



Australian Government
Bureau of Rural Sciences

Preparation of Australia's southern bluefin tuna catch and effort data submission for 2009

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Working Paper CCSBT-ESC/0809/07 prepared for the Fourteenth Meeting of the
Scientific Committee (SC14) of the Commission for the Conservation of Southern Bluefin Tuna,
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Abstract

The aggregated catch and effort, catch by fleet, raised catch, catch at size, and non-retained catch data sets submitted to the Commission for Conservation of Southern Bluefin Tuna (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 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. In some cases data submitted in previous years are 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.

Contents

Abstract	iii
Contents	iv
Introduction	1
Data Sources	1
Daily Fishing Logs Database	1
Catch Disposal Database.....	2
Tow Cage Size Monitoring Database.....	2
Fisheries Observer Database	2
Data Preparation	3
Definition of Seasons	3
Spatial Definitions.....	3
Closing Remarks	3
Appendix 1: Flow Charts Showing Flow of Data from Data Sources to Reports.....	4
Appendix 2: Scientific Logbook Forms (AL05, AL06, and TPB03)	8
Appendix 3: Catch Disposal Forms (CR4A, SBT03A, SBT04A).....	12
Appendix 4: Tow Cage Size Monitoring Report	16

Introduction

The Bureau of Rural Sciences (BRS), within the Australian Government Department of Agriculture, Fisheries and Forestry, provides data reports each year to the Commission for Conservation of Southern Bluefin Tuna (CCSBT) as part of the annual data exchange. In April 2009, BRS submitted the following reports to the data exchange:

- Aggregated Catch and Effort data 2007 and 2008
- Raised Catch 2007 and 2008
- Total Catch by Fleet 2007 and 2008 (quota and calendar year)
- Catch at Size data 2007 and 2008
- Non-retained Catches 2007 and 2008.

The following reports are also provided directly to the data exchange by 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 are described in separate papers.

Data Sources

For the 2009 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 scientific logbooks that fishers are required to complete. The logbooks of relevance to southern bluefin tuna (SBT) catch for the 2009 submission were the AL05 and AL06 (longline and minor line – AL06 only in operation since November 2007), and TPB03 (purse seine and pole log for farmed SBT). 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 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 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.

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, BRS developed a database for Protec Marine to use 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 2007 and 2008. 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 (see Appendix 1). 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.

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 2008, mainly concentrated in the eastern Exclusive Economic Zone (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 including length measurements. Length data collected by observers

were used to compile the longline component of the Catch at Size reports for 2007 and 2008. The AFMA observer data was also used to produce the “Non-retained Catches” reports for 2007 and 2008. 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. 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

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 in the Tow Cage Size Monitoring Database (MS Access database) 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.

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.

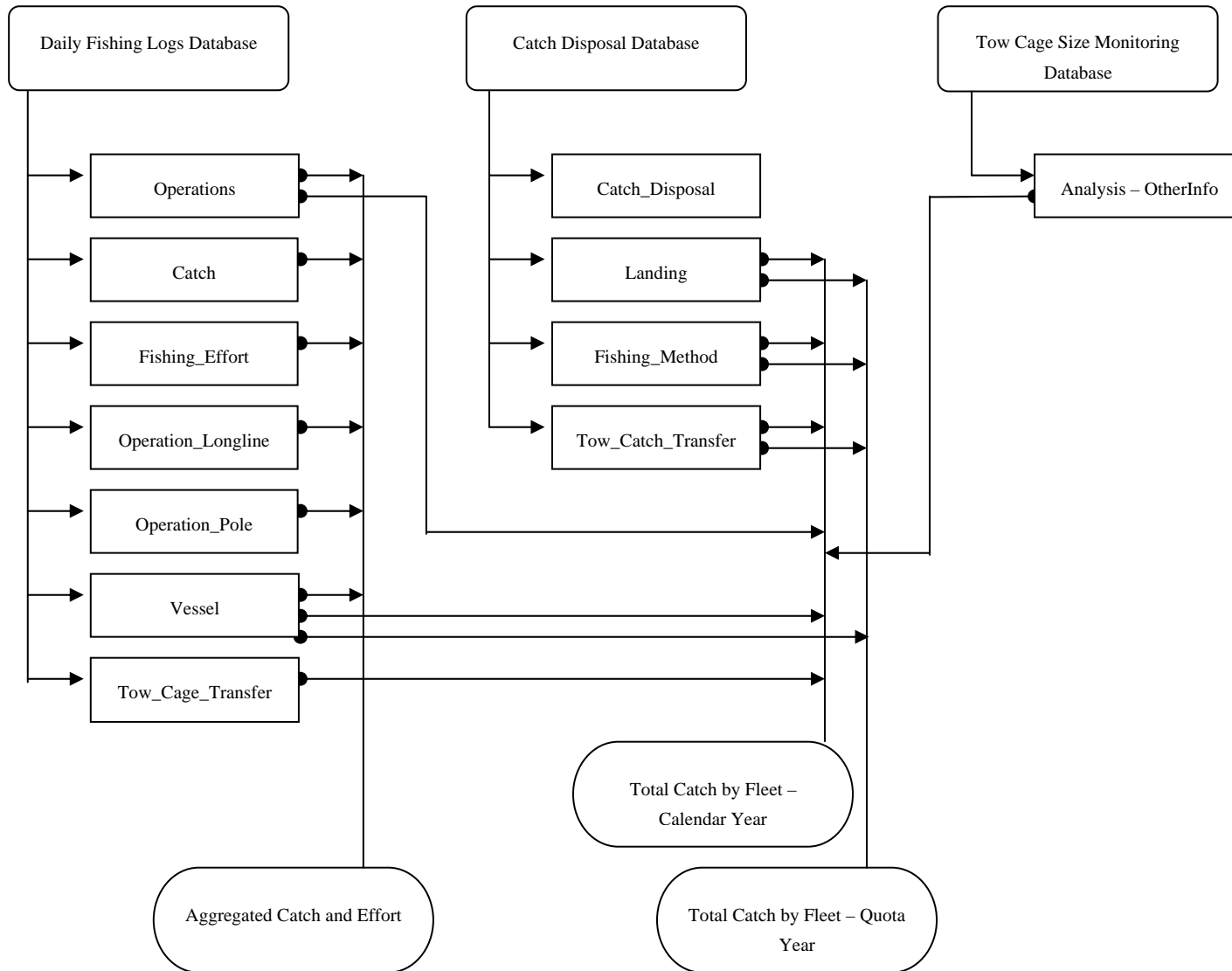
Spatial Definitions

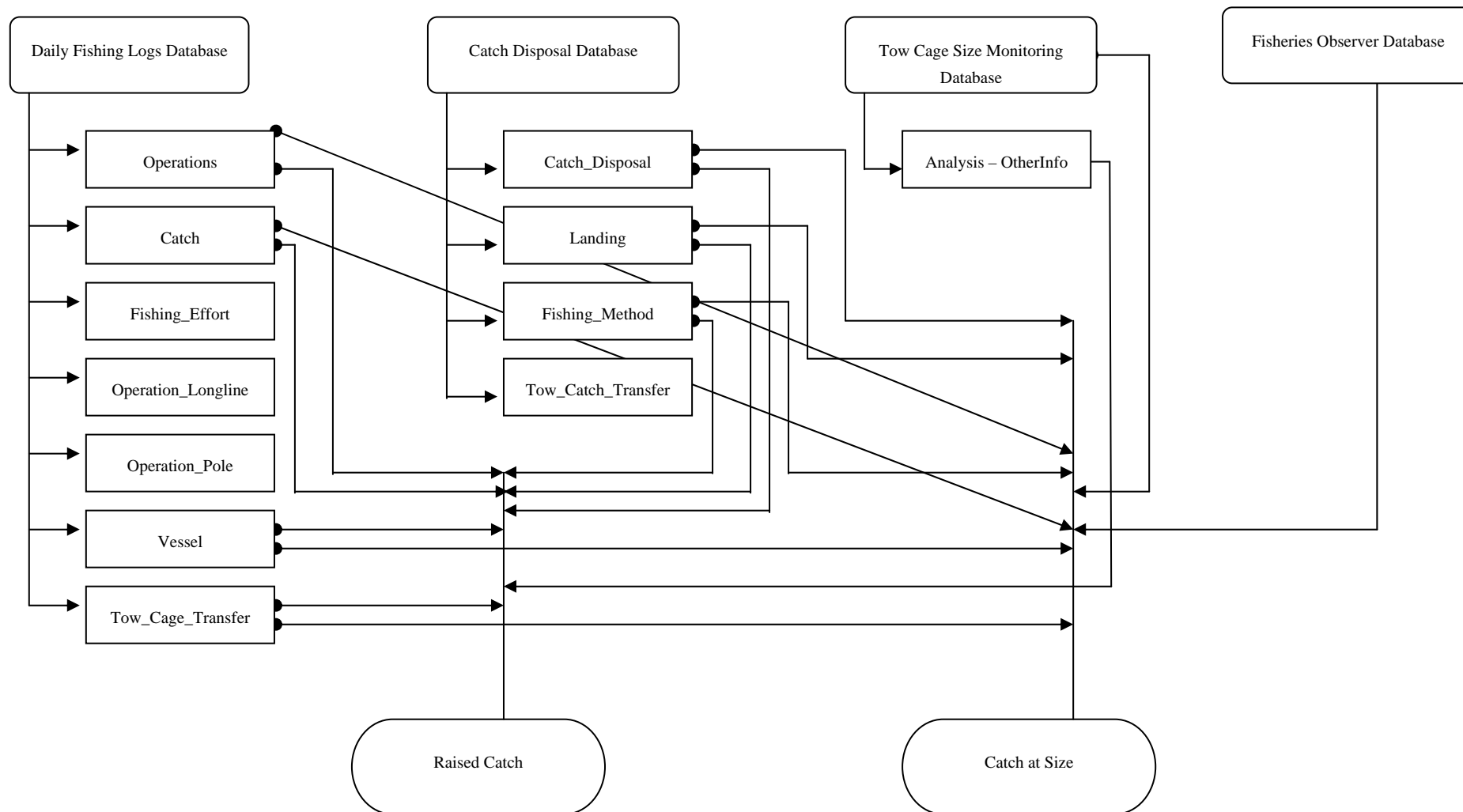
Since the 2003 data exchange, raised catch or catch at size data have been provided by latitude/longitude grid cells (1x1 degrees for purse seine and 5x5 degrees for longline). This was made possible for the farm sector by the introduction of the SBT03 forms. The forms enable the linking of the Tow Cage 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.

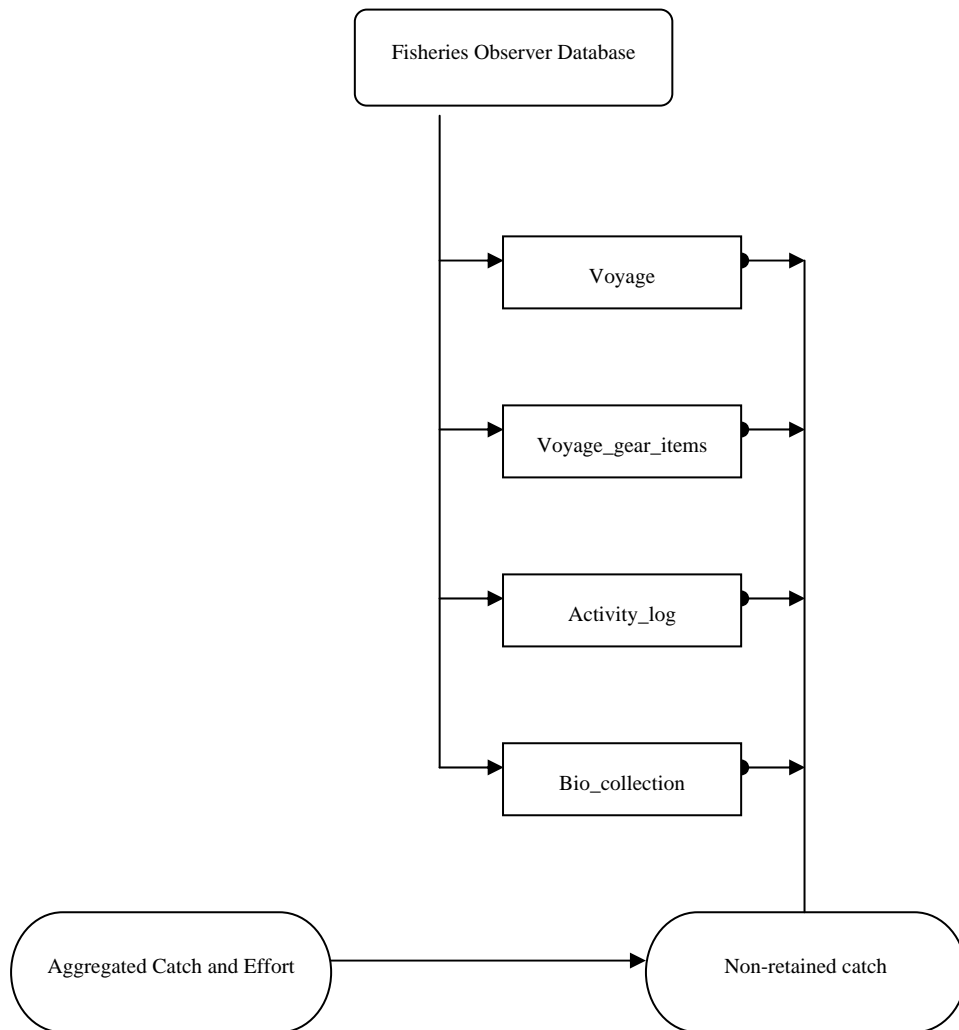
Closing Remarks

The description of data preparation and submission in this report applies to the 2007 and 2008 commercial fishery catch and effort data supplied to the CCSBT. The BRS can provide more details of data collection and data processing methods upon request.

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







Appendix 2: Scientific Logbook Forms (AL05, AL06, and TPB03)

Australian Fisheries Management Authority, Box 7051 Canberra Mail Centre ACT 2610

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	0230	Non-fishing Date/s and Codes during a Trip (ENTER CODE IN BOX)								
Start Set	Lat. (dd mm)	35 35	36 31	1 – Bad Weather 3 – Broken Down 4 – Steaming								
Position	Long. (ddd mm)	151 42	151 55	6 – Searching 5 – Other Fishery (SPECIFY)								
End Set Time (24h)		0610	0515	Date/s	Code							
End Set	Lat. (dd mm)	35 19	36 25	12 / 6 / 02 to / /	4							
Position	Long. (ddd mm)	151 40	151 40	14 / 6 / 02 to / /	6							
Mainline Length No. hooks		35 nm² 900 hooks	27 nm² 800 hooks									
Line shooter used (CIRCLE)		Yes No	Yes No	Comments								
Seabird Mitigation Measures Used (CIRCLE)		TORI THAW PSBL NSET LWEI CHUTE CAPS DYED OTHER NAPP	TORI THAW PSBL NSET LWEI CHUTE CAPS DYED OTHER NAPP	Snood cut to release large, lively blue marlin. Discards refer to fish not sought by market.								
Gear Information	Estimated average depth targeted in metres	80	70	Minor Line Methods Used								
	No. hooks between bubbles	9	10	Trolling <input checked="" type="checkbox"/> Hrs 2	Complete at End of Trip							
	No. of lightsticks used	300	400	Rod & Reel <input type="checkbox"/> Hrs								
	Bait type/wt used for shot	Squid/Pilchards 200 kg		Handline <input type="checkbox"/> Hrs	Port of Landing							
	Bought <input checked="" type="checkbox"/> Self caught <input type="checkbox"/>	Live bait <input type="checkbox"/> Dead bait <input checked="" type="checkbox"/>		No. of Lines Used? 2	ULLADULLA							
Sea surface temp. (C)	Start Set 17	End Set 18	Start Set 16	End Set 16	Trip End Date							
Wind direction (ie. NW)	S	SSE	SW	WSW	15/6/00							
Wind speed (kn)	Start Set 12	End Set 15	Start Set 8	End Set 12	First Receiver/s of Fish							
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	ULLADULLA CO-OP		
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	<input checked="" type="checkbox"/>					1						
Lancettfish	<input type="checkbox"/>					3						
Other Species	<input checked="" type="checkbox"/>	Moonfish										2
	<input checked="" type="checkbox"/>	Thresher Shark	1	50	TR	1	10	F				
No Take Species	Species	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												
Non-Fish Bycatch / Interactions	Shot No.	Species Group eg. seabird, cetacean, turtle OR Species (if known)	No. Released		Position Caught		No. Caught During		Estimated Time of			
			Alive	Dead	Lat. (dd mm) / Long. (ddd mm)	Set	Haul	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 Fisheries Management Authority
Box 7051
Canberra Mail Centre ACT 2610

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/Reason group 1 - Bad Weather 2 - In Port 3 - Broken Down 4 - Steaming 6 - Searching 5 - Other Fishery (specify) 10 - Refit	

SHOT 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. (dd mm)	33 35		36 31							
Position	Long. (ddd mm)	151 42		151 55							
End set time (24h)		0610			0515						
End set	Lat. (dd mm)	35 19		36 25							
Position	Long. (ddd mm)	151 40		151 40							
Start Haul time (24h)		1500			1300						
Start Haul	Lat. (dd mm)	35 20		36 20							
Position	Long. (ddd mm)	151 41		151 42							
End Haul time (24h)		2200			1900						
End Haul	Lat. (dd mm)	33 36		36 30							
Position	Long. (ddd mm)	151 40		151 56							
Vessel shooting speed (kt)		7			7						
Mainline length/hooks		30 nm/m 1000 hooks		25 nm/m 700 hooks							
Line shooter used (circle)		Yes No		Yes No		Yes No					
Sealed mitigation measures used (circle) see Appendix		TOP CHUTE THAW CAPS PSAL DYED (MARK) OTHER (MARK) NAPP		TOP CHUTE THAW CAPS PSAL DYED (MARK) OTHER (MARK) NAPP		TOP CHUTE THAW CAPS PSAL DYED (MARK) OTHER (MARK) NAPP					
Targeted effort (in minutes)		30 min 100 max		30 min 100 max							
No. hooks between bubbles		6			6						
No. of lightsticks used		500			300						
Gear Information	Bait type(s)/source(s)/life status/weight(s) used for shot	SQQ (E S L D) 50 Kg		SQQ (E S L D) 35 Kg							
		MAY (E S L D) 50 Kg		PIL (E S L D) 45 Kg							
CATCH DETAILS		No. Fish Kept	Est. Processed Mt (kg) (kg)	Ferns Code	No. Fish Released	RELEASED CODE	No. Fish Kept	Est. Processed Mt (kg) (kg)	Ferns Code	No. Fish Released	RELEASED CODE
Yellowfin Tuna		11	350	GG	3	US	14	480	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 Sandfish							2	90	TR		
Striped Marlin		1	35	TR							
Shortfin Mako Shark											
Broad White Shark											
Dusky White Shark											
Blac Shark										4	UM
Dusky White Shark											
Thresher shark										1	UM
Yellowfin		4	60	GG		SD					
Bigeye		1	20	GG		SD					
Bigeye		3	25	W							
No Fish Species	Species	Number Released		Number Released		Number Released		Number Released		Number Released	
		Alive	Dead	Alive	Dead	Alive	Dead	Alive	Dead	Alive	Dead
	Blue 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 mins	Did you have an interaction with a Listed Marine or Threatened Species? (circle) Yes / No Further 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.
Comments: 5 fish damaged by sharks in first shot but fish still retained	Printed Name: Tim Gardener Signature: T Gardener Date: 27 / 6 / 07

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

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 Refit Distinguishing Nos. of assisting vessels
NB: State whether pole or seine boats *LFB023 (pole boat)*

Date of Fishing (day/month)	NF Code? Codes listed above	Search Details				Fishing Details				Total Weight and Type of Bait			Estimated Catch Weights per Shot (kg)				Towing			
		Hours Searched	Spotter (Y/N) Used?	Sea Surface Temp. (C)	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.
29/11	6		Y	20	1300	32°40'	132°30'		Y			8,000	-	-	90	Star	8,000	29/11	036	09
30/11	4		N	21	1200	34°05'	131°08'		Y			75,000	-	-	95	Jane S.	75,000	1/12	024	36
1/12	5		Y	19	1100	33°50'	131°20'		N			25,000	-	-	70	"	25,000	2/12	024	36
2/12	2		Y	19	1600	33°54'	131°17'		Y			12,000	-	-	80	"	12,000	2/12	024	36

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): _____ City: _____ 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

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	Trailer Vehicle Reg	Date/Time of Departure of Consignment from point of Unloading
Truck	YLT-091	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			
Name of Purse Seine Boat	Dist. Symbol	Date & Time Last Transfer Finished	Estimate of Weight (Tonnes)	SBT02 Book No.	SBT02 Page No.
BLUE OCEAN	333	20/ 12 / 04 9:30	50	111	05

Section 2	
Previous Carrier Boat Name	Dist. Symbol
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	Name of Fish Receiver Permit Holder	Fish Receiver Permit Number	
29/ 12 / 04 11:30	McNALLY FRESH FISH	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	Signature	Date
B. BOXALL	<i>B. Boxall</i>	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 **E 18.25**

No. of Fish taken from tow cage **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

2005/06

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 Cabling _____	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	Witness	Average Length	Average Weight

Fish Count Information

Transfer Date	Video Count	Tonnage	Static Cage ID	Static Cage Owner

Total number of fish counted: _____

2005/06					
Tow Identification					
Tow Cage ID	_____	Catch Disposal Form	_____	Book No.	Page No.
Tow Number for Season	_____	Fish Recenter Number:	_____		
Average Weight Data					
40 Fish Sample			Number of Under 10kg Fish	<input type="text" value="0"/>	
Weight	Length	Tag	Under 10kg Fish		
			Weight	Length	