

Member's Annual Report to ERSWG 5 - Australia

1. INTRODUCTION

This report includes information and data on Ecologically Related Species (ERS) from Australia's SBT fishery up to the completion of the 2001-2002 SBT fishing season, that is 1 December 2001 - 30 November 2002.

There are three Australian fisheries that catch Southern Bluefin Tuna (SBT) in varying quantities, the Southern Bluefin Tuna Fishery (SBTF), Eastern Tuna and Billfish Fishery (ETBF) and the Southern and Western Tuna and Billfish Fishery (SWTBF). As the fisheries have distinct characteristics and management plans they are separated with in this report.

2. REVIEW OF SBT FISHERIES

2.2 Historical Fleet Size and Distribution

Australians began fishing SBT in the early 1950s off New South Wales and South Australia and then later (1970) off Western Australia. The catch, used primarily for canning, peaked at 21 500 tonnes in 1982.

Progressively over the mid to late 1980s, the Australian catch focused on supplying the Japanese sashimi market. The introduction of an ITQ based management plan in 1984 based on an Australian TAC of 14 500 tonnes resulted in the redistribution of quota ownership. In the late 1980s the Australian quota was reduced to 5265 tonnes which led to further restructuring. From 1990 to 1994 approximately half the Australian quota was taken by Australian-Japan joint venture longliners. With the termination of the joint venture arrangements in 1995 Australian catches again focused on the surface fishery with poling operations supplying the fresh chilled sashimi market and purse seiners providing SBT to farms.

Since 1992 there has been a progressive increase in the number of SBT taken under farming operations. In the 2001-02 season this component utilised over 99% of the Australian quota.

2.1 Fleet size and distribution

Annual Fleet Size and Distribution

In 2001–02, a total of 56 commercial fishing vessels landed SBT in Australian waters.

Southern Bluefin Tuna Fishery (South Australia)

The one- to five-year-old SBT, which school from late spring to autumn in surface waters of the eastern Great Australian Bight, were fished by seven purse seiners during the 2001-02 quota year. Fishing commenced in late December 2001 and finished in March 2002.

Southern and Western Tuna and Billfish Fishery (Western Australia)

Thirteen longline vessels caught small amounts of SBT seasonally as an incidental catch off the WA coastline in 2001–02.

Eastern Tuna and Billfish Fishery (New South Wales, Tasmania, Queensland)

During 2001–02, 17 domestic longline vessels participated in the fishery for older juveniles and adults in deeper waters off NSW in winter. Longline fishing off NSW commenced in May 2001 and finished in November 2001.

Only two longline vessels operated off Tasmania during the 2001–02 quota year because of the limited availability of quota. For confidentiality reasons all catches are incorporated in the NSW longline catch.

Two longline vessels operated off Queensland during the 2001-02 quota year. For confidentiality reasons all catches are incorporated in the NSW longline catch.

2.2 Distribution of Catch and Effort

The Australian domestic SBT catches for the 2001 and 2002 calendar years were 4853 t and 5374 t, respectively. The 2001 calendar year catch is larger than the previously agreed national allocation to Australia of 5265 t because it represents the aggregation of catches from periods in two quota years. The 2000–01 quota year catch was 5248 t while the catch for the 2001– 02 quota year was 5262 t.

The SBT landings for 2001-02 were:

Southern Bluefin Tuna Fishery

South Australia 5234 tonnes (farmed)

Eastern Tuna and Billfish Fishery

New South Wales, 22 tonnes (longline)

Tasmania and Queensland

Southern and Western Tuna and Billfish Fishery

Western Australia 7 tonnes (longline)

SBT purse seined for fish farms in South Australia accounted for 99.5% of the Australian quota, with the remainder taken by longline. There were no SBT poled off South Australia or trolled off Tasmania during either season. The Australian catch by gear and state for the quota years 1988-89 to 2001-02 is shown in Table 1. The Australian catch of SBT in calendar years 2001 and 2002 is mapped on Figures 1 & 2 respectively. Confidentiality guidelines prevent the release of data from groups of less than 5 boats, therefore data are combined for some fishing methods.

3. FISHERIES MONITORING

3.1 Catch Documentation

There are a series of compulsory fishery specific logbooks and associated catch records that are required by law to be completed by Australian SBT fishers (Attachment A and B). All of the data provided from Logbooks and Catch Disposal Records must be supplied to AFMA within specified time periods. Verification of this data is undertaken through observer programs, and as a minimum through an annual audit process by AFMA

3.2 Observer Programs

Observer programs for the purse seine and longline sectors were implemented in the 2002-2003 fishing season and achieved greater than 10 percent coverage of catch and effort.

Observers are professionally trained, and briefed to collect and verify fishery data on both target (SBT) and non target species. In addition to detailed catch and effort information, specific reporting forms for threatened, endangered or protected species are included with fishery logbooks in all Australian Commonwealth fisheries (Attachment C, D and E).

Purse-seine sector

For the SBT purse seine fleet operating out of Port Lincoln the design coverage was intended to be 10% of the fishing effort. In 2003, observers covered a total of 47 sea days on purse-seine vessels and an additional 19 days on a single tow cage operation. The observed fishing effort was 11% of the effort for the fishery and estimated 13% of catch.

There were no observed interactions with any ecologically related species other than skipjack tuna. Two skipjack tuna were noted as mortalities in the purse seine shots but others were noted swimming with the caged SBT following a transfer.

Longline sector

Tables 2a and 3a provides catch and effort data on Australian longline fisheries that take SBT. For the SWTBF this data includes all observed longline fishing effort since the start of the observer program (27 April – 8 September 2003). For the ETBF, the attached data provides catch composition for longline shots where operators have identified SBT as the target species. This is for the entire period of observer activity in the ETBF (27 September 2001 – 14 November 2003).

3.3 Vessel Monitoring System

All Australian longline vessels, including those that catch SBT, are required to operate Integrated Computer Vessel Monitoring Systems (ICVMS) whilst fishing and transiting to and from fishing areas. This allows real time vessel position and activity reporting to a central VMS operations area at the Australian Fisheries Management Authority.

Australian purse seine and tow vessels catching and towing SBT for the Australian farm fishery off Port Lincoln are required to report their locations and catch details on a daily basis. This may be done by ICVMS, or at sea by satellite phone, mobile phone or fax.

3.4 Port Monitoring

Australian fisheries officers conduct random inspections of landings at key SBT ports, as well as at sea boardings and inspection of vessels taking SBT in the longline and purse seine fisheries.

Compliance risk assessments for all sectors taking SBT are completed annually and

specific compliance operational plan is then developed and implemented annually for each fishery.

5. NON-TARGET FISH

Whilst the target species in Australia's longline fisheries are primarily tuna and billfish, there are a wide range of other fish species taken in these fisheries. The more commercially valuable of these are retained and sold, and others are not retained. Tables 2a and 3a provide a summary of observed catch composition, including life status and whether retained or not for Australia's longline fisheries.

Records of non-target species taken in Australia's SBT surface fishery, and longline fisheries are largely derived from logbook records, and if observers are not carried are generally unverified. There is concern that logbook data do not reflect the true quantity of non-target species taken by longline vessels.

Eastern Tuna and Billfish Fishery (ETBF)

The ETBF covers the area of the Australian Fishing Zone (AFZ) from the northern tip of Australia down the east coast to the southern part of Tasmania. It is a multi method, multi species fishery targeting tuna and billfish species. The principal method used is pelagic longline. SBT are targeted over the winter months in the south eastern portion of the fishery off southern NSW. Most vessels in the fishery are 15–25 m long and set 200–1000 hooks on monofilament mainlines. Activities of Australian longliners on the east coast of Australia have been increasing in recent years. Since late 1996 many Australian longliners relocated to southern Queensland to fish in an expanding swordfish fishery. The swordfish fishery involves shallow (20–120m) night sets with squid baits and chemical light sticks. In more recent years, fishing activity has shifted offshore and southwards to areas such as near Lord Howe Island around the seamounts during the full moon. The number of hooks has increased dramatically over the last few years with the expansion of the fishery in terms of areas fished and numbers of boats fishing.

To minimise the risk of non-quota take of SBT by longliners off New South Wales and Western Australia, access to the waters through which SBT migrate has been restricted to vessels holding SBT quota since 2000 in NSW and 2001 in WA. This arrangement has resulted in a significant reduction in longline effort in southern areas, and corresponding reductions in seabird and other species bycatch.

When targeting swordfish longliners often use wire trace to reduce damage to gear and gear loss by sharks. Sharks rarely break free from wire leaders and are landed so the hook can be retrieved. With monofilament leaders there are many more shark bite-offs and a reduced shark catch. Australia, through its tuna and billfish fisheries bycatch action plan has banned the use of wire traces in both the ETBF and SWTBF to reduce shark bycatch in these fisheries. To reduce the impact of indiscriminate shark finning, operators in the Australian longline fisheries have a 20 shark trip limit (must land trunks with fins attached).

The spatial distribution of shark catches in the ETBF is not well understood. Mako, Porbeagles and whaler sharks accounted for most of the reported catch, with lower catches of threshers, hammerheads, school shark, ghost shark and brier shark.

Table 2a provide a summary of observed catch and effort data for sharks and other main non-target species taken in the ETBF.

Southern and Western Tuna and Billfish Fishery

The Southern and Western Tuna & Billfish Fishery (SWTBF) encompasses the area of the Australian fishing zone off the northern, western and southern coastline westward from Cape York Peninsula (142°30'E) off Queensland, to 141°E at the South Australian/Victorian boarder. All species of tuna caught in southern waters, except southern bluefin tuna and skipjack taken by purse seine, are also considered to form a part of this fishery. Despite this wide geographic extent, the commercially valuable tuna and billfish species are not abundant in the shallow northern waters, so fishing activities are concentrated in oceanic waters along the west coast.

Most longline vessels in the fishery are 15–25 m long and set 1000–1500 hooks on monofilament lines, with an average of one set per day. As a precautionary measure through the Bycatch Action Plan, the use of wire traces in the Southern and Western Tuna and Billfish Fishery is prohibited. Vessels fish throughout the year with an average of 4 to 6 day trips. Local trawler and rock lobster vessels also undertake opportunistic handline operations.

Table 3a provide a summary of observed catch and effort data for sharks and other main non-target species taken in the SWTBF. As the observer program recently commenced in the SWTBF there is very limited observed catch data available.

Southern Bluefin Tuna Fishery

The Australian SBT Fishery is managed under the *Southern Bluefin Tuna Fishery Management Plan 1995*, and any commercial catch of SBT is managed under that Plan.

In the past there has been longlining for SBT off New South Wales, Tasmania, Western Australia, with occasional catches in South Australian waters. There were also some purse seine, trolling and poling operations in the AFZ. Currently longlining for SBT occurs primarily off south eastern NSW during the winter months (May – October)

There is minimal shark bycatch during pole-and-line and purse seine fishing (including farm operations) for SBT (Caton and McLoughlin 2000). Shark taken as bycatch is able to be released before the net is retrieved and fish transferred to towing cages. The longlining sections of the SBT fishery are covered in the ETBF and SWTBF of this report.

Purse seine vessels taking SBT for tuna farms have reported very small amounts of shark taken. Observer data has provided supporting evidence (section 3.2). Sharks are known to interact with tow cages containing SBT that are being towed back to farms. Some of these are released alive.

4. SEABIRD INTERACTIONS

The vulnerability of seabirds to capture during longline fishing operations has been well documented. Oceanic longline fishing operations have been listed as a key threatening process by Australia under its *Endangered Species Protection Act 1992*. Consistent with the objectives of the Threat Abatement Plan developed and implemented to reduce the incidental mortality of seabirds as a result of longlining, Australia has prescribed regulations under domestic law to reduce seabird mortality. These are detailed in Section 7 (Seabird Mitigation Measures) of this report.

In addition, Australia has continued to trial and refine a range of seabird bycatch mitigation strategies under scientific permits issued to longline operators. These are detailed in Section 7.2 of this report.

6. MARINE MAMMAL AND MARINE REPTILE INTERACTIONS

Based on information available in log books for Australia fishers, over the last four years (1997-2000) from 35-70 turtles have been hooked annually.

The Australian Government Department of Agriculture, Fisheries and Forestry is also funding a project into research on sea turtle bycatch in longline fisheries. The objectives of this project are to determine the extent and catch rates of sea turtles, identify methods to reduce these rates and identify methods to reduce post-release mortalities.

7. MITIGATION MEASURES TO MINIMISE SEABIRD AND OTHER SPECIES BYCATCH

In December 1998, Australia's Oceans Policy established principles and actions to pursue ecologically sustainable development in Australian fisheries. The policy commitment included a legislative requirement that Australian fisheries based on the export of marine species undergo assessment to ensure they are managed in an ecologically sustainable manner (Strategic Assessment). This Strategic Assessment has been conducted for Australia's SBT fishery and continues to guide the development of improved management arrangements to reduce the ecological impacts of the Australian SBT fishery.

Measures to reduce the ecological impacts of the SBT fishery rely initially on the analysis of fishery dependant and independent data collected through observer programs, fishery logbooks and targeted fishery research activities. As data is collected, and the impacts of SBT fishing operations on ERS become clearer, strategies to reduce these impacts continue to be developed and refined.

In this context, Australia has:

- Continued to use catch and effort logbooks to collect data on the catch of target and non target species
- Introduced observer programs in the SBT surface fishery; and its longline fisheries targeting SBT, including specific reporting requirements for threatened, endangered and protected species
- Commenced an assessment of the environmental impacts of SBT fisheries (Strategic Assessment) as required under Australian law.

- Commenced an ecological risk assessment of its SBT fisheries to quantify impacts on ecologically related species and the marine environment.
- Initiated a range of at sea programs to trial strategies to reduce the incidental mortality of seabirds caught during longlining operations.
- Introduced detailed strategies to reduce bycatch and impacts on ecologically related species, performance measures to monitor progress, and reporting and review targets to assess the effectiveness of these strategies, and refine them where necessary. An important part of these strategies is the development of fishing industry codes of practice to reduce impacts on ERS.

7.1 Current Mandatory Measures

Regulations to reduce seabird bycatch in Australia's longline fisheries were put in place in February 2001. Specific regulations apply to vessels operating either south or north of latitude 30° south.

Vessels operating south of latitude 30° south are required to:

- Deploy a tori pole apparatus during line setting;
- Set the line in the hours of darkness;
- Ensure that all bait used is properly thawed;
- Prevent the discharge of any offal during line setting; and
- Avoid the discharge of any offal during line hauling. If this is not possible then only discharge offal while the vessel is not underway or from the opposite side of the vessel to that where the line is being hauled.

Vessels operating north of latitude 30° south are required to:

- Carry a tori pole apparatus;
- Prevent the discharge of any offal during line setting; and
- Avoid the discharge of any offal during line hauling. However if this is not possible then only discharge offal while the vessel is not underway or from the opposite side of the vessel to that where the line is being hauled.

7.2 Measures under Development/Testing

Under the Threat Abatement Plan, Australia has issued scientific permits using appropriate experimental design methodology to longline operators to trial a range of mitigation devices and strategies to reduce seabird bycatch. Observers are used on these vessels to monitor and verify results of the trials.

The following seabird bycatch reduction trials are currently underway in Australian longline fisheries:

- Underwater setting of longline hooks to a depth of 5 metres using a setting chute
- Side setting rather than stern setting of longline hooks to restrict access by birds
- 38 gram weighted swivels in conjunction with double tori poles
- 60 gram weighted swivels in conjunction with double tori poles

7.3 Current Voluntary Measures

In addition to mandatory measures and scientific trials taking place under the longline Threat Abatement Plan, some operators in the ETBF longline sector are adopting voluntary measures to reduce seabird bycatch.

Anecdotal advice from operators is that these measures have assisted in reducing their seabird captures. A majority of operators in the southern areas of the ETBF report that they use some level of branchline weighting to increase the sink rate of baited hooks and ensure a consistent setting depth is maintained. Operators are also using live bait, double tori poles to scare the birds, churning the water behind the vessel to confuse birds trying to dive on baits, and using weights on the mainline to increase sink rates.

7.4 Compliance Monitoring System

A compliance risk assessments for Australia's SBT fishery is completed annually and a specific compliance operational plan is then developed and implemented each year.

Routine SBT compliance activities include at sea patrols, including random inspection of vessels at sea. Australian authorities have conducted aerial surveillance and other compliance activities to monitor the use of tori poles and night setting. Port monitoring of landed catch and reconciliation of logbooks and other catch records, as well as vessel compliance with fishing permit conditions (such as Tori Pole regulations) are conducted in key ports each season. Vessel Monitoring Systems are used to ensure cost effective and efficient vessel monitoring and fishery compliance operations.

For the purse seine fishery, vessels are required to report daily positions and catch details in real time. Random at sea inspections are conducted and all SBT taken are sampled for average weight and filmed by video as they are transferred into floating harvest cages. This process forms the basis for Australia's quota monitoring and compliance with CCSBT member allocations.

8. PUBLIC RELATIONS AND EDUCATION ACTIVITIES

All of the strategies in place or being trialled by Australia to reduce impacts of SBT fishing on ERS include a level of education and extension to increase their effectiveness. Specific activities to educate fishers on ERS issues are included in the Threat Abatement Plan for seabirds, National Plans of Action for Sharks, Bycatch Action Plans for both the tuna purse seine and longline fisheries, and during the Ecological Risk Assessment project currently underway.

In addition Australian observers are briefed to educate fishers on their responsibilities

to complete logbooks and other data sources, and to use mitigation strategies to reduce impacts on ERS. This information is passed onto ship masters and crews during observer trips and while in port. Staff from Australian fisheries management agencies are regular visitors to key SBT fishing ports and engage in education and extension activities during these visits. Australian fisheries management agencies also provide education materials in the form of booklets, videos, posters, media releases and other written material for further education of vessel skippers and crews. Industry representatives are continuing to refine existing codes of practice to reduce the environmental impacts of Australian tuna fisheries.

9. INFORMATION ON OTHER ERS (NON-BYCATCH)

10. OTHERS

Information obtained concerning ERS related fishing activities of non-party fleets.

Quota Year*	Western Australia			South Australia				New South Wales			Tasmania			Large longliners			Australia total				Total All Gears
	Albany Pole	Esperance Pole	Total	Pole & purse seine	Farm Cages	Long-line	Total	Pole & purse seine	Long-Line	Total	Troll	Long-Line	Total	Aust. charter	Joint-venture	total	Domestic Surface	Domestic long-line	Total long-line	RTMP	
1988-89	204	221	425	4872	0	0	4872	0	1	1	2	0	2	0	684	684	5299	1	685	0	5984
1989-90	133	97	230	4199	0	0	4199	0	6	6	14	0	14	0	400	400	4443	6	406	0	4849
1990-91	175	45	220	2588	0	0	2588	0	15	15	57	0	57	255	881	1136	2865	15	1151	#300	4316
1991-92	17	0	17	1629	138	14	1781	34	90	124	36	20	56	59	2057	2116	1854	124	2240	800	4894
1992-93	0	0	0	716	722	68	1506	16	238	254	23	44	67	0	2735	2735	1477	350	3085	650	5212
1993-94	0	0	0	621	1294	55	1970	0	286	286	7	105	112	0	2299	2299	1922	446	2745	270	4937
1994-95	0	0	0	908	1954	2	2864	0	157	157	4	109	113	0	1295	1295	2866	268	1563	650	5080
1995-96	0	0	0	1447	3362	0	4809	28	89	117	0	262	262	0	0	0	4837	351	351	0	5188
1996-97	0	0	0	2000	2498	0	4497	7	229	236	2	242	244	0	0	0	4507	472	472	0	4978
1997-98	0	0	^0	916	3488	^0	4403	~0	475	475	!0	219	219	0	0	0	4433	664	664	0	5097
1998-99	0	0	^0	28	4991	^0	5018	~0	97	97	!0	116	116	0	0	0	5016	216	216	0	5232
1999-00	0	0	^0	0	5130	13	5143	0	114	114	0	!0	!0	0	0	0	5130	127	127	0	5257
2000-01	0	0	^0	0	5162	6	5168	0	32	32	0	!0	!0	0	0	0	5162	38	38	0	5247
2001-02	0	0	7	0	5234	0	5234	0	≈22	≈22	0	!0	!0	0	0	0	5234	29	29	0	5262

* Dates: 1 October to 30 September for 1988-89 to 1990-91; 1 October 1991 to 31 October 1992 for 1991-92; 1 November to 31 October for 1992-93 and 1993-94; 1 November 1994 to 15 December 1995 for 1994-95; 16 December 1995 to 15 December 1996 for 1995-96; and 16 December 1996 to 30 November 1997 for 1996-97; 1 December to 30 November for 1997-98; 1998-99; 1999-00, 2000-01 and 2001-02.

Note that a further 700t of Australian quota was 'frozen' (not allocated) in 1990-91.

^ 1997-98 and 1998-99 WA and SA non-farm catches are included in SA pole and purse seine catch and in 1999-00 and 2000-01 WA longliner is included in SA longliner catch due to confidentiality guidelines.

~ 1997-98 to 1998-99 NSW pole and purse seine catches are included in NSW longline catch due to confidentiality guidelines.

! 1997-98 and 1998-99 Tas troll catches are included in Tas longline and in 1999-00, 2000-01 and 2001-02 Tas longline is included in NSW longline due to confidentiality guidelines.

≈ 2001-02 NSW longline catch also includes QLD longline catch due to confidentiality guidelines.

Table 1: Australian Catch by Gear and State for Quota Years 1988-89 to 2001-02

Figure 1: Australian SBT Catch in 2001

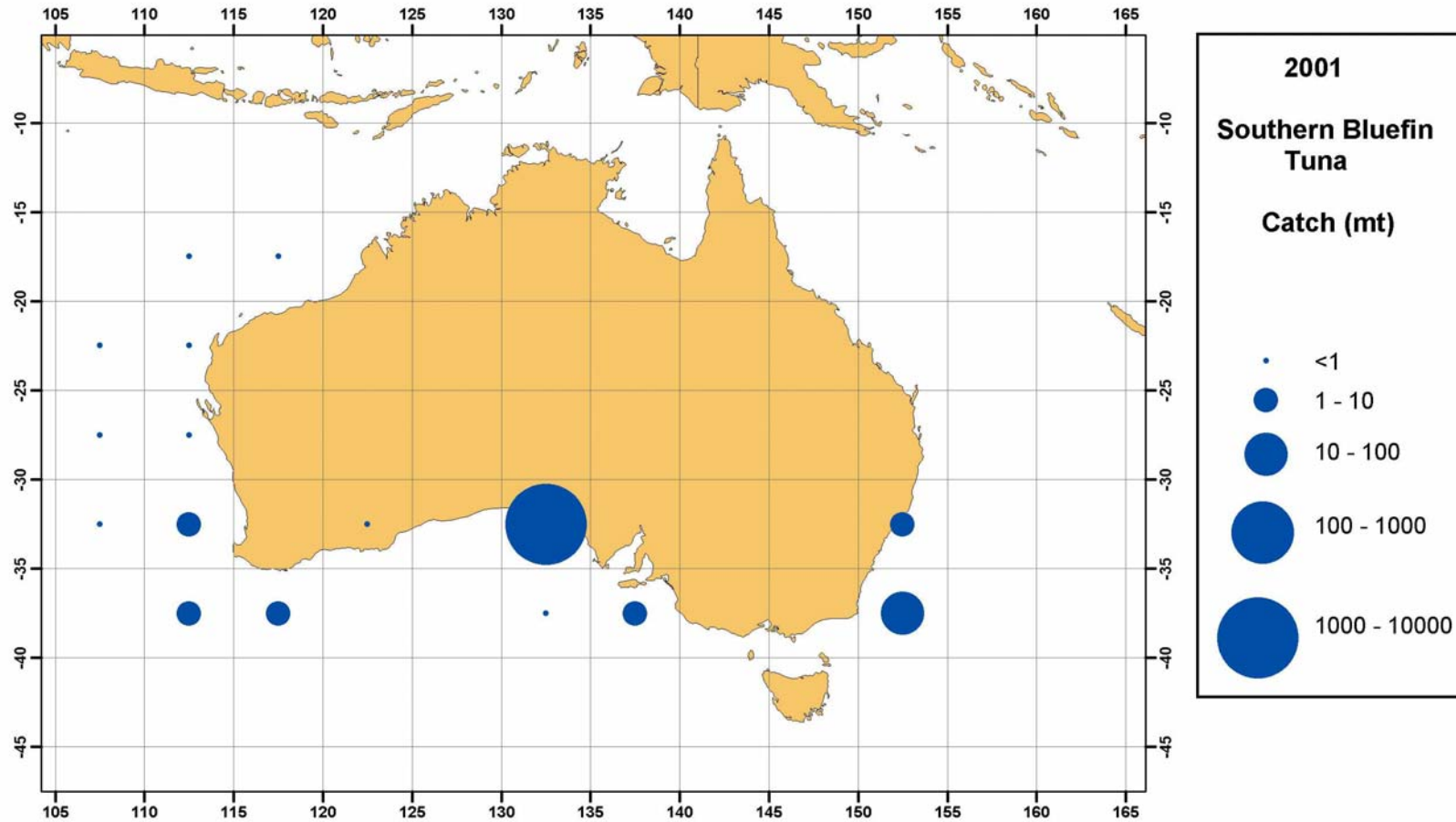


Figure 2: Australian SBT Catch in 2002

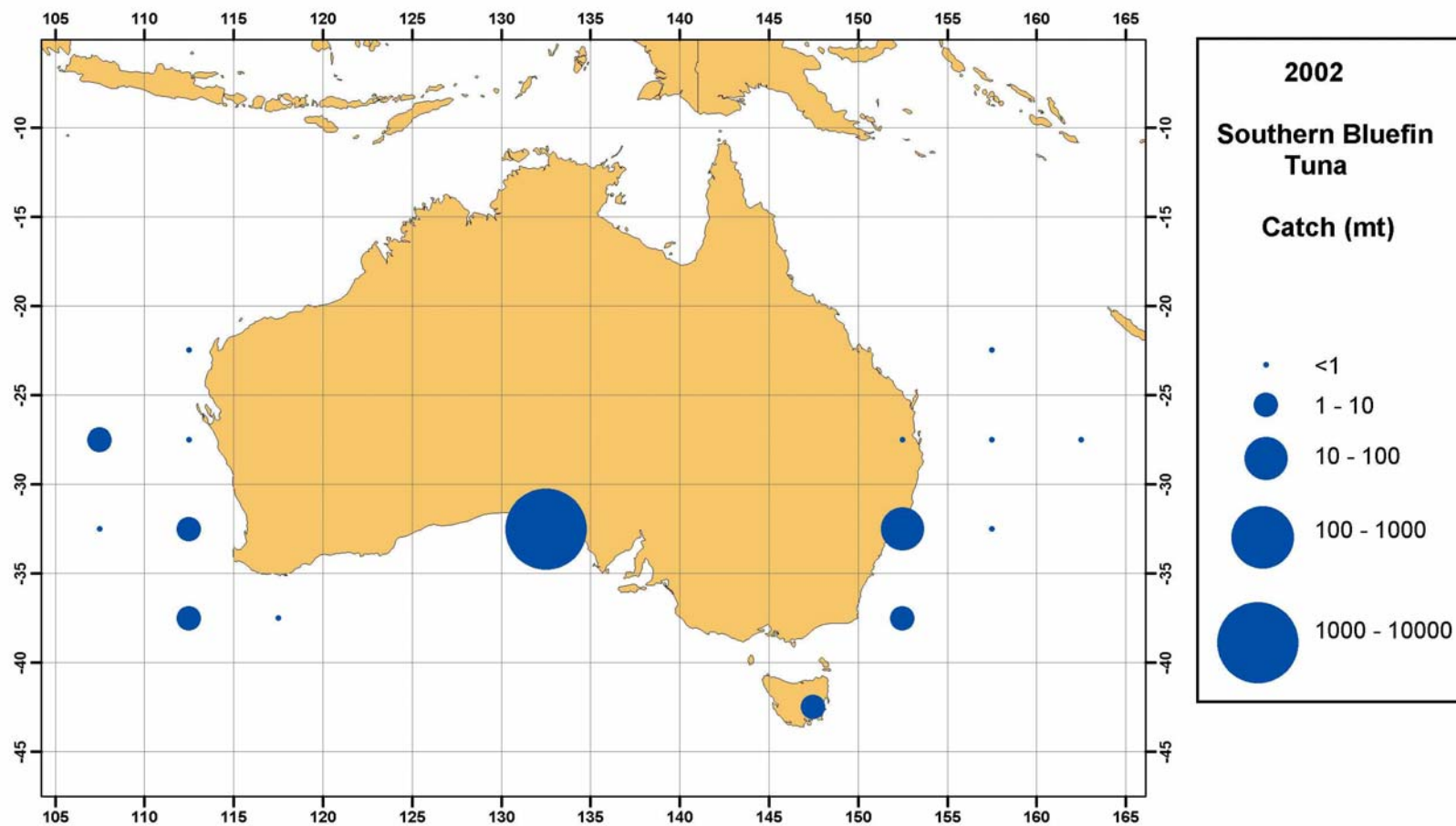


Table 2a: ETBF observed longline catch composition where SBT identified as the target species (27/09/01 – 14/11/03).

Common Name	Species Code	Number	CPUE No per 1000 hks	Life Status		Fate	
				Alive	Dead	Retained	Discarded*
Yellowfin Tuna	YFT	1032	21.52	775	257	1011	21
Albacore Tuna	ALB	698	14.55	161	537	690	8
Southern Bluefin Tuna	SBF	637	13.28	449	188	201	436
Broadbill Swordfish	SWO	125	2.61	62	63	118	7
Bigeye Tuna	BET	91	1.90	69	22	91	0
Escolar	LEC	38	0.79	32	6	35	3
Blue Whaler Shark	BSH	21	0.44	20	1	0	21
Rays Bream	POA	21	0.44	13	8	21	0
Long Nose Lancetfish	ALX	19	0.40	11	8	1	18
Mako Shark	SMA	19	0.40	12	7	14	5
Oilfish	OIL	9	0.19	8	1	7	2
Striped Marlin	MLS	8	0.17	6	2	8	0
Pelagic Stingrays	STI	8	0.17	8	0	0	8
Sunfish	MOP	7	0.15	7	0	0	7
Snake Mackerel	GES	5	0.10	3	2	1	4
Skipjack Tuna	SKJ	5	0.10	2	3	5	0
Sharks, Skates, Rays - unidentified	SKX	5	0.10	5	0	0	5
Thintail Thresher Shark	ALV	3	0.06	3	0	0	3
Copper Shark	BRO	3	0.06	3	0	0	3
Ground Shark	CVX	3	0.06	3	0	1	2
Dolphin Fish	DOL	3	0.06	1	2	3	0
Silky Shark	FAL	3	0.06	3	0	0	3
Dusky Shark	DUS	2	0.04	2	0	0	2
Dealfish	TRP	2	0.04	2	0	1	1
Brama spp	BRA	1	0.02	1	0	1	0
Yellow Nosed Albatross	DCR	1	0.02	0	1	1	0
Giant Manta Ray	RMB	1	0.02	1	0	0	1
Grand Total		2770	57.76	1,662	1,108	2,210	560

Discarded* = fish tagged and released (SBT), escaped, or jerked or cut free.

Effort Description	Logbooks	Observer	% Obs coverage
Hooks	6,744,628	680,616	10%

Table 3a: Observed catch composition for the SWTBF (27/04/03-08/09/03 all areas SWTBF)

Common Name	Species Code	Number	CPUE No per 1000 hks	Life Status		Fate	
				Alive	Dead	Retained	Discarded*
Broadbill Swordfish	SWO	447	8.47	216	231	399	48
Blue Whaler Shark	BSH	283	5.36	269	14	7	276
Crocodile Shark	PSK	146	2.77	99	47	0	146
Bigeye Tuna	BET	114	2.16	97	17	95	19
Albacore Tuna	ALB	103	1.95	16	87	96	7
Escolar	LEC	85	1.61	71	14	71	14
Oilfish	OIL	69	1.31	54	15	31	38
Long Nose Lancetfish	ALX	66	1.25	15	51	0	66
Dolphin Fish	DOL	40	0.76	37	3	38	2
Shortnose Lancetfish	ALO	28	0.53	3	25	0	28
Mako Shark	SMA	16	0.30	15	1	1	15
Skipjack Tuna	SKJ	13	0.25	3	10	4	9
Hammerhead Shark	SPN	12	0.23	4	8	1	11
Pelagic Ray	PLS	11	0.21	10	1	0	11
Rudderfish	CEO	6	0.11	5	1	4	2
Unknown	UNK	6	0.11	6	0	0	6
Yellowfin Tuna	YFT	6	0.11	6	0	6	0
Sunfish	MOP	4	0.08	4	0	0	4
Giant Manta Ray	RMB	3	0.06	3	0	0	3
Shortbill Spearfish	SSP	3	0.06	3	0	0	3
Pelagic Stingrays	STI	3	0.06	3	0	0	3
Barracudas nei	BAR	2	0.04	2	0	0	2
Southern Rays Bream	BRU	2	0.04	1	1	2	0
Dogshark	DGZ	2	0.04	2	0	0	2
Leatherback Turtle	DKK	2	0.04	2	0	0	2
Pufferfish	GPF	2	0.04	2	0	1	1
Wahoo	WAH	2	0.04	2	0	2	0
Thintail Thresher Shark	ALV	1	0.02	1	0	0	1
Pelagic Thresher	PTH	1	0.02	1	0	0	1
Grand Total		1,478	28.00	952	526	758	720

Effort Description	Logbooks	Observer	% Observer coverage
Hooks	1,542,680	52,792	3%

Attachment A: Australian Pelagic Longline Daily Fishing Log

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 nm(km) 900 hooks	27 nm(km) 800 hooks	/ / to / /									
Line shooter used (CIRCLE)		<input checked="" type="radio"/> Yes <input type="radio"/> No	<input checked="" type="radio"/> Yes <input type="radio"/> No	Comments									
Seabird Mitigation Measures Used (CIRCLE)		<input checked="" type="radio"/> TORI <input checked="" type="radio"/> THAW <input type="radio"/> PSBL <input checked="" type="radio"/> NSET <input type="radio"/> LWEI <input type="radio"/> CHUTE <input type="radio"/> CAPS <input type="radio"/> DYED <input type="radio"/> OTHER <input type="radio"/> NAPP	<input checked="" type="radio"/> TORI <input checked="" type="radio"/> THAW <input type="radio"/> PSBL <input checked="" type="radio"/> NSET <input type="radio"/> LWEI <input type="radio"/> CHUTE <input type="radio"/> CAPS <input type="radio"/> DYED <input type="radio"/> OTHER <input type="radio"/> 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	Pilchards 160 kg	Handline <input type="checkbox"/> Hrs									
	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"/>	No. of Lines Used? 2	Port of Landing ULLADULLA								
	Sea surface temp. (C)	Start Set 17 End Set 18	Start Set 16 End Set 16	Trip End Date 15/6/00									
	Wind direction (ie. NW)	S SSE	SW WSW	First Receiver/s of Fish ULLADULLA CO-OP									
Wind speed (kn)	12 15	8 12											
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				1									
Lancetfish <input type="checkbox"/>				3									
Other Species	Moonfish							2					
	Thresher Shark	1	50	TR	1	10	F						
No Take Species	Species	Number Released		Number Released		Number Released		Number Released		Number Released		Number Released	
		Alive	Dead	Alive	Dead	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 <input checked="" type="checkbox"/> 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 T. Gardener	Date 15 / 6 / 02
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NOTE • If tagged fish / animals or banded birds are captured, please complete tag form at back of book and return to AFMA.

Attachment B:

Australian Fisheries
Management Authority.
Commonwealth of Australia

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

Log Book No: 0026	Page No: 02	Boat Name: <i>Sea Spray</i>	Dist. Symbol: <i>LFB 12345</i>	Master's Name: <i>C. Gavin</i>																	
TICK APPROPRIATE NON-FISHING (NF) CODE BOX AT RIGHT: 1 Bad Weather <input type="checkbox"/> 2 In Port <input checked="" type="checkbox"/> 3 Broken Down <input type="checkbox"/> 7 Cage Towing <input type="checkbox"/> Fishing Method Used? (tick appropriate box) Poling <input type="checkbox"/> Purse Seining <input checked="" type="checkbox"/>																					
I did not work between <i>..28/..5/..98..</i> and <i>..28/..11/..98..</i> 4 Steaming <input checked="" type="checkbox"/> 10 Refit <input type="checkbox"/> Distinguishing Nos. of assisting vessels NB: State whether pole or seine boats <i>LFB023 (pole boat)</i>																					
Date of Fishing	NF Code?	Search Details		Fishing Details						Total Weight and Type of Bait		Estimated Catch Weights per Shot (kg)				Towing					
		Date listed above	Hours Searched	Spotter Plane Used? (Y/N)	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
<i>29/11</i>	<i>6</i>		<i>4</i>	<i>20</i>	<i>1300</i>	<i>32°40'</i>	<i>132°30'</i>		<i>4</i>				<i>8,000</i>	<i>-</i>	<i>-</i>	<i>90</i>	<i>Star</i>	<i>8,000</i>	<i>29/11</i>	<i>036</i>	<i>09</i>
<i>30/11</i>	<i>4</i>																				
<i>1/12</i>		<i>4</i>	<i>N</i>	<i>21</i>	<i>1200</i>	<i>34°05'</i>	<i>131°08'</i>		<i>4</i>				<i>15,000</i>	<i>-</i>	<i>-</i>	<i>95</i>	<i>Jane S.</i>	<i>15,000</i>	<i>1/12</i>	<i>024</i>	<i>36</i>
<i>2/12</i>		<i>5</i>	<i>4</i>	<i>19</i>	<i>1100</i>	<i>33°50'</i>	<i>131°20'</i>		<i>N</i>				<i>25,000</i>	<i>-</i>	<i>-</i>	<i>70</i>	<i>"</i>	<i>25,000</i>	<i>2/12</i>	<i>024</i>	<i>36</i>
<i>2/12</i>		<i>2</i>	<i>4</i>	<i>19</i>	<i>1600</i>	<i>33°54'</i>	<i>131°17'</i>		<i>4</i>				<i>12,000</i>	<i>-</i>	<i>-</i>	<i>80</i>	<i>"</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.												Concession Holder or Authorised Person: I certify that the information I have provided on this form is a complete and accurate record.									
Species: _____ Date/s: _____ Qty: _____ Life Status: _____												Dated: <i>3/12/98</i>									
												Name: <i>C. GAVIN</i>									
												Signature: <i>C. Gavin</i>									

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.

Attachment C: Wildlife and Other Protected Species List

Fish Species	
Great White Shark	<i>Carcharodon carcharias</i>
Grey Nurse Shark	<i>Carcharias taurus</i>
Whale Shark	<i>Rhincodon typus</i>
Pipefish, Sea Horses & Sea Dragons	<i>Syngnathids</i>
Black Cod	<i>Epinephelus daemlii</i>

Non-Fish			
All Seabirds	All Seals	All Whales/Dolphin/Dugong	Marine Reptiles
Albatross	Australian Sea Lion	Dolphin (<i>if species unknown</i>)	Flatback Turtle
Booby	Australian Fur Seal	Killer Whale	Green Turtle
Cormorant	New Zealand Fur Seal	False Killer Whale	Hawksbill Turtle
Frigatebird	Fur Seal (<i>if species unknown</i>)	Humpback Whale	Leatherback Turtle
Gannet	Leopard Seal	Pilot Whale	Loggerhead Turtle
Giant Petrel	Southern Elephant Seal	Sperm Whale	Olive Ridley Turtle
Gull		Southern Right Whale	Turtle (<i>if species unknown</i>)
Mollymawk		Baleen Whale (<i>if species unknown</i>)	Sea Snake
Mutton Bird		Toothed Whale (<i>if species unknown</i>)	
Noddy		Large Whale (<i>if species unknown</i>)	
Pelican		Small Whale (<i>if species unknown</i>)	
Penguin		Dugong	
Petrel			
Prion			
Shag			
Skua			
Shearwater (Mutton bird)			
Tern			
Tropicbird			
Large Seabird			
Small Seabird			

Common Names for Albatross, Petrels and Other Seabird Species

Great Albatross	Mollymawks and Sootys	Petrels	Others
Wandering Albatross	Black-browed Albatross	Northern Giant Petrel	Abbot's Booby
Northern Royal Albatross	Campbell Albatross	Southern Giant Petrel	Lesser Noddy
Southern Royal Albatross	Buller's Albatross	White-chinned Petrel	Christmas Island Frigate
Gibson Albatross	Shy Albatross		
Antipodean Albatross	White-capped Albatross		
Tristan Albatross	Salvin's Albatross		
Amsterdam Albatross	Chatham Albatross		
Laysan Albatross	Grey-headed Albatross		
Yellow-nosed	Albatross (Indian)		
Light-mantled Albatross			
Sooty Albatross			

Attachment D: **Recapture Sheets for all Tagged Fish/Animal Recaptures**

When you catch any tagged fish (or other animals) please complete the questionnaire below, and forward it with the tag/s to:

**The Logbook Coordinator
 Australian Fisheries Management Authority
 Box 7051
 Canberra Mail Centre
 ACT 2610**

If you have any comments to make about the captured fish/animal, this questionnaire, or any other matter use the reverse of this sheet.
 PLEASE NOTE: THERE ARE REWARDS FOR TAG RETURNS IN MANY OF THE TAGGING PROGRAMS CURRENTLY BEING UNDERTAKEN!

The **BLUE COPY** of this form is for your own records.

Name and Address					
Skipper's Name			Vessel Name		
Tag Number			Capture Date		
Length of fish - from tip of lower jaw to fork in tail			cm	Weight of Fish Whole / Cleaned	kg
Location of capture of tagged fish (degrees and minutes)	Latitude			Longitude	
Number of tags recovered from this fish (tick one) 1 <input type="checkbox"/> 2 <input type="checkbox"/> Species					

Name and Address					
Skipper's Name			Vessel Name		
Tag Number			Capture Date		
Length of fish - from tip of lower jaw to fork in tail			cm	Weight of Fish Whole / Cleaned	kg
Location of capture of tagged fish (degrees and minutes)	Latitude			Longitude	
Number of tags recovered from this fish (tick one) 1 <input type="checkbox"/> 2 <input type="checkbox"/> Species					

Name and Address					
Skipper's Name			Vessel Name		
Tag Number			Capture Date		
Length of fish - from tip of lower jaw to fork in tail			cm	Weight of Fish Whole / Cleaned	kg
Location of capture of tagged fish (degrees and minutes)	Latitude			Longitude	
Number of tags recovered from this fish (tick one) 1 <input type="checkbox"/> 2 <input type="checkbox"/> Species					

Attachment E: Recapture Sheets for all Tagged Fish, Tagged Animals and Banded Seabirds

When you catch any tagged fish or other animals, or banded birds, please complete the questionnaire below and forward it to:

**AFMA Logbook Coordinator
Box 7051
Canberra MC ACT 2610**

If you have any comments to make about the captured fish/animal or this questionnaire, use the reverse of this sheet.

Please Note: There are rewards for many of the Tagging Programs currently being undertaken.

The Green copy of this tag recapture sheet is for your own records.

Please return the tag/tags with this form.

Name, Address and Phone No.					
Skipper's Name			Vessel Name		
Tag Number/s and colour			Capture Date		
Length of fish - from tip of lower jaw to fork in tail or for Swordfish from behind eyeball to fork in tail			cm	Estimated Whole Weight of Fish	kg
Location of capture of tagged fish Latitude (dd mm)				Longitude (ddd mm)	
Number of tags recovered from this fish (tick one) 1 <input type="checkbox"/> 2 <input type="checkbox"/>			Species		

Name, Address and Phone No.					
Skipper's Name			Vessel Name		
Tag Number/s and colour			Capture Date		
Length of fish - from tip of lower jaw to fork in tail or for Swordfish from behind eyeball to fork in tail			cm	Estimated Whole Weight of Fish	kg
Location of capture of tagged fish Latitude (dd mm)				Longitude (ddd mm)	
Number of tags recovered from this fish (tick one) 1 <input type="checkbox"/> 2 <input type="checkbox"/>			Species		

Name, Address and Phone No.					
Skipper's Name			Vessel Name		
Tag Number/s and colour			Capture Date		
Length of fish - from tip of lower jaw to fork in tail or for Swordfish from behind eyeball to fork in tail			cm	Estimated Whole Weight of Fish	kg
Location of capture of tagged fish Latitude (dd mm)				Longitude (ddd mm)	
Number of tags recovered from this fish (tick one) 1 <input type="checkbox"/> 2 <input type="checkbox"/>			Species		