



Suntag Report

Fishtag 2005

Tagging, Catch Rates and Hooking

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Report No: ST200505



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Cover photograph: Tagged bream ready for release

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The coordinating and promotion of Fishtag 2005 was undertaken by Jeff Sorrell of the Bribie Island Sportfishing Club.

The efforts of all taggers involved in Suntag that took part in this project.



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1. Summary

Fishtag was set up to increase the scientific value of data being collected by Suntag taggers. A trial was held in 2004 and this was followed up in 2005.

The objectives of Fishtag 2005 were:

- ❑ Tag 2005 fish in 53 hours
- ❑ Obtain catch rates for taggers fishing over a defined period
- ❑ Obtain hooking rates for species being researched for survival of released fish

Species on which effort was focused were those that are being research as part of the National Strategy for the Survival of Released Fish. Data from Fishtag 2005 was to support research into survival rates.

Fishtag 2005 was held over a 53 hour period from 12:00noon on Friday 22 July 2005 to 5:00pm on Sunday 24 July 2005. It was conducted in all Queensland waters however almost all the participation was in the south of the State. The weather over that period was poor with strong winds that precluded any offshore fishing and the targeting of reef species.

Over that period there were 63 trips involving 82 fishers and 115 fisher days. A total of 697 fish were tagged and a total of 776 fish recorded. Catch and effort data was available for 45 (71.4%) of the trips and hooking data was available for 43 (68.3%) of the trips.

The catch rate calculated from the completed trips in Fishtag 2005 was 1.3 fish/hour compared with 3.8 fish/hour in 2004. The average catch rates are significantly different between the 2 years. This is likely to result from data in 2004 only being available from the top fishers who had a high catch rate and also the prevailing weather conditions.

Hooking data showed that 16.0% of Yellowfin Bream caught on bait were deep hooked in the throat or gut and that these fish were likely to have a lower survival rate.

Hooking data also showed that 22.5% of the Dusky Flathead caught on bait were deep hooked in the throat or gut while no flathead caught on lures were deep hooked. These data need to be treated with caution due to the low number of fish however the deep hooked fish are likely to have a lower survival rate.

Holding an event such as Fishtag can provide a very useful snapshot of the catches of taggers and collect additional data of scientific value. The benefit of Fishtag will be increased significantly if is repeated on an annual basis and it has a summer and winter component so that comparison can be made over seasons and over time to determine trends.

Fishtag 2005

Tagging, Catch and Effort and Hooking

2. Background

Suntag taggers have been collecting catch and effort data since 1996/97 to provide data of trends in catch rates of taggers. They have also been collecting data since 2001/02 on locations where hooks have been lodged in fish in support of the National Strategy for the Survival of Released Fish.

In 2004 a trial project Fishtag 2004 was undertaken to boost the scientific value of data by getting taggers to provide more details than just the tagging details of the fish that they tag. Following the success of Fishtag 2004 it was decided to undertake Fishtag 2005 on a more formal basis and additional funding for the project was sought and obtained from DPI&F.

3. Objectives

The objectives of Fishtag 2005 were:

- ❑ Tag 2005 fish in 53 hours
- ❑ Obtain catch rates for taggers fishing over a defined period
- ❑ Obtain hooking rates for species being researched for survival of released fish

The species targeted were:

- ❑ Yellowfin Bream (*Acanthopagrus australis*)
- ❑ Dusky Flathead (*Platycephalus fuscus*)
- ❑ Snapper (*Pagrus australis*)
- ❑ Sand Whiting (*Sillago ciliata*)
- ❑ Smallmouth Nannygai (*Lutjanus erythropterus*)
- ❑ Largemouth Nannygai (*Lutjanus malabaricus*)
- ❑ Red Emperor (*Lutjanus sebae*)
- ❑ Redthroat Emperor (*Lethrinus miniatus*)
- ❑ Grass Emperor (*Lethrinus fletus*)
- ❑ Spangled Emperor (*Lethrinus nebulosus*)
- ❑ Barcheek Coral Trout (*Plectropomus maculatus*)
- ❑ Common Coral Trout (*Plectropomus leopardus*)

As well as the above target species all other species involved in Suntag projects were included to provide additional data on hooking.

4. Description of Tagging Area

The tagging area for the project was all Queensland waters.

5. Methods

Fishing was conducted over a 53 hour period from 12:00noon on Friday 22 July 2005 to 5:00pm on Sunday 24 July 2005.

Comparisons are made with data collected in Fishtag 2004 which was held over a 53 hour period from 12:00noon on Friday 2 July 2004 to 5:00pm on Sunday 4 July 2004.

Fish were caught, tagged and released, in accordance with the procedures in the Austag Tagging Manual (available at www.info-fish.net). Records were collected and recorded in accordance with the procedures set out in the Manual.

Tagging data was collected on Suntag form QF0026. Tagging data was entered and stored in the Suntag database.

Measurements of fish were to the nearest centimetre or half centimetre.

Locations where fish were tagged were based on Suntag grid maps (available at www.info-fish.net). These maps identify tag locations to within approximately 1km.

Catch rate was calculated for trips where all catch and effort details were provided. A complete catch was a trip where details of the fish tagged, fish kept, fish released without tags and any fish recaptured were provided.

Effort was calculated based on the time of leaving the boat ramp to the time of return. No attempt was made to take account of travel time or for any time not spent fishing during the trip.

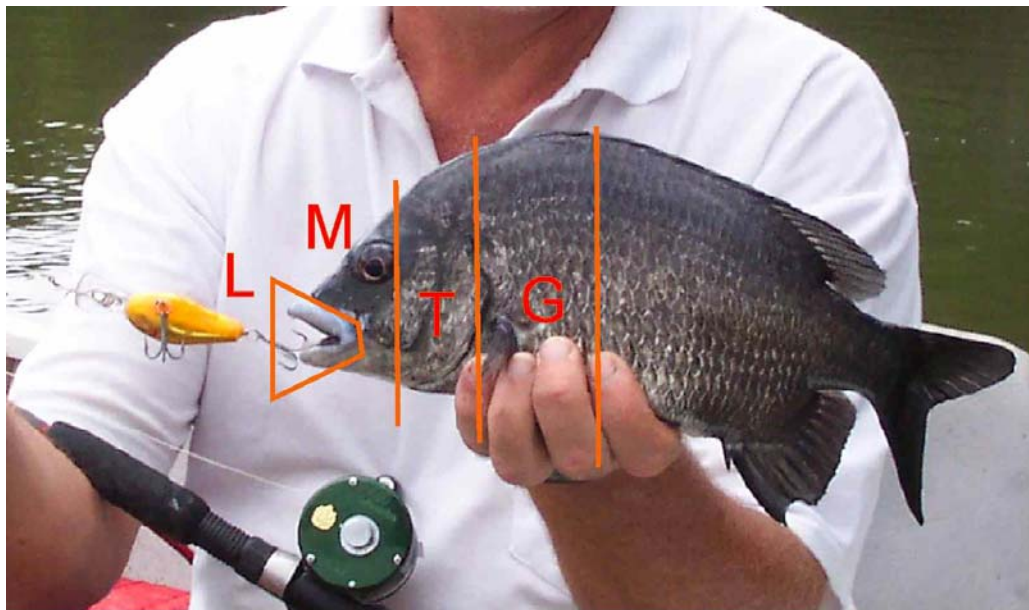


Figure 1: Recording of hooking locations

- L - the hook is lodged in the lips of jaw with the hook shaft outside the mouth
- M - the hook is lodged inside the mouth but not as far back as the throat or gills
- T - the hook is lodged in the throat or gills area but is still visible
- G – the hook has been swallowed and is not visible
- O – the fish has been hooked somewhere in the body outside the mouth

Hooking locations were determined as shown in *figure 1*.

6. Results

6.1 Fish Tagged

A total of 697 fish were tagged during Fishtag 2005 compared with 850 in Fishtag 2004 as shown in *figure 2*.

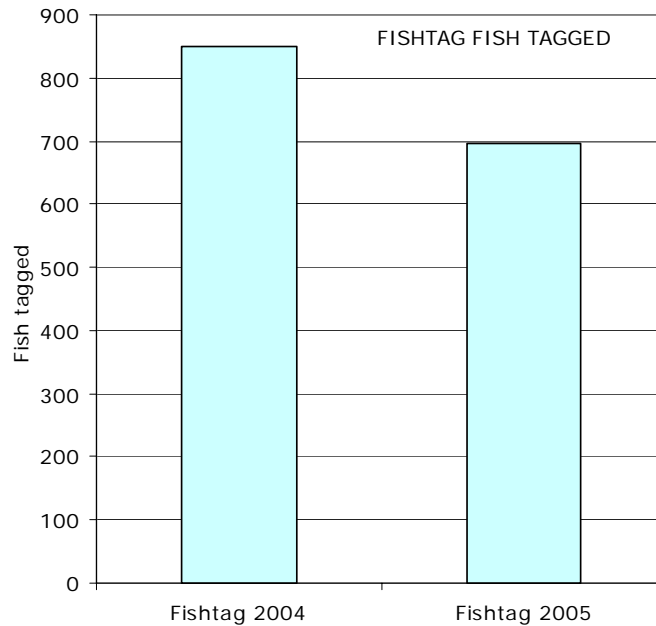


Figure 2: Comparison of numbers of fish tagged in Fishtag 2004 and 2005

A total of 82 fishers took part in Fishtag 2005 compared with 71 that took part in Fishtag 2004.

Mick Dohnt was the individual tagger that tagged the most fish in Fishtag 2005 with 88 fish while Jeff Sorrell tagged the most fish in Fishtag 2004 with 161 fish. The number of fish tagged by the top 10 taggers is in *appendix 1*.

A summary of fish tagged each day in Fishtag 2005 and 2004 is shown in *figure 3*.

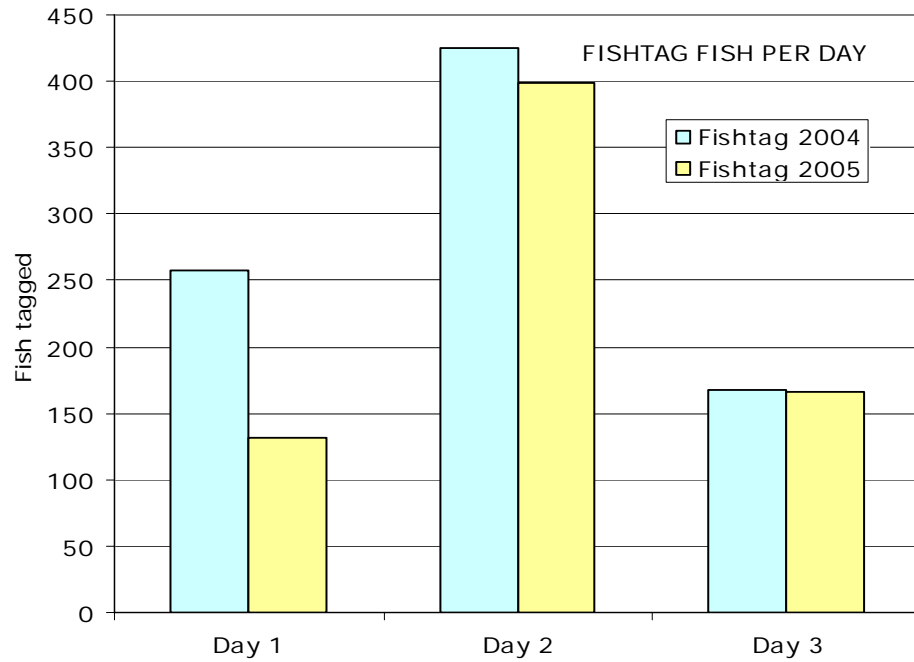


Figure 3: Fish tagged on each day of Fishtag 2004 and 2005

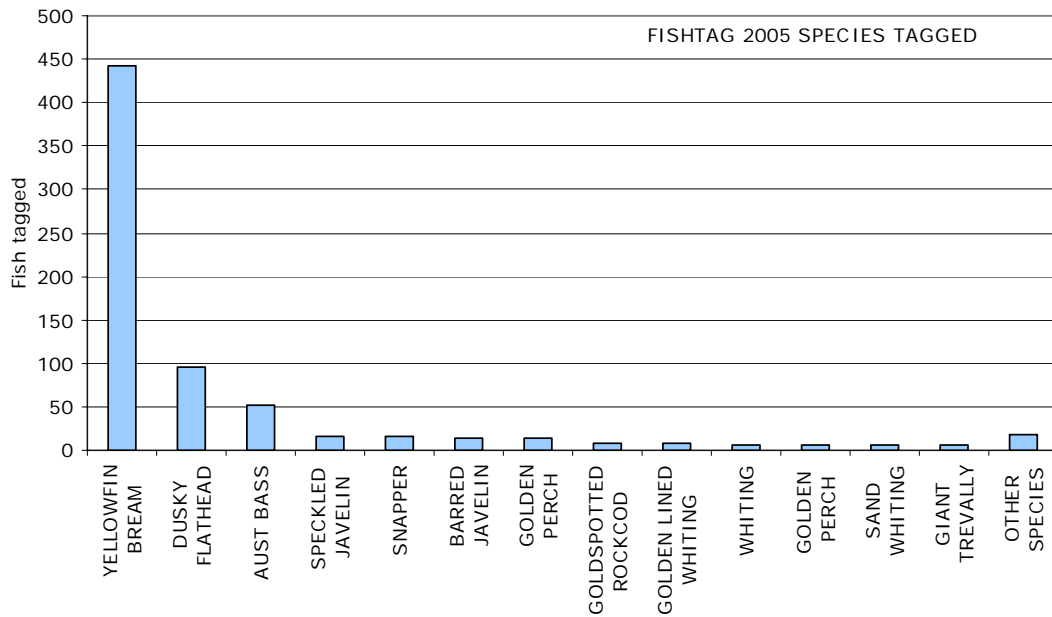


Figure 4: Summary of species tagged in Fishtag 2005

Figure 4 shows the species tagged in Fishtag 2005. Yellowfin Bream were the most tagged species with 442 fish (63.4%) and Dusky Flathead were the second most tagged species with 95 fish (13.6%).

6.2 Catch and Effort

A total of 82 fishers took part in Fishtag 2005 and there were 63 trips over the 3 days. The total number of fisher days was 115.

Not all fishers that participated in Fishtag provided all details of catch and effort. A total of 45 (71.4%) trips were recorded where total catch and effort details were provided compared with 8 trips with complete details in Fishtag 2004.

For the 45 trips in Fishtag 2005 there were a total of 776 fish caught while for the 8 trips in Fishtag 2004 there were a total of 261 fish caught. *Figure 5* shows a summary of the fish caught on all trips in Fishtag 2004 and 2005 where there were complete catch and effort details.

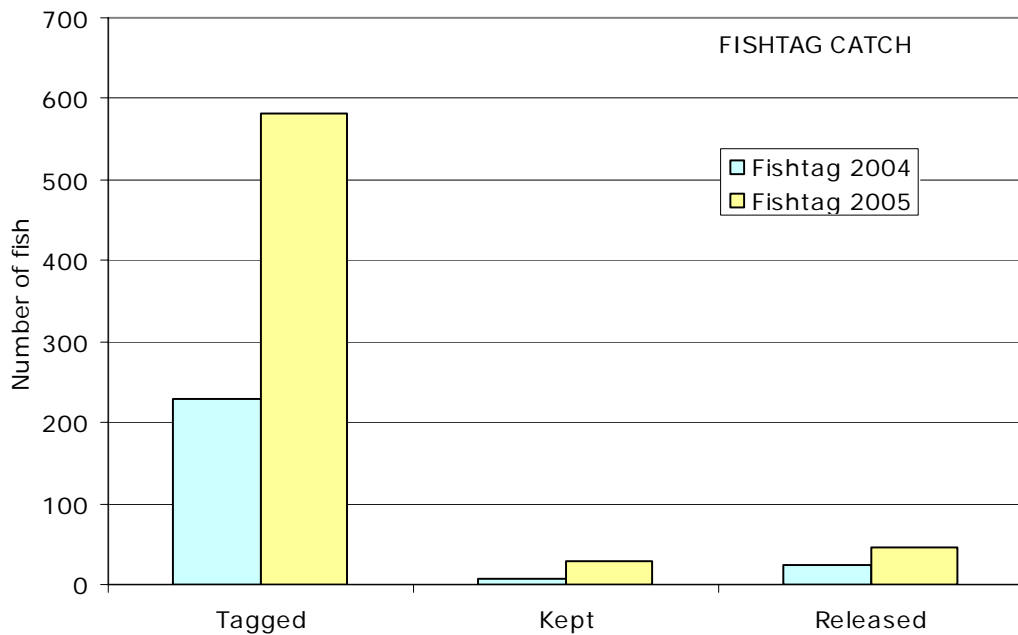


Figure 5: Summary of fish recorded as part of trips in Fishtag 2004 and 2005

	Trips	Hours	Fish	Catch/Effort
Fishtag 2004	8	69.1	261	3.8
Fishtag 2005	45	523	660	1.3

Table 1: Summary of Catch and Effort for Fishtag 2004 and 2005

Table 1 shows a summary of the catch and effort for the completed trips in Fishtag 2004 and 2005 while *figure 6* shows the catch rate for each year. The catch rate in Fishtag 2005 was 66.6% lower than in Fishtag 2004. This data should be treated with caution due to the low numbers of completed trips in 2004.

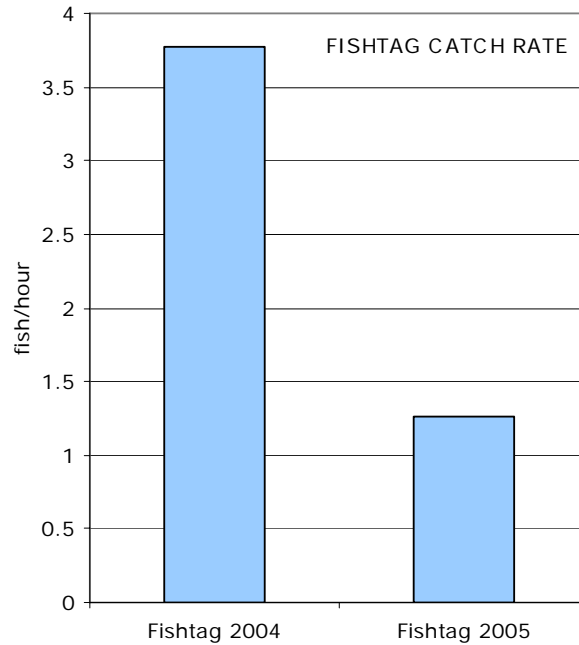


Figure 6: Catch rate in fish/hour for Fishtag 2004 and 2005

6.3 Hooking

Details of hooking locations were provided for 43 (68.3%) of the 63 trips. A total of 617 (79.5%) of the 776 fish caught in Fishtag 2005 had data on the hooking location.

There were 372 Yellowfin Bream with hooking data and of these 370 (99.5%) were caught on bait and 2 caught on lure. *Figure 7* shows the rate of hooking in the different locations with 16.0% of the Bream caught being deep hooked in the throat or gut.

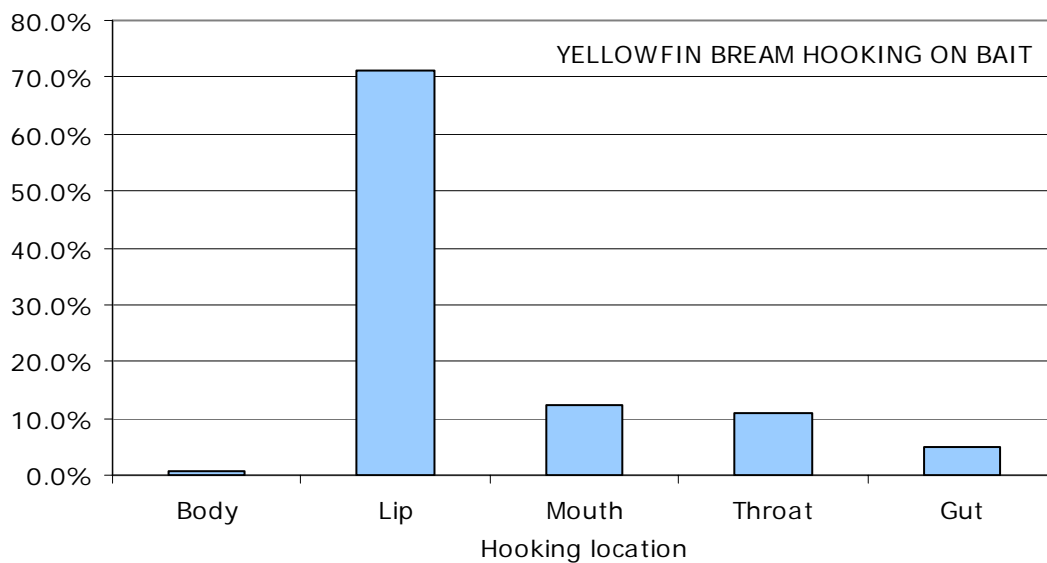


Figure 7: Hooking locations for Yellowfin Bream caught on bait

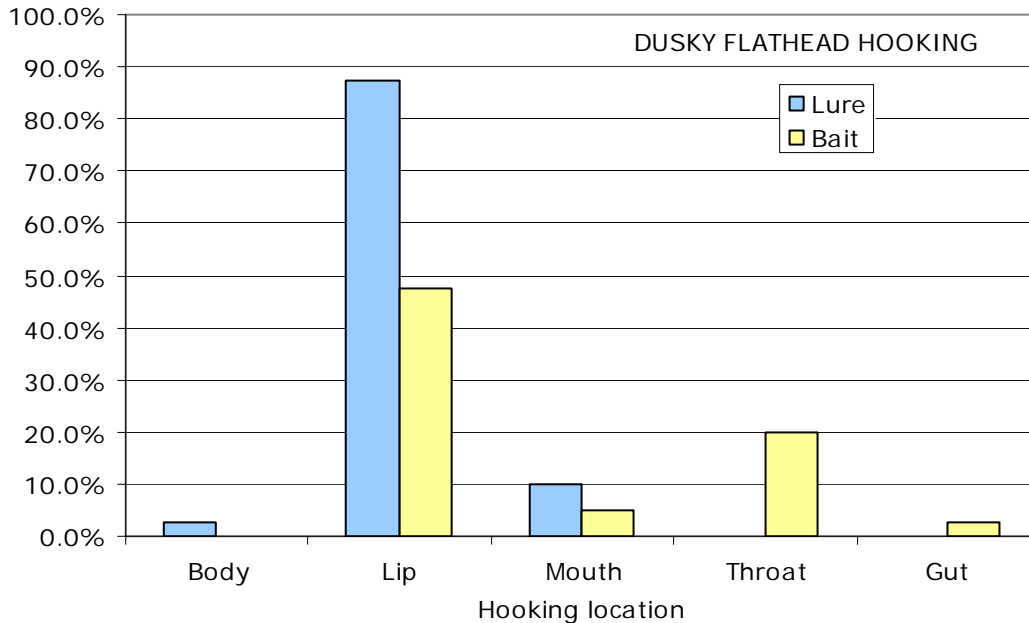


Figure 8: Hooking locations for Dusky Flathead caught on bait and lures

There were 70 Dusky Flathead with hooking data and of these 30 (42.9%) were caught on bait and 40 caught on lure. *Figure 8* shows the rate of hooking in the different locations with 22.5% of the Flathead caught on bait being deep hooked in the throat or gut. No Flathead caught on lures were deep hooked. These results should be treated with caution due to the low numbers of fish.

6. Discussion

Most of the fishing effort in Fishtag 2005 was in southern Queensland. The weather over the 3 days was poor with strong winds, especially on days 1 and 2. Day 1 in particular was very cold with rain and strong winds. The weather over the weekend precluded offshore fishing and there were no reef fish in the total.

As a result the target of 2005 fish was not reached. The total of 697 fish tagged was 34.8% of the target and there was a total of 776 fish recorded.

There was a significant improvement in the number of trips for which complete catch and effort data was available compared with 2004. Catch and effort data were available for 45 (71.4%) of the 63 trips compared with data only being available for 8 trips in 2004.

The average catch rates are significantly different between the 2 years. This is likely to result from data in 2004 only being available from the top fishers who had a high catch rate. The catch rate would be slightly higher if only the fishing time was taken into account however obtaining accurate data on actual fishing time has proven difficult in the past and total time on the water has provided reliable data. This can be used to determine trends in catch rates over time.

There was a good response from fishers in collecting hooking location data with 43 (68.3%) of the 63 trips providing hooking data. There still needs to be greater attention paid to the recording of hooking locations as some of the trips showed the same hooking location for all records and this is considered to have been unlikely.

The deep hooking rate of 16% for Yellowfin Bream and 22.5% for Dusky Flathead is higher than the overall deep hooking rate of 9.7% for Suntag caught fish (Sawynok 2004). Research has shown that the survival rate of deep hooked fish is lower than shallow hooked fish.

It will be possible to monitor the recapture rate of fish from Fishtag to determine if there is a different recapture rate for deep and shallow hooked fish.

7. References

Sawynok W (2004): Austag Annual Report 2004/05: 48pp

8. Appendix 1 – Top fishers in Fishtag 2005

The following were the fishers that tagged over 15 fish each in Fishtag 2005. The top fisher was Michael Dohnt who tagged 88 fish.

Tagger	Fish tagged
DOHNT M	88
GRIFFITHS P	62
SORRELL J	62
RAY S	39
RAWLINS D	25
STRATFORD N	22
MILFULL W	22
ROBERTS S	21
HARDMAN J	18
SMITH R	18
ARNOLD J	18
LUND D	17

9. Appendix 2 – Summary of Trip details for Fishtag 2005

TRIP	NUMBER OF FISHERS	FISHER 1	FISHER 2	FISHER 3	HOOKING	HOURS FISHED	TOTAL CATCH	FISH TAGGED	FISH KEPT	FISH RELEASED	RECAPS	TOTAL
DAY 1 22/07/2005												
1	1	DOHNT M			YES	11	YES	36	0	4	0	40
2	1	CUTMORE J			NO	-	NO	5				5
3	2	CROUCH S	DEAN R		YES	14	YES	10	0	0	0	10
4	2	SORRELL J	GRIFFITHS P		YES	20.5	YES	50	0	1	0	51
5	2	MILFULL W	SHEPHERD-ASHBY C		NO	-	NO	10				10
6	2	RIEK M	MILFULL L		NO	-	NO	3				3
7	2	DALKEITH S	DALKEITH J		NO	3.33	YES	5	0	3	0	8
8	1	RAY S			YES	2.5	YES	6	0	0	0	6
9	1	WALLBANK T			YES	5	YES	7	0	6	0	13
TOTAL	14					56.33		132	0	14	0	146

TRIP	NUMBER OF FISHERS	FISHER 1	FISHER 2	FISHER 3	HOOKING	HOURS FISHED	TOTAL CATCH	FISH TAGGED	FISH KEPT	FISH RELEASED	RECAPS	TOTAL
DAY 2 23/07/2005												
10	1	DOHNT M			YES	7	YES	33	0	2	0	35
11	1	ARNOLD J			YES	11	YES	18	0	0	0	18
12	2	STRATFORD N	STRATFORD C		YES	9	YES	19	3	0	0	22
13	2	BIRD J	SELLS J		YES	7	YES	6	0	0	0	6
14	1	POWELL M			YES	4.5	YES	9	0	0	0	9
15	2	BOWMAN R	BOWMAN D		YES	14	YES	6	0	0	0	6
16	2	CROUCH S	DEAN R		YES	13	YES	6	0	0	0	6
17	2	DALKEITH S	DALKEITH J		NO	-	NO	6			1	7
18	2	DZIEMIDOWICZ E	GANNON P		YES	12	YES	5	0	0	0	5
19	3	DAVIES J	DAVIES J JNR	RADUNZ G	YES	24	YES	7	0	0	0	7
20	2	FORD K	FORD C		YES	12	YES	1	0	1	0	2
21	1	FIELD B			YES	-	NO	12	0	0	0	12
22	1	GALLIGAN C			NO	2	YES	3	0	0	0	3
23	2	SORRELL J	GRIFFITHS P		YES	7.33	YES	18	0	2	0	20
24	2	SORRELL J	GRIFFITHS P		YES	13.17	YES	32	0	0	0	32
25	1	HARDMAN J			YES	2.5	YES	18	0	0	0	18
26	2	JENSEN P	WILLIAMS I		YES	14	YES	16	0	0	0	16
27	2	JENSEN C	STEELE J		YES	6	YES	5	0	0	0	5
28	3	LUND D	LUND R	LUND N	YES	18.75	YES	26	2	3	0	31
29	2	MILFULL W	SHEPHERD-ASHBY C		NO	-	NO	11				11
30	2	RAWLINS D	BRICKNELL R	DALE G	YES	21	YES	25	0	0	0	25
31	2	RIEK M	MILFULL L		NO	-	NO	6				6
32	2	RENFREE P	RENFREE S		YES	8	YES	10	0	0	0	10
33	1	ROSOLEN D			NO	-	NO	2				2
34	2	RAY S	PATTORNITTI N		YES	15	YES	39	0	0	0	39
35	2	SALMON I	SALMON C		NO	-	NO	2				2
36	1	SCHIPLOCK N			NO	-	NO	5				5
37	2	SLOBODZIAN S	MARSH D		YES	19.5	YES	15	0	0	0	15
38	2	SMITH R	BAKER S		YES	15	YES	15	0	0	0	15
39	1	WAKELING S			YES	4.5	YES	6	0	0	0	6
40	3	WALLBANK T	CUMBERLAND J	WILLMANN L	YES	31.5	YES	9	2	5	0	16
41	2	ROBERTS S	HENSEL K		NO	-	NO	8				8
TOTAL	58					291.75		399	7	13	1	420

TRIP	NUMBER OF FISHERS	FISHER 1	FISHER 2	FISHER 3	HOOKING	HOURS FISHED	TOTAL CATCH	FISH TAGGED	FISH KEPT	FISH RELEASED	RECAPS	TOTAL
DAY 3 24/07/2005												
42	1	DOHNT M			YES	6.5	YES	19	0	1	1	21
43	3	SEWELL R	SEWELL MATTHEW	SEWELL H	YES	-	NO	5				5
44	2	SEWELL MARK	HAYES H		YES	-	NO	7				7
45	2	STRATFORD N	STRATFORD C		YES	14	YES	7	9	0	0	16
46	2	ALEX W	SINGH R		YES	14	YES	5	0	0	0	5
47	2	BAKER G	BAKER C		YES	15	YES	6	8	7	0	21
48	2	BOWMAN R	SMITH R		YES	15	YES	15	0	1	0	16
49	4	CHARTERIS K	CHARTERIS M	CHARTERIS B	NO	-	NO	8				8
50	2	DALKEITH S	DALKEITH J		NO	-	NO	1				1
51	1	DOLAN P			YES	3.5	YES	3	0	0	0	3
52	3	DOVER R	DOVER C	COLLINGWOOD N	NO	10.5	YES	5	0	0	0	5
53	2	FORD K	FORD C		YES	12	YES	2	0	2	0	4
54	2	SORRELL J	GRIFFITHS P		YES	14.17	YES	24	0	0	0	24
55	2	KERKOW L	STENNING W		YES	20	YES	15	0	0	0	15
56	1	LINDEMAN D			NO	-	NO	6				6
57	1	MERCHEL L			NO	-	NO	2				2
58	2	MILFULL W	GALLIGAN C		NO	-	NO	1				1
59	2	RAWLINS D	BRICKNELL R	WILLIAMSON R	YES	24	YES	12	0	9	0	21
60	2	WILLMANN L	CUMBERLAND J		YES	8	YES	3	1	0	0	4
61	1	WALLBANK T			YES	3.5	YES	1	2	0	0	3
62	2	KIDD W	KIDD M		NO	15	YES	3	3	0	0	6
63	2	ROBERTS S	HENSEL K		NO	-	NO	16				16
TOTAL	43					175.17		166	23	20	1	210
GRAND TOTAL	115					523		697	30	47	2	776