltd. Standard queries and procedures have been established to produce the data reports that ABARES submits each year. These queries may require minor modification each year as changes are made to the source data collection process or CCSBT requirements.

See Appendix D for flow diagrams of data sources and tables used to produce the various reports.

Definition of Seasons

All data reports use date of capture to sort catch records by time period, except the catch by fleet – quota year statistics. The quota year statistics use tow end date (farm purse seining) or trip end date (other methods) to define whether a catch falls within a particular season/fishing period.

Spatial Definitions

Since the 2003 data exchange, raised catch or catch at size data have been provided by latitude/longitude grid cells (1x1 degrees for purse seine and 5x5 degrees for longline). This was made possible for the farm sector by the introduction of the SBT03 forms. The forms enable the linking of the Tow Cage Size Monitoring Database to the Daily Fishing Logs Database, thus providing capture location information for SBT transferred from tow cages. The Aggregated Catch and Effort Report also provides spatial information; all data for this report coming from the Daily Fishing Logs Database.

4 Closing Remarks

The description of data preparation and submission in this report applies to the 2010 and 2011 commercial fishery catch and effort data supplied to the CCSBT. ABARES can provide more details of data collection and data processing methods upon request.

Appendix A

Scientific Logbook Forms (AL06, TPB03, PS01A)

Australian Pelagic Longline Daily Fishing Log – AL06

NOTE: DO NOT USE A SINGLE PAGE FOR MORE THAN ONE TRIP Original Copy – Send to AFMA

Boat Name Cormorant		Dist. Symbol LFB963		Log No.	Page No.
Port Departed SYDNEY		Date Departed 25 / 6 / 07		NON-FISHING PERIOD I did not work between 19 / 6 / 07 and 24 / 6 / 07	
Port Returned ULLADALLA		Date Returned 27 / 6 / 07		Non-Fishing Codes (if not zero) 1 - Bad Weather 2 - In Port 3 - Broken Down 4 - Steaming 5 - Searching 6 - Other Fishery (specify)	

TRIP INFORMATION	Shot 1	Date	26/6/07	Shot 2	Date	27/6/07	Shot 3	Date
Target species	Yellowfin, Bigeye		Yellowfin, Bigeye					
Start set time (24h)	0300		0230					
Start set Lat. (odd min)	33 35		36 31					
Position Long. (odd min)	151 42		151 55					
End set time (24h)	0610		0515					
End set Lat. (odd min)	35 19		36 25					
Position Long. (odd min)	151 40		151 40					
Start haul time (24h)	1500		1300					
Start Haul Lat. (odd min)	35 20		36 20					
Position Long. (odd min)	151 41		151 42					
End Haul time (24h)	2200		1900					
End Haul Lat. (odd min)	33 36		36 30					
Position Long. (odd min)	151 40		151 56					
Vessel shooting speed (kts)	7		7					
Mainline length/hooks	30 nm/1 000 hooks		25 nm/700 hooks					
Line checker used (circle)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Yes <input type="checkbox"/> No <input type="checkbox"/>			
Soak time (min)	30 min		30 min		100 min			
Targeted depth (in metres)	100		100		100			
No. hooks between bubbles	6		6					
No. of lightsticks used	500		300					
Bait type(s) / source(s) / No. status / weight(s) used for shot	SQO (S) (L) (D) 50 kg		SQO (S) (L) (D) 35 kg		MAY (S) (L) (D) 50 kg PTL (S) (L) (D) 45 kg			

CATCH DETAILS	No. Fish Caught	Est. Processed (kg)	Fork Code	No. Fish Released	Status	No. Fish Caught	Est. Processed (kg)	Fork Code	No. Fish Released	Status	Other Species			
											Other Species	Other Species	Other Species	Other Species
Yellowfin Tuna	11	350	GG	3	US	14	490	GG	1	DM				
Bigeye Tuna	4	150	GG			6	160	GG	4	TL				
Albacore Tuna	7	50	W			4	40	W						
Southern Bluefin Tuna														
Broadbill Smerdich						2	90	TR						
Striped Marlin	1	35	TR											
Shortbill Spearfish														
Ray/Bream						3	10	GG						
Mullet														
Rudfish														
Gilthead/Gardner														
Dolphin														
Wahoo														
Lanternfish				4	UM									
Short Finned Mako Shark	1	80	TR						1	US				
Bonito/Whaler Shark														
Grey Nurse Shark														
Bleak Shark									4	UM				
Dusky Shark														
Thresher shark									1	UM				
Yellowfin	4	60	GG		SD									
Bigeye	1	20	GG		SD									
Bigeye	3	25	W											

Other Species	Species	Number Released		Number Released		Number Released	
		Alive	Dead	Alive	Dead	Alive	Dead
	Bleak Marlin		1	1			
	Black Marlin						

Did you have an Observer on Board (circle) **(No)** / Yes Observer Trip ID _____

Concession holder or authorized agent - I certify that the information provided on this form is a true and accurate record.

Please provide an estimate of the time taken to complete this form: **10** min

Did you have an interaction with a Listed Marine or Threatened Species? (circle) Yes / **(No)**

Author details of all Listed Marine and Threatened Species interactions must be recorded on the Listed Marine and Threatened Species Form at the back of the logbook.

Printed Name: **Tim Gardener**

Signature: **Tim Gardener** Date: **27 / 6 / 07**

Comments: **5 fish damaged by sharks in first shot but fish still retained**

NOTE • If tagged fish / animals or banded birds are captured, please complete tag form at back of book and return to AFMA.

Australian Purse Seine and Pole Daily Fishing Log - For Farmed Southern Bluefin Tuna Only TPB03

Wildlife Interactions
 Department of Fisheries
 Commonwealth of Australia

Log Book No: **0026** Page No: **02** Boat Name: *Sea Spray* Dist. Symbol: *LFB 12345* Master's Name: *C. Gavin*

TICK APPROPRIATE NON-FISHING (NF) CODE BOX AT RIGHT: 1 Bad Weather 2 In Port 3 Broken Down 7 Cage Towing Fishing Method Used? (tick appropriate box) Pole Purse Seining

I did not work between: *28.5.98* and *28.11.98* 4 Starving 10 Roll Distinguishing No. of assisting vessels NE State whether pole or seine boats *LFB023 (pole boat)*

Date of Fishing (day/month)	NF Code?	Search Details (Hours above Codes listed)	Fishing Details					Total Weight and Type of Bait			Estimated Catch Weights per Shot (kg)			Towing					
			Start Time (24hr local time)	Sea Temp. (C)	Sea Surface Used? (Y/N)	Spotter Plane (Used? (Y/N))	No. Poles Used?	Pole Boat Assisted (Y/N)	Seine Boat Assisted (Y/N)	Type	Kgs	SBT Weight	Other Species	Other Weight	Estimated % of catch	Carrier Boat Name	Weight Transferred	Transfer Date	SBT 03 Book No.
<i>29/11</i>	<i>6</i>	<i>4</i>	<i>20</i>	<i>1300</i>	<i>32°40'</i>	<i>152°30'</i>	<i>4</i>	<i>4</i>	<i>4</i>						<i>8,000</i>	<i>8,000</i>	<i>29/11</i>	<i>036</i>	<i>09</i>
<i>30/11</i>	<i>4</i>	<i>4</i>	<i>21</i>	<i>1200</i>	<i>34°05'</i>	<i>131°08'</i>	<i>4</i>	<i>4</i>							<i>15,000</i>	<i>15,000</i>	<i>1/12</i>	<i>024</i>	<i>36</i>
<i>1/12</i>		<i>4</i>	<i>19</i>	<i>1100</i>	<i>33°50'</i>	<i>131°20'</i>	<i>4</i>	<i>4</i>							<i>25,000</i>	<i>25,000</i>	<i>2/12</i>	<i>024</i>	<i>36</i>
<i>2/12</i>		<i>2</i>	<i>19</i>	<i>1600</i>	<i>33°54'</i>	<i>131°11'</i>	<i>4</i>	<i>4</i>							<i>12,000</i>	<i>12,000</i>	<i>2/12</i>	<i>024</i>	<i>36</i>

Comments:

Wildlife Interactions:
 List any wildlife interacting with you during your fishing activities, including netted animals. If possible, list Species name, Interaction Date, No. of Animals and Life Status of any animals released after capture. Life Status Codes are listed on the writing template. Please record any extra details in the Comments section.

Species: _____ Date: _____ Qty: _____ Life Status: _____

Concession Holder or Authorised Person:
 I certify that the information I have provided on this form is a complete and accurate record.
 Date: *3/12/98*
 Name: *C. GAVIN*
 Signature: *C. Gavin*

WHITE COPY - send to AFMA BLUE COPY - retain for your records Note: There are tagged fish/wildlife recapture forms at the rear of this book.

Australian Fisheries Management Authority
 G Box 7051
 Canberra BC ACT 2610

Purse Seine Daily Fishing Log - PS01A

NOTE: IF FOLING PLEASE USE THE TUNA MINOR LINE LOGBOOK TO RECORD YOUR CATCH

Original Copy - Send to AFMA

Boat Name: **WATERCRESS** Dist. Symbol: **LFB 60** Disguising Nos. of assisting POLO vessels: **LFB 8071**

Log No. **###** Page No. **##**

Did not work in this fishery between **7/1/10** and **15/1/10** TICK APPROPRIATE NON-FISHING (NF) CODE BOX AT RIGHT

1 Bad Weather 2 In Port 3 Broken Gear 4 Swarming 5 Searching 6 Other Fishery (specify)

Fishing Date	NF Code (see sub-note)	Search Details (see sub-note)	Time Zone used for log entries				EST		CATCH DETAILS - Estimated Weights per Shot (kg) - tick box below fish name to indicate target species						BAIT/CHUM DETAILS														
			Start Time (00 min)	Set Time (00 min)	Site (00 min)	Site (00 min)	Latitude (dd mm)	Longitude (dd mm)	Record Positions for Target Species and Bait Shots	Assisted by POLO VESSEL	Skipjack Tuna	Yellowfin Tuna	Jack Mackerel	Blue Mackerel	Yellowtail Snapper	Southern Bluefin Tuna	Other Spec (list above)	Estimated % of school caught	Estimated Yr (kg 400)	Estimated Yr (kg 400)	Let species of bait caught each day	Bait caught (kg)							
6/1/10	4																												
7/1/10	6	5 N																											
8/1/10		2 N	1015	3	7	3	0	1	5	0	2	0	Y	9,000															
8/1/10		1 N	1410	3	7	4	2	1	5	0	0	5	N																
9/1/10		3 N	1120	3	8	1	5	1	5	2	1	2	Y	7,500															
0/1/10	4																												
/ /																													
/ /																													
/ /																													
/ /																													

EXAMPLE PAGE

Comments

Approx. 300 kg
 Damaged Skipjack

Complete at End of Trip

Trip Start Date	16.1.10
Port of Departure	WALKER COVE
Trip End Date	21.1.10
Port of Landing	WALKER COVE
First Recipients of Fish	BASIL'S FRESH FISH

I certify the information which I have provided on this form to be a complete and accurate record.

Concession Holder or Authorised Agent
 Printed Name: **L Waller**

Signature: *L Waller* Date: **21/1/10**

Please provide an estimate of the time taken to complete this form **8** mins

NB Did you have an interaction with any wildlife or other protected species? Please tick Yes No If yes, please enter details on a "Wildlife and Other Protected Species" Form at the back of this book.

NOTE • If tagged fish / animals or banded birds are captured, please complete tag form at back of book and return form and tag to AFMA.

Appendix B

Catch Disposal Forms (CR4A, SBT03B, SBT04B)

CR4A Form Southern Bluefin Tuna Fishery Catch Disposal Record

Book No.		Page No.	
----------	--	----------	--

Part A: SFR Holder or Authorised Representative to Complete

SFR Holder **Tuna International P/L** Boat Name **Hunter IV** Dist. Symbol **0999**

Area Fished Tas Vic NSW SA WA QLD

Fishing Method Pole Purse Seine Longline Trolling

Trip Start Date **8 / 7 / 04** Trip End Date **14 / 7 / 04**

Port Unloaded **Tuncurry** Date Unloaded **14 / 7 / 04**

Whole Catch Consigned Part Catch Consigned Book No. Page No. Other CR4A details

Name of Receiver **Tuna Exporters P/L**

Name of Transporter **Bradley Transport** Type of Vehicle **Truck** Trailer Vehicle Reg **YLT-091** Date/Time of Departure of Consignment from point of Unloading **14 / 7 / 04 15:30**

SOUTHERN BLUEFIN TUNA

Number of Fish	Total Accurate Weight Kg	Form Code
3	300	B

NORTHERN BLUEFIN TUNA

Number of Fish	Total Accurate Weight Kg	Form Code

I declare that the information I have provided in Part A to be a complete and accurate record.

SFR Holder or Authorised Representative Printed Name **JOHN WELSH**

Signature & Date *J. Welsh* 14/7/04

Part B
I acknowledge that I have received for transportation the amount of fish referred to in Part A.

Printed Name of Driver **PETER BRADLEY**

Signature & Date *Peter Bradley* 14/7/04

Form Codes

W means Whole Weight – No Processing

A means SBT that has been gilled and gutted so that:
a. the gill plates are removed; and
b. the tail is wholly removed.

B means SBT that has been gilled and gutted so that:
a. the gill plates are not removed; and
b. the tail is not wholly removed.

Forward White copy to AFMA within 24 hours of unloading.
Leave Green copy in book.
Send the Blue and Yellow copies with the fish to the receiver of your fish.

SBT03B
Southern Bluefin Tuna Fishery
Farm Transit Log

Log No:	Page No:
---------	----------

Section 1

Carrier Boat Name **MARY LOU** Dist. Symbol **DE 123**

Permit Holder **A B CUTTER** Carrier Boat Permit Number **400100**

Tow Cage ID Number **T800**

Fish Received From Purse Seine Boat – Complete Sections 1, 2, 4 and 7, then Section 5 or 6

Fish Received From Carrier Boat – Complete Sections 1, 3, 4 and 7, then Section 5 or 6

Section 2 **Transfer Details**

Name of Purse Seine Boat	Dist. Symbol	Date & Time First Transfer Started	Date & Time Last Transfer Finished	Estimate of Weight (Tonnes)	SBT02 Book No.	SBT02 Page No.
BLUE OCEAN	333	20 / 12 / 09 9:30	22 / 12 / 09 11:30	50	111	05

Section 3

Previous Carrier Boat Name _____ Dist. Symbol _____

SBT03A Log No: _____ Page No: _____

A Record of Retained to Land Mortalities Recorded in Box "G3" of Previous SBT03B **G1**

A Record of Mortalities Recorded in Box "G" of Previous SBT03B **E**

Section 4 **Record of Mortalities During This Tow**

Date/Time **20 / 12 / 09 09:30** Record a Date + Number of Mortalities for Each 24 hr Period.

Date	20/12	21/12	22/12	23/12	24/12			
Number	5	1	3	4	2			
Date								
Number								
Date								
Number								

Total Mortalities During This Tow **F 15** Progressive Total of Mortalities (E & F = G) **G 15**

Total Mortalities Retained to Land During This Tow **G2 4** Progressive Total of Mortalities Retained to Land (G1 & G2 = G3) **G3 4**

Section 5 **Tow Cage Transferred To Another Carrier Boat**

Carrier Boat Name **MISTY MOON** Dist. Symbol **FJ308**

SBT03B Book No **333** SBT03B Page No **2**

Date/Time Tow Cage Transferred **25 / 12 / 09 06:30**

Section 6 **Fish Transferred To Fish Receiver**

Date/Time Transfer Ended **/ / :** Name of Fish Receiver Permit Holder _____ Fish Receiver Permit Number _____

Section 7

I declare that the information which I have provided on this form to be a complete and accurate record.

Carrier Boat Permit Holder or their Agent

Print Name **JASON MANNING** Signature *J. Manning* Date **25 / 12 / 09**

SBT04B
Southern Bluefin Tuna Fishery
Farm Catch Disposal Record

Log No:	Page No:
---------	----------

Part 1

Fish Receiver Permit Holder Name: **McNally Fresh Fish** Tow Cage ID Number: **T600**

Fish Receiver Permit Holder Number: **9999** Carrier Boat's SBT03B Log and Page No's: **198** / **15**

Progressive total of all mortalities during tow (G = SBT03B) **A** **17**

Total number of mortalities recorded from date of receipt of tow cage **B** **2**

Record the number of retained to land mortalities from the date of receipt of the tow cage. **B1** **2**

Transfer from Tow Cage to Farm

Transfer Date	Farm Number Cage No.	Live Fish Count
29/01/10	C01	4,802
30/01/10	C02	1,098

Total Number of mortalities **F** **35** Count Total **C** **5,900**
F = A + B + J

Total Weight of mortalities **H** **638.75** Weight Total **D** **107675**
H = F x E (E: Average Weight in Kg) D = C x E (E: Average Weight in Kg)

Total Weight of Fish in Kg **I** **108313.75**
I = D + H

I have had the opportunity to witness the verified count conducted by AFMA's Agent and I agree with and verify the count taken. I declare that the information which I provide on the form to be a complete and accurate record.

Video Reference Number (1) **T600-1** FRP Holder **E. Watson**

No. of Videos viewed (2) **4**

Video Reference Date **2 / 2 / 10** FRP Signature **E. Watson** Date: **2 / 2 / 10**

Part 2 I authorise AFMA to deduct the SBT kilos of quota recorded in box I above from my/our quota holdings:

SFR Holder **A. Brazil** SFR Signature **A. Brazil** Date: **2 / 2 / 10**

Part 3

Purse Seine Boat Name: **TUNA 1** Boat 1 Boat 2 Dist. Symbol: **0253** Boat 1 Boat 2

SBT02 Log No: **12** / Page No: **4** Boat 1 Boat 2 Log No: Page No: **J** **16** Number of mortalities during pursing and transfer to tow cage

Progressive total of retained to land mortalities during tow (G3=SBT03B) **A1** **3** **J1** **1** Number of mortalities retained to land during pursing and transfer to tow cage

Average Weight sample from Tow Cage

Sample Date: **28 / 1 / 10** Name of Person Sampling: **T. Smith** Signature of Person Sampling: **T. Smith**

Average Weight in Kg **E** **18.25** No. of Fish taken from tow cage: **42** Farm Stocking Form No. **Boat 1** **FSAU 10 00101** **Boat 2**

I declare that the information which I provide on the form to be a complete and accurate record.

AFMA Agent's Name: **T. Poppy** AFMA Agent's Signature: **T. Poppy** Date: **3 / 2 / 10**

Appendix C

Tow Cage Size Monitoring Report

**Southern Bluefin Tuna Fishery
Farm Catch per Tow Cage**

200506

Tow Identification

Tow Cage ID _____ Book No. Page No. _____
 Tow Number for Deacon _____ Catch Disposal Form File Number _____

Catch Information

Catcher/Vessel _____ AFBA Form _____
 Capture location _____
 Date of First Transfer to Tow Cage _____
 Date of Last Transfer to Tow Cage _____
 Tow Vessel _____
 Date Tow Ended _____
 Number of Bortalls during Catching _____
 Number of Bortalls during Tow _____
 Number of Bortalls between end of Tow and Release to Farm _____

Average Weight Sample Information

Sample Date	Witness	Average Length	Average Weight

Fish Count Information

Transfer Date	Video Count	Tonnage	Static Cage ID	Static Cage Owner

Total number of fish counted: _____

200506

Tow Identification

Tow Cage ID: _____
Tow Number for Species: _____

Catch Disposal Form: _____
Risk Recorder Number: _____

Book No., Page No.

Average Weight Data

46 Fish Sample
Weight Length Tag

Number of Under 10g Fish:

Under 10g Fish
Weight Length

Appendix D

Flow of Data from Data Sources to Reports





