



Australian Government
Bureau of Rural Sciences

PREPARATION OF THE BRS COMPONENT OF AUSTRALIA'S DATA SUBMISSION FOR 2007

by

P.I. Hobsbawn

P.C. Sahlqvist

Abstract

The aggregated catch and effort, catch by fleet, raised catch, catch at size, and non-retained catch data sets submitted to CCSBT by the Bureau of Rural Sciences 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, are the main data sources. The Australian catch of SBT from surface and longline fisheries is also sampled by contracted field staff prior to release into farm cages or processing (longline catch). 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. In some cases data submitted in previous years is revised where errors are identified or statistical methodology is improved. This document provides facsimiles of data collection forms as well as flow charts illustrating the data integration procedures.

Working Paper CCSBT-ESC/0709/27

*Prepared for the Eighth Meeting of the Stock Assessment Group (SAG8)
and the Twelfth Meeting of the Extended Scientific Committee (SC12) of
the Commission for the Conservation of Southern Bluefin Tuna,
4-14 September 2007, Hobart, Australia.*

Canberra
July 2007

Contents

1. Introduction.....	3
2. Data Sources.....	3
2.1. Daily Fishing Logs Database	3
2.2. Catch Disposal Database.....	4
2.3. Tow Cage Size Monitoring Database	4
2.4. Longline Fishery Size Monitoring Reports.....	4
2.5. Fisheries Observer Database	4
3. Data Preparation.....	5
3.1. Definition of Seasons	5
3.2. Spatial Definitions.....	5
3.3. Revision of Non-retained Catch Data	6
4. Closing Remarks	6
Appendix 1: Flow Charts Showing Flow of Data from Data Sources to Reports	7
Appendix 2: Scientific Logbook Forms (AL05, OT03, PSP01, TPB02 and TPB03).....	11
Appendix 3: Catch Disposal Forms (CR4A, SBT03A, SBT04A).....	17
Appendix 4: Tow Cage Size Monitoring Report.....	21

1. Introduction

The Bureau of Rural Sciences, within the Australian Government Department of Agriculture, Fisheries and Forestry, provides data reports each year to the CCSBT as part of the annual data exchange. In April 2007, BRS submitted the following reports to the data exchange.

1. Aggregated catch and effort data 2006 and 2005
2. Raised Catch 2006 and 2005
3. Total Catch by Fleet 2006 and 2005 (quota and calendar year)
4. Catch at Size data 2006
5. Catch at Size data 2005
6. Non-retained Catches 2002-2005 (REVISED30042007)
7. Non-retained Catches 2006

Reports are also provided directly to the data exchange by CSIRO, the preparation of which is covered in a separate paper.

2. Data Sources

There are five sources of data required to produce the data reports. These are: Daily Fishing Logs Database; Catch Disposal Database; Tow Cage Size Monitoring Database and the Longline Fishery Size Monitoring Reports; and Fisheries Observer Database.

2.1. Daily Fishing Logs Database

The Daily Fishing Logs Database is maintained by the Australian Fisheries Management Authority (AFMA) and contains data collected from scientific logbooks that fishers are required to complete. The logbooks of relevance to SBT catch for the 2007 submission were the AL05 (longline and minor line), OT03 (minor line), PS01 (purse seine), TPB02 and TPB03 (purse seine and pole). See Appendix 2 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, eg number of hooks for longline operations; search hours for purse seine operations.
4. **Operation_Longline** – contains other information on longlining operations, eg length of mainline.
5. **Operation_Pole** – contains other information on poling operations, eg 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 boats 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.

2.2. Catch Disposal Database

This is the database AFMA uses 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 SBT04A (SBT Farm Catch Disposal Record; purse seining for farms). See Appendix 3 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.

2.3. Tow Cage Size Monitoring Database

Tow cage size monitoring data is 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, BRS developed a database for Protec Marine to use to record this information, the Tow Cage Size Monitoring Database. Data for the 2006–07 season were then entered into this database from the original spreadsheets. The database was then used when preparing the data submission to CCSBT. A sample of one of the reports produced by the database is given in Appendix 4.

For each tow cage, fish were sampled until forty 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. 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.

2.4. Longline Fishery Size Monitoring Reports

These data are provided by WW Fisheries Pty Ltd, a company contracted to AFMA and are collected onshore at processing establishments. The reports include the length and weight information for non-farm fish, all caught by longline in 2005 and 2006. This report is used to determine the Catch at Size data for longline operations.

2.5. 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 over the period 2001 to 2006, mainly concentrated in the eastern EEZ. There has been limited coverage of longline fisheries in the southern and western EEZ and minimal purse seine coverage. A

database of observed fishing operations is maintained by AFMA, including records of retained and discarded catch and biological data collection. The AFMA observer data was used to produce the revised report “Non-retained Catches 2002-2005” and the “Non-retained Catches 2006” report. This report provided only numbers of non-retained fish observed in the longline fishery and was 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. The following observer database tables contributed data to the Non-retained Catches report:

1. **Activity_Log** – describes vessel activity eg setting, hauling, searching and time, location, environmental conditions.
2. **Voyage** – details of observer cruise including vessel identifier.
3. **Voyage_Gear_Items** – contains values of attributes for each fishing operation eg number of hooks deployed.
4. **Bio_Collection** – describes biological attributes of animals caught including life status of retained and discarded fish

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 sets ie Tow Cage Size Monitoring Database (MS Access database) and Longline Fishery Size Monitoring Reports (MS Excel workbook) are processed at least partly in MS Excel and some output data imported to Access for combination with other database sets. Standard queries and procedures have been established to produce the data reports that BRS 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 1 for flow diagrams of data sources and tables used to produce the various reports.

3.1. 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.

3.2. Spatial Definitions

The 2003 submission was the first time that raised catch or catch at size data were provided by latitude/longitude grid (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 Tow Cage Size Monitoring Database to the Daily Fishing Logs Database, thus providing capture location information. The Aggregated Catch and Effort Report also provides spatial information, all data for this report coming from the Daily Fishing Logs Database.

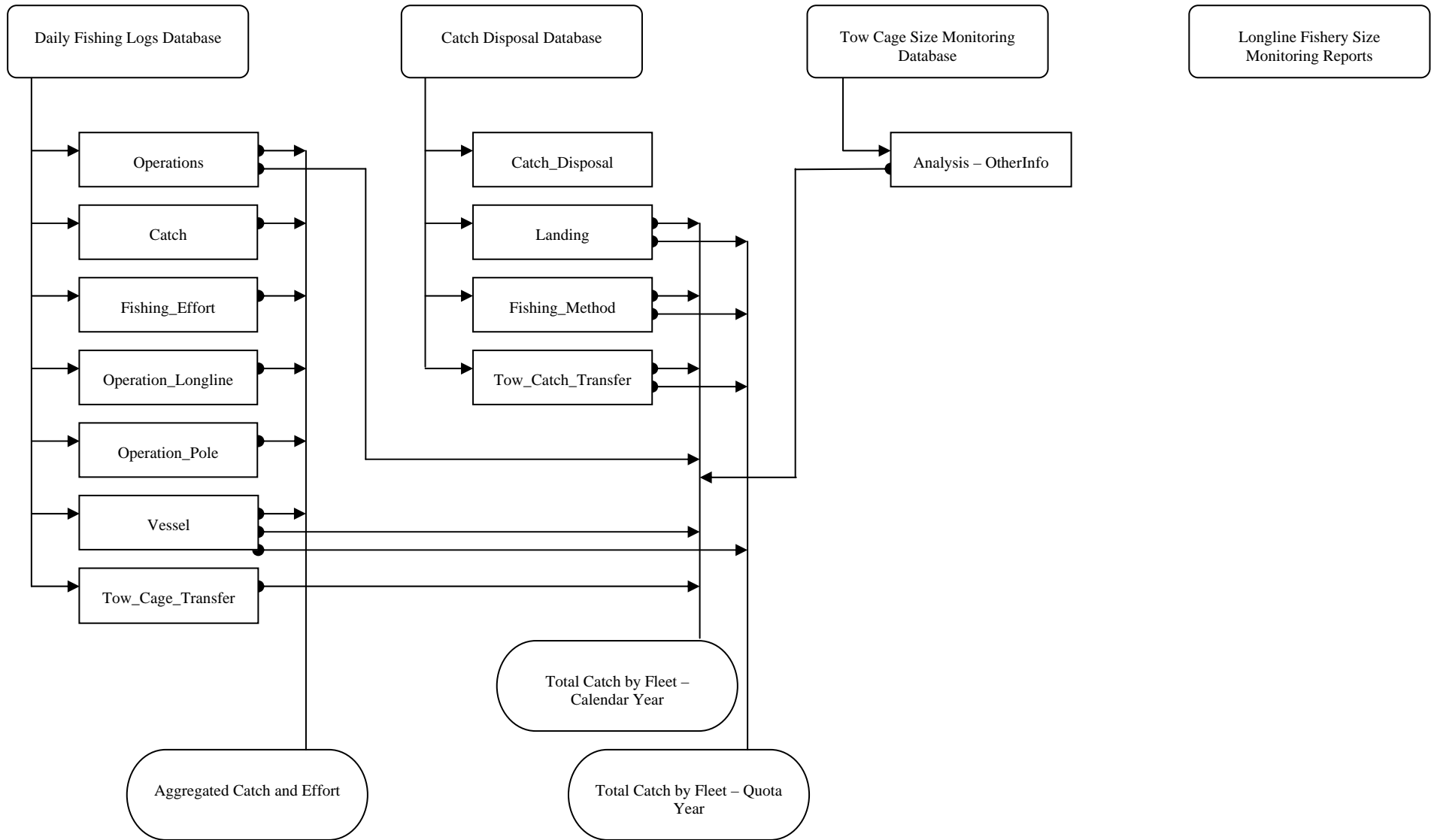
3.3. Revision of Non-retained Catch Data

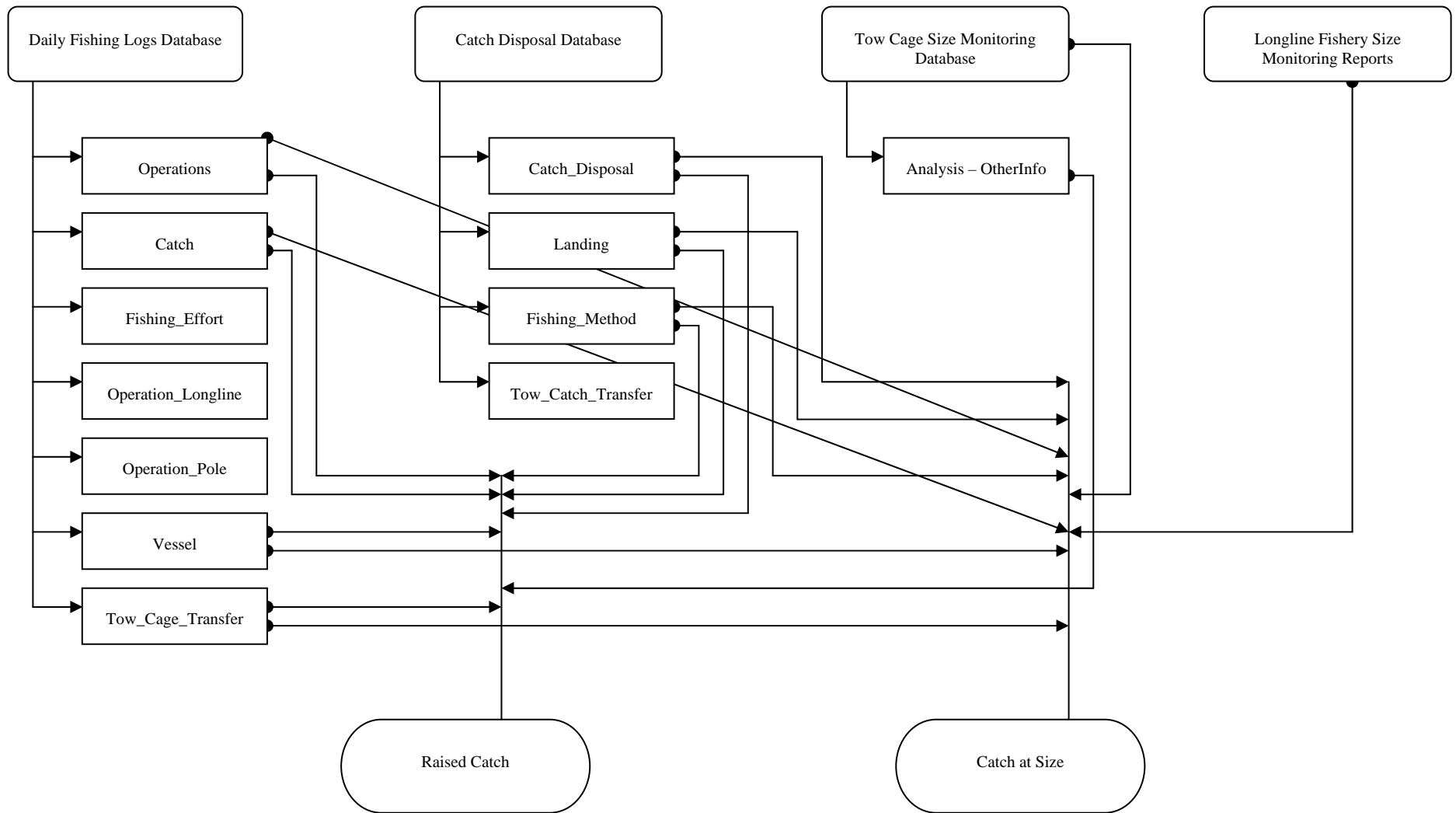
The 2002 to 2005 non-retained catch statistics were revised in the 2007 data exchange to correct the numbers of observed fish for each life-status code. Due to an error in one of the database queries, the previously provided statistics excluded some fish that did not have size estimates recorded in the database.

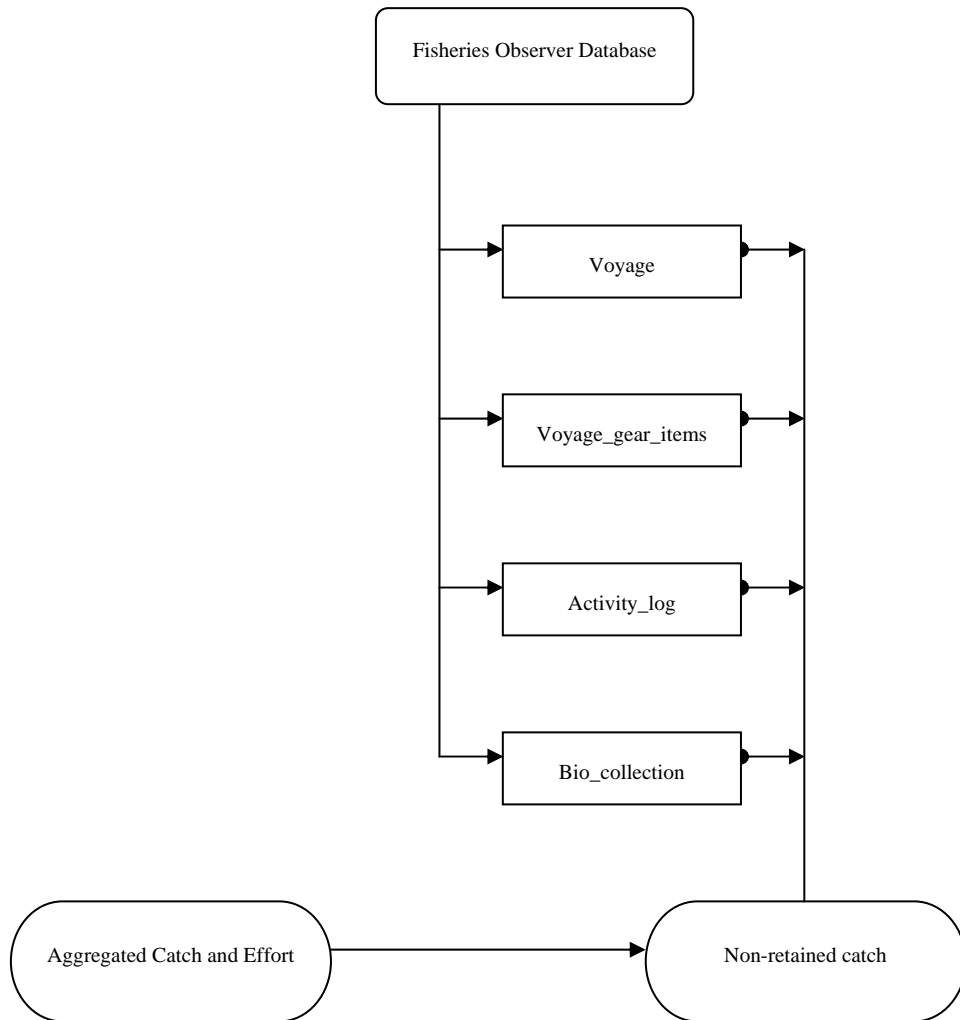
4. Closing Remarks

The description of data preparation and submission in this report applies to the 2005 and 2006 data supplied to CCSBT. A more detailed description of the fields within the data sources can be obtained.

Appendix 1: Flow Charts Showing Flow of Data from Data Sources to Reports







**Appendix 2: Scientific Logbook Forms (AL05, OT03, PSP01, TPB02
and TPB03)**

Australian Pelagic Longline Daily Fishing Log – AL05

NOTE: DO NOT USE A SINGLE PAGE FOR MORE THAN ONE TRIP

Original Copy – Send to AFMA

Log No.	Page No.	Boat Name Cormorant	Dist. Symbol LFB963	Time Zone Fished EST	Departure Port ULLADULLA								
					Departure Date 12/6/00								
SHOT INFORMATION		Shot 1 Date 13/6/02	Shot 2 Date 15/6/02	Vessel docked between 9 / 6 / 02 and 11 / 6 / 02									
Start Set Time (24h) 0300													
Start Set	Lat. (dd mm)	35 35	36 31	Non-fishing Date/s and Codes during a Trip (ENTER CODE IN BOX) 1 – Bad Weather 3 – Broken Down 4 – Steaming 6 – Searching 5 – Other Fishery (SPECIFY) Date/s 12 / 6 / 02 to / / Code 4 14 / 6 / 02 to / / 6 / / to / / <input type="checkbox"/>									
Position	Long. (ddd mm)	151 42	151 55										
End Set Time (24h) 0610													
End Set	Lat. (dd mm)	35 19	36 25										
Position	Long. (ddd mm)	151 40	151 40										
Mainline Length No. hooks 35 nm(KM) 900 hooks		27 nm(KM) 800 hooks											
Line shooter used (CIRCLE) <input checked="" type="radio"/> Yes <input type="radio"/> No													
Seabird Mitigation Measures Used (CIRCLE) <input checked="" type="radio"/> TORI <input checked="" type="radio"/> THAW <input checked="" type="radio"/> PSBL <input checked="" type="radio"/> NSET <input checked="" type="radio"/> LWEL <input checked="" type="radio"/> CHUTE <input checked="" type="radio"/> CAPS <input checked="" type="radio"/> DYED <input checked="" type="radio"/> OTHER <input checked="" type="radio"/> NAPP													
Gear Information	Estimated average depth targeted in metres 80												
	No. hooks between bubbles 9												
	No. of lightsticks used 300												
	Bait type/wt used for shot Squid/Pilchards 200kg	Pilchards 160 kg											
	Bought <input checked="" type="checkbox"/> Self caught <input type="checkbox"/>	Live bait <input type="checkbox"/> Dead bait <input checked="" type="checkbox"/>		Live bait <input type="checkbox"/> Dead bait <input checked="" type="checkbox"/>									
	Sea surface temp. (C) 17	18	16	16									
Wind direction (ie. NW) S	SSE	SW	WSW										
Wind speed (kn) 12	15	8	12										
Minor Line Methods Used		Complete at End of Trip											
Trolling <input checked="" type="checkbox"/> Hrs 2		Port of Landing ULLADULLA											
Rod & Reel <input type="checkbox"/> Hrs		Trip End Date 15/6/00											
Handline <input type="checkbox"/> Hrs		First Receiver/s of Fish ULLADULLA CO-OP											
No. of Lines Used? 2													
Catch Details Tick box below to show target species		No. Fish Kept	Est. Processed Wt Kept (kg)	Form Code	No. Fish Not Kept	No. Fish Kept	Est. Processed Wt Kept (kg)	Form Code	No. Fish Not Kept	No. Fish Kept	Est. Processed Wt Kept (kg)	Form Code	No. Fish Not Kept
Yellowfin Tuna <input checked="" type="checkbox"/>		11	350	GG	3	14	480	GG	1	3	60	GG	
Bigeye Tuna <input checked="" type="checkbox"/>		4	150	GG		6	160	GG					
Albacore <input type="checkbox"/>		7	50	W		4	40	W		2	15	W	
Southern Bluefin Tuna <input type="checkbox"/>													
Broadbill Swordfish <input type="checkbox"/>						2	90	TR					
Striped Marlin <input type="checkbox"/>		1	35	TR									
Ray's Bream <input type="checkbox"/>					2	3	10	GG					
Northern 'Jumbo' Bluefin Tuna <input type="checkbox"/>													
Short Finned Mako Shark <input type="checkbox"/>		1	80	F						1			
Bronze Whaler Shark <input type="checkbox"/>													
Dusky Whaler Shark <input type="checkbox"/>													
Blue Shark <input type="checkbox"/>					7				4				
Oceanic Whitetip Shark <input type="checkbox"/>													
Blacktip Shark <input type="checkbox"/>													
Tiger Shark <input type="checkbox"/>													
Hammerhead Shark <input type="checkbox"/>													
Silky Shark <input type="checkbox"/>													
Porbeagle Shark <input type="checkbox"/>		2	90	TR									
Rudderfish <input type="checkbox"/>		2	10	GG		1	30	TR					
Oilfish <input type="checkbox"/>						1	4	GG					
Escolar (Black Oilfish) <input type="checkbox"/>		3	25	GG									
Dolphinfish <input type="checkbox"/>									1				
Wahoo- Sunfish <input type="checkbox"/>						1							
Lancetfish <input type="checkbox"/>						3							
Moonfish <input type="checkbox"/>									2				
Thresher Shark <input type="checkbox"/>		1	50	TR		1	10	F					
Other Species		Number Released		Number Released		Number Released		Number Released					
		Alive	Dead	Alive	Dead	Alive	Dead	Alive	Dead				
Blue Marlin		1											
Black Marlin													
Great White Shark													
Grey Nurse Shark													
No Take Species												Please provide an estimate of the time taken to complete this formmins	
Non-Fish Bycatch / Interactions		Shot No.	Species Group eg. seabird, cetacean, turtle OR Species (if known)	No. Released Alive	No. Released Dead	Position Caught Lat. (dd mm) / Long. (ddd mm)		No. Caught During Set	No. Caught During Haul	Estimated Time of Interaction			
		1	Loggerhead Turtle	1		35° 24'S 151° 41'E		N/A		N/A			
		2	Albatross		1	36° 29'S 151° 52'E		1		0700			
		COMMENTS – Is there anything else that you consider to be important? eg. gear failure, tag or band numbers, was the animal hooked or entangled, etc.											
		Shot No. 2 . Hooked in beak - Bird drowned, carcass discarded. Band no. and further details recorded on Tag Form. Photos provided with logsheets. Turtle released alive, trace cur at hook.											
		Tag (Band No.) A754L											

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

Concession Holder or Authorised Person	Printed Name TIM GARDENER	Signature <i>T. Gardener</i>	Date 15 / 6 / 02
--	----------------------------------	------------------------------	----------------------------

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

Australian Tuna Minor Line Daily Fishing Logbook - OT03

Form Codes: W = Whole; G = Gilled & Gutted; H = Headed; F = Filleted; T = Trunk (headed & gutted).

Log No: 0333009 Date: 8/10/96 Boat Name: Hot Tuna Dist. Symbol: LFB139 Master's Name: C. Gavin

I did not work between 3, 9, 1, 96, and 7, 1, 1, 96, due to: NON-FISHING CODE (TICK APPROPRIATE BOX)

FISHING DETAILS

Area Fished: Latitude 37° Longitude 152° 50'

Minor Line Method(s) Used Today (tick appropriate boxes)

Handline: No. Lines Hrs.
 Trolling: No. Lines 4 Hrs. 4.5
 Rod & Reel (not trolling): No. Lines 2 Hrs. 6
 Other Method? (list here) No. Lines Hrs.

Poling Details (if applicable)
 No. Poles Used? Type used (ie, single/double)?
 Hours Searched? Poling Start Time (24 hr) Hours Fished?

Were you assisting a Seine Boat during your fishing? (Y/N)

Dist. Symbol of assisted seine boat?

Bait Details - list bait type/s used today & tick appropriate boxes

Lures Used? Bait Purchased?
 Live Bait Used? Bait caught by self?
 Dead Bait Used?

Type Yellowhead Qty 20 Kg
 Type Qty Kg
 Type Qty Kg

TOTAL CATCH FOR THE DAY

Species Code (see list on back of wiring template)	No. of Fish caught and kept (kg)	Estimated Total Weight caught and kept (kg)	No. of Fish Returned to Sea.
4FT	12	21	1
ALB	15	9	3
SKT	7	45	5
DDL	5	30	2

LANDING DETAILS (Includes Total Verified Weights for each species landed. Don't forget to add form codes for these weights - these are listed at the top right of this page.)

Port of Landing:	Verified Weights		Record here as soon as possible after sale of catch	
	Export Wt (kg)	Form Code	Domestic Wt (kg)	Form Code
Coffs Harbour	49	9	14	9
			10	9
			53	9
			28	9

Date of Landing: 7/10/99
 Fish Sold To: Coffs Co-op.
 Sydney Fish Market

Comments: Weather very calm. Found a current line about 10km offshore. Heaps of fish on surface all day.

Wildlife Interactions

Number Caught	Life Status on release (codes on fold-out flap)	Other Comments - include species names if possible, as well as details of the interaction (eg, whether animals hooked, entangled, stealing fish etc).
		Saw 3 - 4 whales around 10 km offshore from Coffs. I think they were humpbacks.

Master's Signature: C. Gavin
 Date: 7/10/99

WHITE COPY - send to AFMA. BLUE COPY - retain for your records. If you catch any banded or tagged animals, please forward details to AFMA using one of the Tag recapture forms at the rear of this book (also see instructions at front - TAG RECAPTURES).

Australian Purse Seine and Pole Daily Fishing Log – PSP01

NOTE: IF POLING AND DOING DAY TRIPS PLEASE USE THE TUNA MINOR LINE LOGBOOK TO RECORD YOUR CATCH

Boat Name					Dist. Symbol	Fishing Method Used (tick appropriate box) Distinguishing Nos. of assisting vessels State whether pole or seine boats					Log No.	Page No.					
Search Details		Fishing Details			Estimated Catch Weights per Shot (kg) - tick box below fish name to indicate your target species												
NF Code Codes listed below	Instructions	Time Zone used (for log entries)	Latitude (dd mm)	Longitude (ddd mm)	No. Poles Used	Pole Boat Assisted Y/N	Seine Boat Assisted Y/N	List species of bait caught each day	Total Wt of bait caught & used (kg)	Skipjack Tuna <input type="checkbox"/>	Albacore Tuna <input type="checkbox"/>	Yellowfin Tuna <input type="checkbox"/>	Jack Mackerel <input type="checkbox"/>	Southern Bluefin Tuna <input type="checkbox"/>	Other Spec. (list above) <input type="checkbox"/>	Other Spec. (list above) <input type="checkbox"/>	Estimated % of school caught
		Hours Searched	Start Time (local time)	Sea Surface Temp. (C)	Spotter Plane Used Y/N	Sea Temp. (C)	Start Time (24 hr)	Estimated Catch Weights per Shot (kg) - tick box below fish name to indicate your target species	Estimated Catch Weights per Shot (kg) - tick box below fish name to indicate your target species	Estimated Catch Weights per Shot (kg) - tick box below fish name to indicate your target species	Estimated Catch Weights per Shot (kg) - tick box below fish name to indicate your target species	Estimated Catch Weights per Shot (kg) - tick box below fish name to indicate your target species	Estimated Catch Weights per Shot (kg) - tick box below fish name to indicate your target species	Estimated Catch Weights per Shot (kg) - tick box below fish name to indicate your target species	Estimated Catch Weights per Shot (kg) - tick box below fish name to indicate your target species	Estimated Catch Weights per Shot (kg) - tick box below fish name to indicate your target species	Estimated Catch Weights per Shot (kg) - tick box below fish name to indicate your target species
Comments																	
Vessel docked between / / and / /																	
<p>Non-fishing Codes during a Trip</p> <p>1 – Bad Weather 3 – Broken Down 4 – Steaming</p> <p>6 – Searching 5 – Other Fishery (SPECIFY IN COMMENTS)</p>																	
<p>NB Did you have an interaction with any wildlife or other protected species? Please tick: Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>If yes, please enter details on a "Wildlife and Other Protected Species" Form at the back of this book.</p>																	
<p><i>I certify the information which I have provided on this form to be a complete and accurate record.</i></p> <p>Concession Holder or Authorised Person</p> <p>Printed Name _____ Signature _____ Date ____/____/____</p>																	
<p>Complete at End of Trip</p> <p>Trip Start Date _____ Port of Departure _____ Trip End Date _____ Port of Landing _____ First Receiver/s of Fish _____</p>																	
<p>Please provide an estimate of the time taken to complete this formmins</p>																	

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.

Australian Purse Seine and Pole Daily Fishing Log - TPB02

Australian Fisheries Management Authority
Commonwealth of Australia

IMPORTANT NOTE: IF POLING AND DOING DAY TRIPS PLEASE USE THE 0703 LOGBOOK TO RECORD YOUR CATCH

Log No: 092 001		Page No: 001		Boat Name: _____		Dist. Symbol: _____		Master's Name: _____	
TICK APPROPRIATE NON-FISHING (NF) CODE BOX AT RIGHT:		1 Bad Weather <input type="checkbox"/>		2 In Port <input type="checkbox"/>		3 Broken Down <input type="checkbox"/>		Fishing Method Used? (tick appropriate box)	
I did not work between _____ and _____		4 Stopping <input type="checkbox"/>		5 Other Fishery (specify) _____		6 Caging <input type="checkbox"/>		Distinguishing Nos. of assisting vessels NB: State whether pole or seine boats	
Date of Fishing _____		NF Code? _____		Sea Surface Temp. (C) _____		Time Zone used for log entries _____		Estimated Catch Weights per Shot (kg) - tick box below fish name to indicate your target species.	
Date (day/month) _____		Codes listed above _____		Search Plane Searched _____		Spiller Plane Used? (Y/N) _____		Estimated % of school caught _____	
Latitude _____		Longitude _____		No. Poles Used? _____		Pole Boat Assisted Y/N _____		Southern Bluefin Tuna <input type="checkbox"/>	
Sea Surface Temp. (C) _____		Start Time (local time) _____		If poling please note in comments whether other than single poles are used		Seine Boat Assisted Y/N _____		Skipjack Tuna <input type="checkbox"/>	
Time Zone used for log entries _____		Latitude _____		Longitude _____		Pole Boat Assisted Y/N _____		Albacore Tuna <input type="checkbox"/>	
Search Plane Searched _____		Spiller Plane Used? (Y/N) _____		Sea Surface Temp. (C) _____		Time Zone used for log entries _____		Yellowfin Tuna <input type="checkbox"/>	
Codes listed above _____		Search Plane Searched _____		Sea Surface Temp. (C) _____		Time Zone used for log entries _____		Jack Mackerel <input type="checkbox"/>	
Date of Fishing _____		NF Code? _____		Sea Surface Temp. (C) _____		Time Zone used for log entries _____		Other Spec. (list above) <input type="checkbox"/>	
Date (day/month) _____		Codes listed above _____		Search Plane Searched _____		Spiller Plane Used? (Y/N) _____		Other Spec. (list above) <input type="checkbox"/>	
Latitude _____		Longitude _____		No. Poles Used? _____		Pole Boat Assisted Y/N _____		Other Spec. (list above) <input type="checkbox"/>	
Sea Surface Temp. (C) _____		Start Time (local time) _____		If poling please note in comments whether other than single poles are used		Seine Boat Assisted Y/N _____		Other Spec. (list above) <input type="checkbox"/>	
Time Zone used for log entries _____		Latitude _____		Longitude _____		Pole Boat Assisted Y/N _____		Other Spec. (list above) <input type="checkbox"/>	
Search Plane Searched _____		Spiller Plane Used? (Y/N) _____		Sea Surface Temp. (C) _____		Time Zone used for log entries _____		Other Spec. (list above) <input type="checkbox"/>	
Codes listed above _____		Search Plane Searched _____		Sea Surface Temp. (C) _____		Time Zone used for log entries _____		Other Spec. (list above) <input type="checkbox"/>	
Date of Fishing _____		NF Code? _____		Sea Surface Temp. (C) _____		Time Zone used for log entries _____		Other Spec. (list above) <input type="checkbox"/>	
Date (day/month) _____		Codes listed above _____		Search Plane Searched _____		Spiller Plane Used? (Y/N) _____		Other Spec. (list above) <input type="checkbox"/>	
Latitude _____		Longitude _____		No. Poles Used? _____		Pole Boat Assisted Y/N _____		Other Spec. (list above) <input type="checkbox"/>	
Sea Surface Temp. (C) _____		Start Time (local time) _____		If poling please note in comments whether other than single poles are used		Seine Boat Assisted Y/N _____		Other Spec. (list above) <input type="checkbox"/>	
Time Zone used for log entries _____		Latitude _____		Longitude _____		Pole Boat Assisted Y/N _____		Other Spec. (list above) <input type="checkbox"/>	
Search Plane Searched _____		Spiller Plane Used? (Y/N) _____		Sea Surface Temp. (C) _____		Time Zone used for log entries _____		Other Spec. (list above) <input type="checkbox"/>	
Codes listed above _____		Search Plane Searched _____		Sea Surface Temp. (C) _____		Time Zone used for log entries _____		Other Spec. (list above) <input type="checkbox"/>	

Landing Details

Port of Landing: _____ kg

Date of Landing: _____ kg

Owner of Cage - if cage towing: _____ kg

Fish Sold To: _____ kg

Verified Catch Weights for Trip: Skipjack: _____ kg Other species (specify): _____

Albacore: _____ kg

Southern Bluefin: _____ kg

Yellowfin: _____ kg

Verified Weights for State Species Bycatch: Dolphinfish: _____ kg Yellowtail Kingfish: _____ kg

Other species (specify): _____ kg

Other species (specify): _____ kg

Other species (specify): _____ kg

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/s: _____ Qty: _____ Life Status: _____

Master's Signature: _____

I certify that the information I have provided on this form is a complete and accurate record.

Dated: _____

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

Australian Fisheries Management Authority, 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 Poling Purse Seining

I did not work between *28/5/98* and *28/11/98*. 4 Steaming 10 Relif Distinguishing Nos. of assisting vessels: *LFB023 (pole boat)*
 NB: State whether pole or seine boats

Date of Fishing (day/month)	NF Code?	Search Details	Fishing Details				Total Weight and Type of Bait		Estimated Catch Weights per Shot (kg)			Towing							
			Start Time (24hr local time)	Latitude	Longitude	No. Poles Used ?	Pole Boat Assisted Y/N	Seine Boat Assisted Y/N	Type	Kgs	SBT Weight	Other Species	Other Weight	Estimated % of school caught	Carrier Boat Name	Weight Transferred	Transfer Date	SBT 03 Book No.	Page No.
29/11	6	4	1300	32°40'	132°30'	4	4			8,000	-	-	90	Star	8,000	29/11	036	09	
30/11	4																		
1/12		4	1200	34°05'	131°08'	4	4			15,000	-	-	95	Jane S.	15,000	1/12	024	36	
2/12		5	1100	33°50'	131°20'	4	4			25,000	-	-	70	"	25,000	2/12	024	36	
2/12		2	1600	33°54'	131°17'	4	4			12,000	-	-	80	"	12,000	2/12	024	36	

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(s): _____ 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.
 Dated: 3/12/98
 Name: C. GAVIN
 Signature: C. Gavin

Comments: _____

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.

Appendix 3: Catch Disposal Forms (CR4A, SBT03A, SBT04A)

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

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.

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

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.

SBT03A
Southern Bluefin Tuna Fishery
Farm Transit Log

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

Carrier Boat Name	MARY LOU	Dist. Symbol	DE 123
Permit Holder	A B CUTTER	Carrier Boat Permit Number	400100
Tow Cage ID Number	T600		
Fish Received From	<input checked="" type="checkbox"/> Purse Seine Boat – Complete Sections 1 and 3 then 4 or 5		
Fish Received From	<input type="checkbox"/> Carrier Boat – Complete Sections 2 and 3 then 4 or 5		

Section 1		Transfer Details		Estimate of Weight (Tonnes)	SBT02 Book No.	SBT02 Page No.
Name of Purse Seine Boat	Dist. Symbol	Date & Time Last Transfer Finished				
BLUE OCEAN	333	20/ 12 / 04 9:30		50	111	05

Section 2		Dist. Symbol	
Previous Carrier Boat Name			
SBT03A Log No:	Page No:	A Record of Mortalities Recorded in Box "G" of Previous SBT03A	E

Section 3		Record of Mortalities During This Tow										
Date/Time Tow Started		Record a Date + Number of Mortalities for Each 24 hr Period.										
22/ 12 / 04 8:30		22/12	24/12	25/12	28/12							
		10	5	1	1							
Total Mortalities During This Tow	F	17								Progressive Total of Mortalities (E & F = G)	G	17

Section 4		Tow Cage Transferred To Another Carrier Boat	
Carrier Boat Name		Dist. Symbol	
SBT03A Book No		SBT03A Page No	
		Date/Time Tow Cage Transferred	/ / :

Section 5		Tow Cage Transferred To Fish Receiver	
Date/Time Tow Ended	29/ 12 / 04 11:30	Name of Fish Receiver Permit Holder	McNALLY FRESH FISH
		Fish Receiver Permit Number	9999

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

Carrier Boat Permit Holder or Person Acting on their Behalf

Print Name	B. BOXALL	Signature	B. Boxall	Date	29 / 12 / 04
------------	-----------	-----------	-----------	------	--------------

SBT04A
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 Vessel SBT03A Log and Page No	Log No: 198 Page No: 15

Progressive Total of mortalities during tow (G = SBT03A) **A** 17

Number of mortalities recorded from date of receipt of tow cage **B** 8

Transfer from Tow Cage to Farm

Transfer Date	Farm Number Cage No.	Live Fish Count
29/1/05	A93	4,802
30/1/05	A85	1,098

Count Total **C** 5,900

Total Number of mortalities $F = A + B + J$ **F** 35

Weight Total $D = C \times E$ (E: Average Weight in Kg) **D** 107675

Total Weight of mortalities $H = F \times E$ (E: Average Weight in Kg) **H** 638.75

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

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 2930404

FRP Holder E. Watson

Video Reference Date 1 / 2 / 05

FRP Signature E. Watson

Date 1 / 2 / 05

Part 2

Purse Seine Boat Name	TUNA 1	Dist. Symbol	0253
-----------------------	--------	--------------	------

SBT02	Log No: 12	Page No: 4	J	10	Number of mortalities during pursing and transfer to tow cage
-------	------------	------------	---	----	---

Average Weight sample from Tow Cage

Sample Date	29 / 1 / 05	Name of Person Sampling	T. Smith	Signature of Person Sampling	T. Smith
-------------	-------------	-------------------------	----------	------------------------------	----------

Average Weight in Kg	No. of Fish taken from tow cage
E 18.25	42

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

AFMA Agent's Name	B. Brown	AFMA Agent's Signature	B. Brown	Date: 29 / 1 / 05
-------------------	----------	------------------------	----------	-------------------

Appendix 4: Tow Cage Size Monitoring Report

Southern Bluefin Tuna Fishery
Farm Catch per Tow Cage

200506

Tow Identification

Tow Cage ID _____	Catch Disposal Form _____	Book No. Page No. _____
Tow Number for Season _____	Fish Receiver Number _____	

Catch Information

Catcher Vessel _____	AFMA Form _____
Capture location _____	
Date of First Transfer to Tow Cage _____	
Date of Last Transfer to Tow Cage _____	
Tow Vessel _____	
Date Tow Ended _____	Total Weight of Fish Captured in this Tow Cage: _____
Number of Mortalities during Catching _____	Estimated Weight (kg): _____
Number of Mortalities during Tow _____	Total Number of Mortalities: _____
Number of Mortalities between end of Tow and Release to Farm _____	Total Number of Fish: _____

Average Weight Sample Information

Sample Date _____	Witnesses _____	Average Length _____	Average Weight _____
-------------------	-----------------	----------------------	----------------------

Fish Count Information

Transfer Date	Video Count	Tonnage	State Cage ID	State Cage Owner

Total number of live fish counted: _____

200506

Tow Identification

Tow Cage ID _____ Catch Disposal Form _____ Book No. Page No.
Tow Number for Season _____ Fish Receiver Number: _____

Average Weight Data

40 Fish Sample
Weight Length Tag
Number of Under 10 kg Fish
Under 10 kg Fish
Weight Length