

**PROTECTED SPECIES BYCATCH IN ZONE 1
OF THE SOUTH COAST PURSE SEINE
FISHERY 2014/15**

Report prepared by the WA Fishing Industry Council, March 2016

PROTECTED SPECIES BYCATCH IN ZONE 1 OF THE SOUTH COAST PURSE SEINE FISHERY 2014/15

INTRODUCTION

The South Coast Purse Seine Fishery (SCPSF) completed its ninth season of its protected species bycatch mitigation program in 2015.

The project remains focused on reducing the incidental mortality of Fleshy Footed Shearwaters *Puffinus carneipes* in Zone 1 (King George Sound) of the SCPSF, as well as monitoring other protected species interactions.

On 25 February 2015, SCPSF licence holders met with the Department of Parks and Wildlife (DPaW), the Department of Fisheries, OceanWatch, and the WA Fishing Industry Council (WAFIC), to finalise the mitigation measures that would be in place for the 2015 season.

After careful discussion and consideration of the previous shearwater management arrangements, it was decided the following measures would be put in place to mitigate shearwater interactions for the 2014/15 season:

- A special mitigation period from 15 March – 30 April;
- A dawn closure from 15 March to 31 March from 5am – 9am, and from 1 April to 30 April from 5.30am – 9am;
- That Catch Disposal Returns (CDR) containing records of protected species interaction would be completed for all fishing trips;
- That three (3) crew members would be on-board to operate during daylight hours to implement the tow-off procedure, or two (2) crew members if vessels have a thruster;
- That during the high risk period, fishermen would consult each other prior to fishing on those days where the level of risk of shearwater interaction may be higher. Industry to contact the Department of Fisheries to let them know the days they don't go fishing so these can be included in the report and on CDR's;
- That dead shearwaters will be collected along Middleton and Goode Beach at a monetary cost to fishermen and processors. The shearwaters would then be tagged and kept in cold storage for collection by DPaW for an autopsy; Processors to contact DPaW when birds are ready for collection;
- That the trial of a weighted line through the net to remove the fold in the net will re-commence this season on one vessel;
- That fishermen will act in accordance with their Code of Practice and Manual for Setting Protocol, Wildlife Interaction and Species Identification;

As part of the mitigation program, as outlined above, it was also agreed that Albany fish processors Garry Bevan and Tony Westerberg would employ

collectors to pick up any shearwater birds that washed up during the special management period, 15 March – 30 April 2015, from Middleton and Goode Beaches in Albany.

The collectors walk along the beaches each morning and if found, the birds are collected, tagged and recorded and then kept in cold storage at the processing facility for collection by DPaW for an autopsy.

All purse seine fishers reported that the shearwater numbers seemed lower in 2015 than in previous years in the King George Sound area. The wash-up numbers for 2015 from Middleton Beach are 11 birds and from Goode Beach, 25 birds.

CHANGES MADE IN THE 2014/15 SEASON

Over the 2014/15 season a vessel in the fishery participated in a weighted line trial, whereby a negatively buoyant rope was incorporated into the purse seine net approximately 5-6m below the float line. The weighted line effectively pulled the top 6m of the net taut, therefore removing any ballooning that may occur which presents a hazard for diving shearwaters when they return to the surface. A weighted line trial was initiated on one vessel in 2013/2014 but was limited to a few trips. Weighted line was trialled for the full 2014/15 bycatch mitigation period.

Three independent observations of the weighted line used during normal operations were conducted by OceanWatch and in that time no shearwaters were entangled or perished.

As this is a voluntary measure taken by fishermen, it is advisable that the weighted line remains a voluntary measure and not be regulated or made mandatory until such time as considerable testing has been conducted and all vessels agree on implementing weighted lines.

The dawn closure times were also adjusted to commence earlier, and on a number of occasions fishers communicated with each other and decided not to undertake fishing because of strong south westerly winds that correspond to a higher chance of shearwater interactions

BYCATCH MANAGEMENT REPORT

Table 1 below summarizes the trends in bycatch management performance over the nine years of shearwater bycatch management in Zone 1 of the SCPSF.

Since the independent observer program was ceased in 2009, all trips during the special management period involving shearwater interactions have been reported on the CDRs.

During the 2011/12 special management period, Dr Nic Dunlop (Conservation Council of WA) doubted the reliability of the monitoring data due to non-reporting by the fishery during this season. Industry disputed this view.

During the 2013/14 season, 11 vessels from the fishery reported catch, and fished a total of 212 days. The number of vessels fishing and the number of days fished decreased in the 2014/15 season to 8 vessels reporting catch, with 185 days fished.

Effort within the fishery decreased in the 2014/15 season and so did the number of shearwater entanglements to their lowest levels since the mitigation program started, with figures of 136 entanglements and 15 mortalities.

Table 1. Trends in Bycatch Management Performance Measures

Season	No. of fishing trips	Observed / reported trips	Number reported entangled	Entanglement Rate (birds / trip)	No. of reported morts	Mort Rate (birds / trip)	% mortalities per entanglement
06/07	161	48	512	10.66	54	1.12	10.5
07/08	264	64	395	6.17	54	0.84	13.6
08/09	233	233	885	3.79	148	0.63	20.0
09/10	277	277	245	0.88	15	0.05	6.12
10/11	441	441	836	1.89	103	0.23	12.3
11/12	300	300	499?	1.66	43(*154)	0.65	?
12/13	395	171	473	2.76	147	0.86	31.07
13/14	212	212	293	1.38	63	0.30	21.50
14/15	185	185	136	0.73	15	0.08	11.02

NB. Entanglements includes live release plus mortalities / *Wash-ups reported by DPaW and / or the public

TRENDS IN SHEARWATER BYCATCH MORTALITY

Table 2 below summarises the trends in shearwater bycatch mortality in the nine years since the special bycatch management period was introduced.

Table 2: Trends in Shearwater Mortality

Fishing Season	Estimated Shearwater Mortality	Mortality per trip
2006/07	200-300	1.24 – 1.86
2007/08	203	0.76
2008/09	148	0.63
2009/10	15	0.05
2010/11	103	0.23
2011/12	240*	0.65
2012/13	147	0.86
2013/14	63	0.30
2014/15	15	0.08

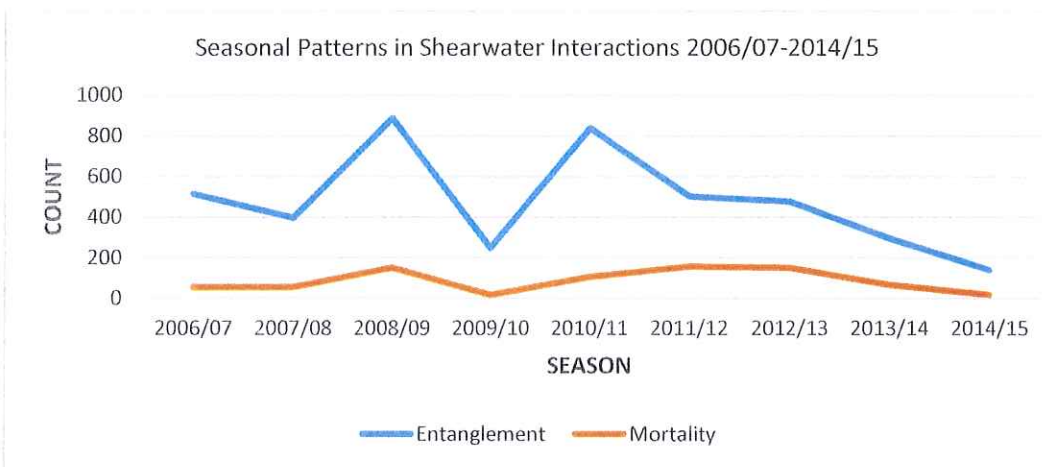
*Another 32 wash-ups were reported on 22 February 2012 outside the special monitoring period but included here.

Estimated total mortality dropped from as many as 300 in 2006/07, to 203 in 2007/08, 148 in 2008/09, and 15 in 2009/10 and then increased again to 103 in 2010/11 and 240 in 2011/12. The 2011/12 season had the second worst mortality rate and the highest since the first bycatch management year in 2006/07.

Mortality has since dropped in 2013 and 2014 to 147 and 63 respectively, while 2015 was the best season yet with only 15 mortalities reported.

Figure 1a below shows the seasonal trend in entanglements and mortalities from 2006-2015.

Figure 1a: Seasonal pattern in shearwater interactions from 2009 to 2015



The following graphs are included to compare the last two seasons. They highlight the temporal distribution of entanglement and mortalities in the special management period of 2013/14 and 2014/15.

Figure 1b: Seasonal pattern in shearwater interactions in the 2013/14 season

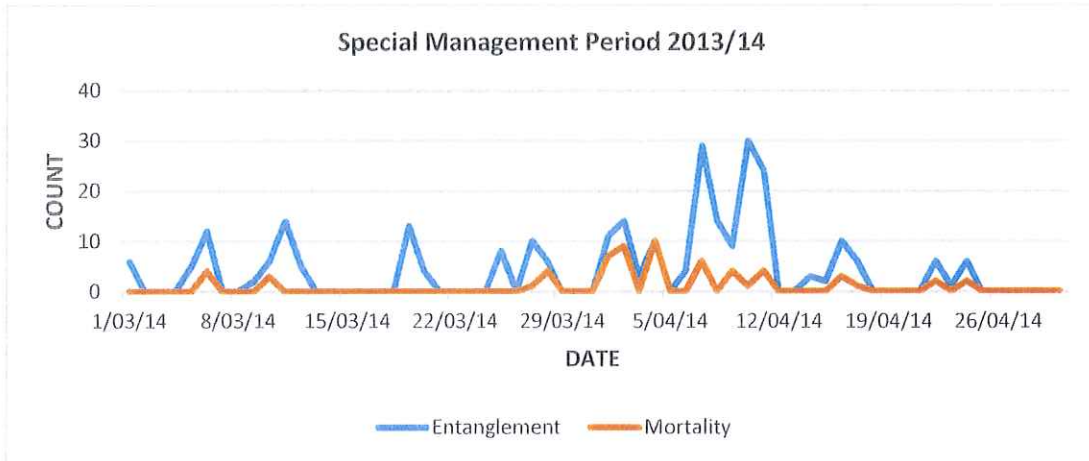
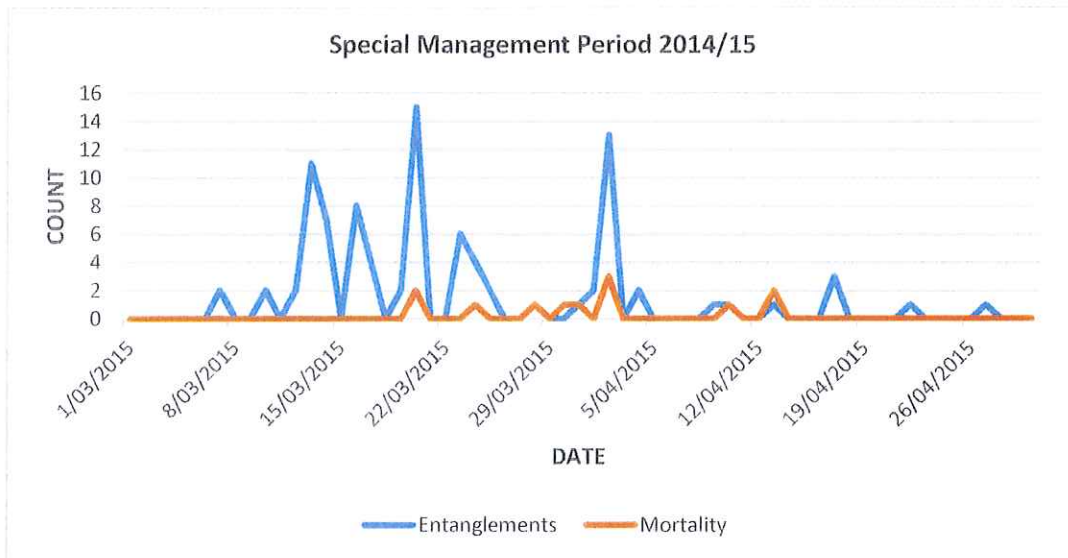


Figure 1c: Seasonal pattern in shearwater interactions in the 2014/15 season



This comparison from the last two seasons indicates that there are no consistent “peak” high risk trends within the special management period annually from March to April, making the possibility of a “short closure” to further mitigate shearwater mortality difficult to justify.

The graphs indicate that any time within the special management period could be classed as high risk depending on environmental conditions, and as such the strategy adopted for 2014/15 season should be considered adequate.

SUMMARY

During the 2014/15 season industry have tried to make progress through innovation, by trialling a weighted line throughout the bycatch mitigation period, which effectively removes any ballooning in the net which is a hazard for diving shearwaters. These types of trials need to be partnered with appropriate levels of monitoring and reporting if they are to produce their best results.

The various measures taken during the 2014/15 season seemed to be effective in reducing commercial fishing interactions with Fleshy Footed Shearwaters in King George Sound.

RECOMMENDATIONS

South Coast Purse Seine Fishery Zone 1 operators met with the Department of Fisheries, Department of Parks and Wildlife, and the WA Fishing Industry Council on 3 March 2016 to discuss the mitigation measures that will be in place for the 2016 season. All meeting members were happy with the arrangements for the 2014/15 season and it was agreed that these measures would continue to be in place as an ongoing bycatch mitigation strategy.

ACKNOWLEDGEMENTS

The WA Fishing Industry Council (WAFIC) would like to thank Peter Westerberg and his crew for the substantial amount of time involved in preparing for the weighted line trial. Also, for conducting the trial throughout the season on behalf of all industry members.

Report prepared by the WA Fishing Industry Council, March 2016.