



**Agreement on the Conservation of Albatrosses and Petrels**

**Second Meeting of Seabird Bycatch Working Group**

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**Title:** A summary of the reporting of fisheries in CCAMLR  
with reference to Seabird Bycatch

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# A summary of the reporting of fisheries in CCAMLR with reference to Seabird By-catch

CCAMLR Secretariat

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## Introduction

CCAMLR Parties submit data on catches of target and by-catch (including fish, marine mammals and birds and other species, including benthos) that allows analysis of the data at the level of the fishery, by area by gear type and by vessel. This analysis is conducted by the Secretariat and in Working Groups of the Scientific Committee. With respect to the by-catch of marine mammals and birds, this work is primarily conducted in the Working Group on Incidental Mortality Associated with Fisheries (WG-IMAF).

All vessels participating in the finfish fishery must carry at least one scientific observer who collects scientific data to assist with fisheries assessments as well as data with which compliance assessments can be conducted.

These data are summarised by the CCAMLR Secretariat and presented to the Scientific Committee's Working Groups in the form of working papers. These working papers are appended here and form the basis of this discussion.

These CCAMLR working papers are:

Appendix I: A Summary of Incidental Mortality Observations Onboard Longline Vessels Operating Within the CCAMLR Convention Area during the 2006/07 Season.

Appendix II: A Summary of Observations aboard Trawlers Operating in the Convention Area during the 2006/07 Season.

Appendix III: A Summary of Scientific Observations Related to Conservation Measures 25-02 (2005), 25-03 (2003) and 26-01 (2006).

It should be noted that the names of the vessels in the appendices have been replaced by a numeric identifier to avoid issues of confidentiality outside CCAMLR.

In addition to the reporting of data collected during fishing operations, CCAMLR maintains a marine debris database, which holds survey data on marine debris found on beaches, hydrocarbon soiling of mammals and seabirds, entanglement of marine mammals in marine debris and the occurrence of marine debris associated with seabird colonies from within the Convention Area. In the later the data are divided into fisheries (i.e hooks, snoods and jigs) and non-fisheries associated debris (general

debris - the origins of which may have been a fishing vessel but there is no direct evidence for such an attribution of provenance). This data is reported to the Secretariat using standardised methods and forms. The CCAMLR Marine Debris Database contains data from 13 sites, however only 4 of these sites are considered active (i.e. have submitted recent data for more than 3 consecutive years). Traditionally the Secretariat reported on the status and trends of marine debris directly to the Scientific Committee; however it decided that this issue would be better delegated to WG-IMAF for expert analysis (SC-CAMLR-XXVI, paragraph 6.2).

## APPENDIX 1

### **A SUMMARY OF INCIDENTAL MORTALITY OBSERVATIONS ONBOARD LONGLINE VESSELS OPERATING WITHIN THE CCAMLR CONVENTION AREA DURING THE 2006/07 SEASON**

#### Introduction

A total of 40 longline cruises were conducted within the CCAMLR Convention Area during the 2006/07 season, with scientific observers (international and national) aboard all vessels. Ten cruises were undertaken in Subarea 48.3 by 10 vessels, 1 cruise were undertaken in Subarea 48.4, 3 cruises were undertaken by 3 vessels in Subarea 48.6, 6 cruises were undertaken by 6 vessels in Divisions 58.4.1, 58.4.2, 58.4.3a and 58.4.3b, 2 cruises were conducted by 1 vessel in Division 58.5.2, 3 cruises were conducted by 2 vessels in Subareas 58.6 and 58.7 and 15 cruises were undertaken in Subareas 88.1 and 88.2 by 15 vessels. A detailed list of the observations conducted and the types of data submitted to the Secretariat is contained in Table 1.

2. During the intersessional period, France submitted summarised observer data for Subarea 58.6 and Division 58.5.1 for the 2006/07 season. However the results are not summarised in this paper.

#### Incidental Mortality

3. The observed seabird catch rates are calculated using the total numbers of hooks observed and the total observed seabird mortality (Table 2). No incidental mortalities of seabirds due to interactions with fishing gear were observed in the Convention Area.

4. A summary of the extrapolated incidental mortality catches and observed mortality rates, for all CCAMLR longline fisheries since 1997, can be found in Table 3.

5. Two seal mortalities were observed in Subarea 48.3 by 2 vessels:
  - The observer on board Vessel 2 reported one southern elephant seal entangled in the mainline by its rear flipper.
  - The observer on board Vessel 4 reported one southern elephant seal entangled in the line, but was unable to retain the corpse as it slipped free from the line and sank.
6. One southern elephant seal mortality was observed in Division 58.5.2 on board Vessel 18 when the seal was entangled in the mainline.
7. During line hauling, various methods of mitigation were reported by observers for 14 vessels (13 vessels did not report the use of haul mitigation measures). These included:
  - **Water cannon/fire hose:** Observers on four vessels (Vessels 1, 18, 10 & 4) reported the use of water cannons in conjunction with other methods of haul scaring devices. This was observed to be effective in close range when birds made their way close to the hauling point.
  - **Single boom with single attached object/streamer:** Two vessels (Vessels 20 & 12) were equipped with this method.
  - **Single boom with multiple attached object/streamers:** Three vessels (Vessels 1, 14 & 5) used this method.
  - **Multiple booms and attached objects (Brickle curtain):** Observers on five vessels (18, 10, 6, 4 & 7) reported the use of this method.
  - **Noise:** Vessels 18 & 12 used loud noise as a deterrent when seabirds passed through the boom scaring devices deployed.
8. Observers on eight vessels reported mitigation measures used to deter marine mammals during hauling. These included:
  - **Steaming away:** Most vessels reported that moving away and resuming hauling later was the only effective measure.
  - **Strobe lights:** Vessel 20 tried to use strobe lights as a deterrent but they had no effect.

- **Metal rods:** The observer on the Vessel 20 observed the crew throwing 2-3 metre spear-like metal rods at the direction of orca. This was not effective and the observer deemed this practice dangerous to marine mammals; this practice was not continued.
- **Acoustic Scare Devices:** Vessels 10, 12 & 5 all used acoustic scare devices to deter seals and whales. This method wasn't effective on Vessels 10 & 5. However, the observer on Vessel 12 reported that the Lofitech seal-scarer appeared to disperse the pilot and minke whales that were near the vessel.
- **Pingers:** Vessel 5 also attached small devices called "pingers" at intervals along the longline, but they had no effect.

9. While several observers reported seeing banded seabirds, only one observer on board Vessel 4 in Subarea 48.3 was able to record a band number (southern giant petrel number 1405572, released unharmed). This bird had been banded on Bird Island in 2006 as a fledgling.

10. Adherence with the 'night setting' requirement of Conservation Measure 25-02 (2005) remained high this season, with 100% night setting observed in Subareas 48.3, 48.4 and 58.6 and 58.7 (Table 2). A detailed list of observer reported information relating to compliance with Conservation Measure 25-02 (2005) is reported in WG-FSA07/8.

#### Research Sets

11. Vessel 9 conducted selectivity trials setting 8 pots during the course of fishing in Subarea 48.3, targeting Antarctic king crabs (*Paralomis formosa*). All crabs were discarded, no by-catch was reported and no incidental mortality of seabirds or marine mammals were observed. Biological samples (length, weight and sex) were recorded for 35 *P. formosa*.

#### Observer Logbooks and Cruise Reports

12. The quality of the observer logbook data submitted this year was good, with 34 (87%) logbooks submitted using the applicable format. There was many discrepancies between the observer logbook data and the information written in their cruise reports this year (e.g. observer recording offal dumping in the logbook but then writing that no offal dumping occurred in the cruise report). Technical Coordinators

should ensure that the information contained in both the logbook and cruise report are accurate and that discrepancies do not occur.

13. The updated versions of the observer logbook forms and cruise report format were placed on the CCAMLR website and distributed to all Members and Technical Coordinators in January 2007. All observer logbooks were submitted *via* the electronic versions.

Table 1: Summary of observations on longline fisheries conducted in the 2006/07 season by designated CCAMLR scientific observers.

Flag State	Vessel	Fishing Method	Subarea/ Fishery	Period of Observation	Report / Date Submitted	Data Reported
A	1	LLS Spanish	48.3 <i>D. eleginoides</i>	1/6 – 27/8/07	Scientific Observer Logbook 31/8/07 Cruise Report 14/9/07	Cruise, vessel, and IMAF details
K	2	LLS Auto	48.3 <i>D. eleginoides</i>	25/4 – 31/8/07	Scientific Observer Logbook 4/10/07 Cruise Report overdue 4/10/07	Cruise, vessel, and IMAF details
D	20	LLS Spanish	48.3 <i>D. eleginoides</i>	27/4 – 13/7/07	Scientific Observer Logbook 6/8/07 Cruise Report 6/8/07	Cruise, vessel, and IMAF details
F	4	LLS Auto	48.3 <i>D. eleginoides</i>	1/5 – 26/8/07	Scientific Observer Logbook 30/8/07 Cruise Report 14/9/07	Cruise, vessel, and IMAF details
I	5	LLS Spanish	48.3 <i>D. eleginoides</i>	23/4 – 27/8/07	Scientific Observer Logbook 4/9/07 Cruise Report 14/9/07	Cruise, vessel, and IMAF details
L	6	LLS Auto	48.3 <i>D. eleginoides</i>	1/5 – 23/7/07	Scientific Observer Logbook 24/8/07 Cruise Report 3/9/07	Cruise, vessel, and IMAF details
K	7	LLS Auto	48.3 <i>D. eleginoides</i>	1/5 – 29/8/07	Scientific Observer Logbook 9/9/07 Cruise Report 18/9/07	Cruise, vessel, and IMAF details
K	8	LLS Spanish	48.3 <i>D. eleginoides</i>	19/4 – 17/8/07	Scientific Observer Logbook 9/9/07 Cruise Report 17/9/07	Cruise, vessel, and IMAF details
K	9	LLS Auto	48.3 <i>D. eleginoides</i>	25/4 – 30/8/07	Scientific Observer Logbook 4/10/07 Cruise Report overdue 4/10/07	Cruise, vessel, and IMAF details
H	10	LLS Spanish	48.3 <i>D. eleginoides</i>	14/4 – 20/8/07	Scientific Observer Logbook 24/8/07 Cruise Report 14/9/07	Cruise, vessel, and IMAF details
F	4	LLS Auto	48.4 <i>D. eleginoides</i>	7/4 – 26/8/07	Scientific Observer Logbook 24/8/07 Cruise Report 14/9/07	Cruise, vessel, and IMAF details
G	11	LLS Auto	48.6 <i>Dissostichus</i> spp	10/3 – 16/4/07	Scientific Observer Logbook 26/4/07 Cruise Report 2/8/07	Cruise, vessel, and IMAF details
C	12	LLS Auto	48.6 <i>Dissostichus</i> spp	23/3 – 5/7/07	Scientific Observer Logbook 30/8/07 Cruise Report 14/9/07	Cruise, vessel, and IMAF details
D	13	LLS Spanish	48.6 <i>Dissostichus</i> spp	at sea		
D	13	LLS Spanish	58.4.2, 48.6 <i>Dissostichus</i> spp	14/2 – 1/4/07	Scientific Observer Logbook 26/4/07 Cruise Report 26/4/07	Cruise, vessel, and IMAF details
I	14	LLS Spanish	58.4.1, 58.4.3a/b <i>Dissostichus</i> spp	14/11 – 4/4/07	Scientific Observer Logbook 21/6/07 Cruise Report 20/6/07	Cruise, vessel, and IMAF details
E	15	LLS Spanish	58.4.1, 58.4.2, 58.4.3b <i>Dissostichus</i> spp	13/12 – 7/5/07	Scientific Observer Logbook 7/6/07 Cruise Report 7/6/07	Cruise, vessel, and IMAF details

Table 1 (continued)

Flag State	Vessel	Fishing Method	Subarea/ Fishery	Period of Observation	Report / Date Submitted	Data Reported
C	12	LLS Auto	58.4.3a, 58.4.3b <i>Dissostichus</i> spp	16/12 – 18/3/07	Scientific Observer Logbook 19/4/07 Cruise Report 2/8/07	Cruise, vessel, and IMAF details
L	16	LLS Spanish	58.4.1, 58.4.3b <i>Dissostichus</i> spp	15/11 – 9/4/07	Scientific Observer Logbook 24/7/07 Cruise Report 9/7/07	Cruise, vessel, and IMAF details
D	17	LLS Spanish	58.4.1, 58.4.2 <i>Dissostichus</i> spp	5/12 – 19/3/07	Scientific Observer Logbook 25/6/07 Cruise Report 25/6/07	Cruise, vessel, and IMAF details
*B	18	LLS Auto	58.5.2 <i>D. eleginoides</i>	12/4 – 1/7/07	Scientific Observer Logbook 6/9/07 Cruise Report 6/9/07	Cruise, vessel, and IMAF details
*B	18	LLS Auto	58.5.2 <i>D. eleginoides</i>	5/7 – 15/9/07	Scientific Observer Logbook 24/9/07 Cruise Report 24/9/07	Cruise, vessel, and IMAF details
H	10	LLS Spanish	58.6, 58.7, 51 <i>D. eleginoides</i>	27/1 – 5/4/07	Scientific Observer Logbook 22/8/07 Cruise Report 2/8/07	Cruise, vessel, and IMAF details
*H	19	LLS Auto	58.6, 51 <i>D. eleginoides</i>	19/4 – 14/6/07	Scientific Observer Logbook 30/8/07 Cruise Report 20/9/07	Cruise, vessel, and IMAF details
*H	19	LLS Auto	58.6, 58.7, 51 <i>D. eleginoides</i>	25/7 – 30/8/07	Scientific Observer Logbook 19/9/07 Cruise Report 20/9/07	Cruise, vessel, and IMAF details
D	13	LLS Spanish	88.1 <i>Dissostichus</i> spp	1/12 – 9/2/07	Scientific Observer Logbook 26/4/07 Cruise Report 26/4/07	Cruise, vessel, and IMAF details
D	20	LLS Spanish	88.1 <i>Dissostichus</i> spp	4/12 – 13/2/07	Scientific Observer Logbook 25/6/07 Cruise Report 25/6/07	Cruise, vessel, and IMAF details
F	21	LLS Auto	88.1 <i>Dissostichus</i> spp	1/12 – 15/2/07	Scientific Observer Logbook 21/3/07 Cruise Report 20/6/07	Cruise, vessel, and IMAF details
F	22	LLS Auto	88.1 <i>Dissostichus</i> spp	22/11 – 12/2/07	Scientific Observer Logbook 21/3/07 Cruise Report 2/6/07	Cruise, vessel, and IMAF details
F	18	LLS Auto	88.1 <i>Dissostichus</i> spp	21/11 – 16/2/07	Scientific Observer Logbook 13/3/07 Cruise Report 24/5/07	Cruise, vessel, and IMAF details
F	4	LLS Auto	88.1 <i>Dissostichus</i> spp	1/12 – 2/2/07	Scientific Observer Logbook 13/3/07 Cruise Report 20/6/07	Cruise, vessel, and IMAF details
L	23	LLS Auto	88.1 <i>Dissostichus</i> spp	3/1 – 3/2/07	Scientific Observer Logbook 24/5/07 Cruise Report 24/5/07	Cruise, vessel, and IMAF details
H	19	LLS Auto	88.1 <i>Dissostichus</i> spp	23/12 – 9/2/07	Scientific Observer Logbook 21/3/07 Cruise Report 6/5/07	Cruise, vessel, and IMAF details
L	24	LLS Auto	88.1, 88.2 <i>Dissostichus</i> spp	4/1 – 15/2/07	Scientific Observer Logbook 2/6/07 Cruise Report 2/6/07	Cruise, vessel, and IMAF details
M	25	LLS Auto	88.1, 88.2 <i>Dissostichus</i> spp	23/11 – 19/2/07	Scientific Observer Logbook 24/5/07 Cruise Report 24/5/07	Cruise, vessel, and IMAF details
K	9	LLS Auto	88.1, 88.2 <i>Dissostichus</i> spp	22/12 – 22/2/07	Scientific Observer Logbook 2/4/07 Cruise Report 2/4/07	Cruise, vessel, and IMAF details

Table 1 (continued)

Flag State	Vessel	Fishing Method	Subarea/ Fishery	Period of Observation	Report / Date Submitted	Data Reported
G	11	LLS Auto	88.1, 88.2 <i>Dissostichus</i> spp	15/11 – 28/2/07	Scientific Observer Logbook 23/3/07 Cruise Report 20/6/07	Cruise, vessel, and IMAF details
J	26	LLS Spanish	88.1, 88.2 <i>Dissostichus</i> spp	17/11 – 21/3/07	Scientific Observer Logbook 2/5/07 Cruise Report 2/5/07	Cruise, vessel, and IMAF details
J	27	LLS Spanish	88.1, 88.2 <i>Dissostichus</i> spp	17/11 – 24/3/07	Scientific Observer Logbook 26/4/07 Cruise Report 26/4/07	Cruise, vessel, and IMAF details
K	2	LLS Auto	88.1, 88.2 <i>Dissostichus</i> spp	23/11 – 26/2/07	Scientific Observer Logbook 2/4/07 Cruise Report 2/4/07	Cruise, vessel, and IMAF details

\* National observers, deployed within national EEZs

Table 2: Observed incidental mortality of seabirds in the longline fisheries for *Dissostichus* spp in Subareas 48.3, 48.4, 58.6, 58.7, 88.1, 88.2 and Divisions 58.4.1, 58.4.2, 58.4.3 and 58.5.2 during the 2006/07 season, including related mitigation information. Sp: Spanish method; Auto: autoliner; N: night-time setting; D: daytime setting (including nautical dawn and dusk); O: opposite side to hauling; S: same side as hauling; \* : information obtained from cruise report.

Vessel	Dates of fishing	Method	Sets deployed				No. of hooks			No. of birds						Observed seabird mortality (includes injured birds) <sup>1</sup>			Streamer line		Offal discharge	
			N	D	Total	%N	Obs.	Set	% Observed	observed caught <sup>1</sup>						N	D	Total	in use %		Set (%)	Haul (%)
										Dead		Injured		Uninjured					N	D		
<b>Subarea 48.3</b>																						
1	12/6 – 23/8/07	Spanish	205	0	97	100	278.5	1153.6	24	0	0	0	0	0	5	0	0	0	100	(0)	O (100)	
7	9/5 – 24/8/07	Auto	292	0	292	100	385.3	1740.6	22	0	0	0	0	0	0	0	0	0	100	(0)	O (0)	
9	1/5 – 24/8/07	Auto	297	0	297	100	270.9	1848.7	14	0	0	0	0	0	0	0	0	0	100	(0)	O (0)	
2	1/5 – 24/8/07	Auto	350	0	350	100	772.9	1826.1	42	0	0	0	0	0	0	0	0	0	100	(0)	O (1)	
20	13/5 – 6/7/07	Spanish	106	0	106	100	252.9	1129.5	22	0	0	0	0	0	0	0	0	0	100	(4)	O (48)	
8	1/5 – 4/8/07	Spanish	247	0	247	100	327.2	1594.8	20	0	0	0	0	0	0	0	0	0	100	(0)	O (100)	
10	3/5 – 15/8/07	Spanish	155	0	155	100	399.3	1728.8	23	0	0	0	0	0	0	0	0	0	100	(0)	O (100)	
6	1/5 – 17/7/07	Auto	133	0	133	100	256.5	899.0	28	0	0	0	0	0	0	0	0	0	100	(0)	O (1)	
4	1/5 – 20/8/07	Auto	210	0	210	100	733.8	1755.4	41	0	0	0	0	1	0	0	0	0	100	(0)	O (100)	
5	1/5 – 24/8/07	Spanish	223	0	223	100	334.4	1424.9	23	0	0	0	0	4	0	0	0	0	100	(0)	O (94)	
Total						100	4011.7	15101.4	27							0	0	0				
<b>Subarea 48.4</b>																						
4	7/4 – 15/4/06	Auto	58	0	58	100	160.2	388.0	41	0	0	0	0	0	0	0	0	0	100	(0)	O (100)	
Total						100	160.2	388.0	41							0	0	0				
<b>Subarea 48.6</b>																						
11	21/3 – 2/4/07	Auto	6	13	19	32	33.7	78.2	43	0	0	0	0	0	0	0	0	0	100	100	(0)	O (0)
3	29/3 – 29/6/07	Auto	116	96	212	55	484.6	963.8	50	0	0	0	0	0	0	0	0	0	100	100	(0)	O (0)
Total						44	518.3	1042.0	50							0	0	0				
<b>Divisions 58.4.1, 58.4.2, 58.4.3a, 58.4.3b</b>																						
14	1/12 – 22/3/07	Spanish	0	201	201	0	1098.7	2192.7	50	0	0	0	0	0	0	0	0	0	100	100	(0)	O (3.5)*
15	1/1 – 28/3/07	Spanish	14	115	129	11	1413.0	1413.0	100	0	0	0	0	0	0	0	0	0	100	100	(0)	O (0)
16	1/12 – 22/3/07	Spanish	14	150	164	9	1146.9	1898.9	60	0	0	0	0	0	0	0	0	0	100	100	(0)	O (0)
17	18/12 – 7/3/07	Spanish	11	137	148	7	1040.8	1194.4	87	0	0	0	0	0	0	0	0	0	100	100	(0)	O (0)
12	31/12 – 4/3/07	Auto	32	132	164	20	216.5	742.1	29	0	0	0	0	0	0	0	0	0	100	100	(0)	O (0)
13	28/2 – 29/3/07	Spanish	5	46	51	10	310.0	336.8	0	0	0	0	0	0	0	0	0	0	100	100	(0)	O (0)
Total						10	5225.9	7777.9	67							0						
<b>Division 58.5.2</b>																						
18	27/4 – 18/6/07	Auto			143		313.6	796.1	39	0	0	0	0	0	0	0	0	0	100*	100*	(0)	(0)
18	15/7 – 3/9/07	Auto	69	59	128	54	317.4	892.5	35	0	0	0	0	0	0	0	0	0	100	100	(0)	(0)
Total						54	631.0	1688.6	37							0	0	0				
<b>Subareas 58.6, 58.7, 51</b>																						
10	10/2 – 30/3/07	Spanish	75	0	75	100	134.6	738.3	18	0	0	0	0	2	0	0	0	0	100		(0)	O (100)
19	25/7 – 24/8/07	Auto	114	0	114	100	82.5	598.5	13	0	0	0	0	0	0	0	0	0	100		(0)	O (98)
19	24/4 – 12/6/07	Auto	236	1	237	99	144.1	855.9	16	0	0	0	0	0	0	0	0	0	100	100	(0)	O (0)
Total						100	361.2	2192.7	17							0	0	0				
<b>Subarea 88.1, 88.2</b>																						
21	4/12 – 6/2/07	Auto	0	101	101	0	252.8	561.8	44	0	0	0	0	0	0	0	0	0	100	(0)	(0)	
20	8/12 – 1/2/07	Spanish	0	109	109	0	947.5	983.3	96	0	0	0	0	0	0	0	0	0	100	(0)	(0)	
18	4/12 – 5/2/07	Auto	7	102	109	6	284.4	569.6	49	0	0	0	0	0	0	0	0	0	100	(0)	(0)	
13	11/12 – 1/2/07	Spanish	0	87	87	0	580.0	607.0	96	0	0	0	0	0	0	0	0	0	100	(0)	(0)	
19	31/12 – 1/2/07	Auto	0	90	90	0	159.7	344.7	46	0	0	0	0	0	0	0	0	0	100	(0)	(1)	
23	3/1 – 2/2/07	Auto	0	61	61	0	118.3	345.6	34	0	0	0	0	0	0	0	0	0	100	(0)	(0)	

22	1/12 – 6/2/07	Auto	0	128	128	0	204.2	561.4	36	0	0	0	0	0	0	0	0	0	100	(0)	(0)
4	1/12 – 1/2/07	Auto	0	82	82	0	275.8	574.2	48	0	0	0	0	0	0	0	0	0	100	(0)	(0)

Table 2 (continued)

Vessel	Dates of fishing	Method	Sets deployed				No. of hooks (thousands)			No. of birds observed Caught <sup>1</sup>						Observed seabird mortality (includes injured birds) <sup>1</sup> (birds / 1000 hooks)			Streamer line in use %		Offal discharge during	
			N	D	Total	%N	Obs.	Set	% Observed	Dead		Injured		Uninjured		N	D	Total	N	D	Set (%)	Haul (%)
										N	D	N	D	N	D							
<b>Subarea 88.1, 88.2</b>																						
25	2/12 – 11/2/07	Auto	0	148	148	0	433.7	728.2	59	0	0	0	0	0	0	0	0	0	100	(0)	(0)	
9	1/12 – 8/2/07	Auto	58	78	136	43	291.7	535.8	54	0	0	0	0	0	0	0	0	0	100	100	(0)	(0)
2	2/12 – 14/2/07	Auto	15	167	182	8	342.5	657.9	52	0	0	0	0	0	0	0	0	0	100	100	(0)	(0)
11	1/12 – 15/2/07	Auto	0	219	219	0	398.5	875.7	45	0	0	0	0	0	0	0	0	0	100	100	(0)	(0)
24	4/1 – 14/2/07	Auto	0	62	62	0	229.6	372.6	61	0	0	0	0	0	0	0	0	0	100	(0)	(0)	
26	29/12 – 2/3/07	Spanish			83	0	213.1	641.7	33	0	0	0	0	0	0	0	0	0	100*	(0)	(0)	
27	29/12 – 1/3/07	Spanish	0	77	77	0	168.5	851.5	19	0	0	0	0	0	0	0	0	0	100	(0)	(0)	
<b>Total</b>						4	4900.3	9211.0	53						0	0	0					

<sup>1</sup> Bird 'caught' as defined by the Commission at CCAMLR XXIII, paragraphs 10.30 and 10.31.

<sup>2</sup> Vessel 13 also conducted a small amount of fishing in Subarea 48.6 during this cruise.

Table 3: Total extrapolated incidental mortality of seabirds and observed mortality rates (birds/thousand hooks) in longline fisheries in Subareas 48.3, 58.6, 58.7, 88.1, 88.2, Divisions 58.4.1, 58.4.2, 58.4.3a and 58.4.3b from 1997 to 2007 (- indicates no fishing occurred).

Subarea	Year										
	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Subarea 48.3											
Extrapolated mortality	5 755	640	210*	21	30	27	8	27	13	0	0
Observed mortality rate	0.23	0.032	0.013*	0.002	0.002	0.0015	0.0003	0.0015	0.0011	0	0
Subarea 48.4											
Extrapolated mortality	-	-	-	-	-	-	-	-	0	0	0
Observed mortality rate	-	-	-	-	-	-	-	-	0	0	0
Subarea 48.6											
Extrapolated mortality	-	-	-	-	-	-	-	0	0	0	0
Observed mortality rate	-	-	-	-	-	-	-	0	0	0	0
Subareas 58.6, 58.7											
Extrapolated mortality	834	528	156	516	199	0	7	39	76	0	0
Observed mortality rate	0.52	0.194	0.034	0.046	0.018	0	0.003	0.025	0.149	0	0
Subareas 88.1, 88.2											
Extrapolated mortality	-	0	0	0	0	0	0	1	0	0	0
Observed mortality rate	-	0	0	0	0	0	0	0.0001	0	0	0
Divisions 58.4.1, 58.4.2, 58.4.3a, 58.4.3b											
Extrapolated mortality	-	-	-	-	-	-	-	0	8	2	0
Observed mortality rate	-	-	-	-	-	-	-	0	<0.001	0.0002	0
Division 58.5.2											
Extrapolated mortality	-	-	-	-	-	-	0	0	0	0	0
Observed mortality rate	-	-	-	-	-	-	0	0	0	0	0
Total seabird mortality	6589	1168	366	537	229	27	15	67	97	2	0

\* Excluding Vessel 2 line-weighting experiment cruise.

## APPENDIX II

### SUMMARY OF OBSERVATIONS ABOARD TRAWLERS OPERATING IN THE CONVENTION AREA DURING THE 2006/07 SEASON.

#### Introduction

During the 2006/07 fishing season, 6 vessels conducted 9 cruises targeting finfish within the CCAMLR Convention Area. As required by the Conservation Measures in force, all trawlers fishing for finfish carried scientific observers (Table 1). In total, 4 national and 4 internationally designated scientific observers participated in these operations. In addition, 6 scientific observation programs were conducted by 5 internationally designated scientific observers on board krill vessels operating in the Convention Area (Table 1).

#### Area 48: Krill

2. All of the krill trawl operations observed were in Area 48, with 2 cruises conducted in Subarea 48.1 and 48.2 and 4 cruises conducted in Subarea 48.3. A total of 1236 trawls were conducted, with 612 trawls (49%) observed (Table 2).

3. No incidences of seabird and marine mammal mortalities or injuries caused by entanglements in fishing gear were observed (Table 3).

4. Observers on board Vessels 30, 31 & 34 reported the successful use of various seal excluding devices. Observers on Vessels 30 & 34 reported the use of a mesh barrier fitted to the mouth of the net preventing seals from entering the net. Vessel 30 also used a standard seal exclusion device with escape holes cut into the net. All cruises, except for the cruises of the Vessel 30, routinely conducted net cleaning before shooting.

5. The main processing methods for krill were whole, boiled, peeled and meal.

#### Subarea 48.3: Finfish

6. Five cruises were conducted in Subarea 48.3 by 5 vessels with three different flags (Table 1). All of the fishing operations in Subarea 48.3 targeted *Chamsocephalus gunnari*. A total of 111 trawls were conducted with 91 (82%)

observed (Table 2). All observations were carried out by international scientific observers.

7. Observers reported a total of 9 incidences of seabird interactions with fishing vessels, of these 6 were dead or injured and 3 were released alive (Table 3). The calculated total seabird mortality rate for Subarea 48.3 was 0.07 birds per trawl (Table 6). This represents a dramatic decrease from the previous season where 122 interactions were observed (Table 5). Fifty percent of the bird mortalities consisted of white-chinned petrels (*Procellaria aequinoctialis*), followed by Southern black browed albatross (*Diomedea melanophrys*) (33%) and grey-headed albatross (17%).

8. No incidences of marine mammal entanglements were observed.

9. All observers reported the use of mitigation measures used by vessels in attempts to reduce the number of bird mortalities. These included:

- **Net cleaning:** All observers reported that the net was routinely cleaned before every shot which was effective in preventing entanglements.
- **Streamer lines:** Only Vessel 32 used a streamer line on all occasions. The observer on board Vessel 38 reported that no streamer line was used, as experience showed that they were ineffective, and Vessel 29 only used a streamer line for a single haul.
- **Brady bafflers:** 3 vessels reported the use of these devices, noting they had little to no effect in keeping birds away.
- **Water jets:** Vessel 38 used 2 fire hoses to deter birds from the codend, but they were less effective in strong winds.
- **Net binding:** The use of net bindings was reported on all vessels for all sets. Net bindings were usually spaced 5 metres apart, except for the Vessel 32 which used spacing approximately every 2 metres. The mesh sizes which were bound ranged from 6 metres to 0.15m

10. One banded black-browed albatross was observed resting outside the bridge of Vessel 29 (beige coloured band, number 652, on the left leg).

Division 58.5.2: Finfish

11. Vessel 39 flagged to country B, conducted 4 cruises in Division 58.5.2 targeting *D. eleginoides* and *C. gunnari*, with one of these cruises still at sea (Table 1). A total of 922 trawls were undertaken for *D. eleginoides* of which 905 (98%) were observed, and 198 trawls targeted *C. gunnari* of which 100% were observed (Table 2).

12. Two cape petrel mortalities were observed; one had its head caught in the mesh of the codend and the other was found in the codend (Table 3). This resulted in a total seabird mortality rate less than 0.01 birds per trawl for Division 58.5.2 (Table 4).

13. No incidences of marine mammal mortalities or entanglements were observed.

14. All observers reported the use of mitigation measures used by vessels in attempts to reduce the number of bird mortalities. These included:

- **Seal excluder devices:** a seal excluder device (bottom opening) was used, although no details were provided.
- **Deck lighting:** deck lighting was kept to a minimum and all non-essential lights were turned off during adverse weather
- **Net cleaning:** observers reported that the net was cleaned before shooting.

Data

15. Incidental mortality data collected by the observers for various seasons are summarised in Tables 5-7.

19. The quality of the observer logbook data remains high, with all of the logbooks submitted using the electronic logbook forms. The updated versions of the observer logbook forms and cruise report format were placed on the CCAMLR Website and distributed to all Members and Technical Coordinators in January 2007 (COMM CIRC 07/07). Eight out of the 13 logbooks received were in the current 2007 format.

Table 1: Summary of observations on trawl fisheries conducted in the 2006/07 season by designated CCAMLR scientific observers.

Flag State	Vessel	Subarea/ Fishery	Period of Observation	Report / Date Submitted	Data Reported
G	30	48.1, 48.2 <i>E. superba</i>	10/12 – 6/3/07	Scientific Observer Logbook 20/6/07 Cruise Report 20/6/07	Cruise, vessel, and IMAF details
G	30	48.1, 48.2 <i>E. superba</i>	10/3 – 5/7/07	Scientific Observer Logbook 6/9/07 Cruise Report 5/9/07	Cruise, vessel, and IMAF details
A	40	48.3 <i>C. gunnari</i>	at sea		
K	41	48.3 <i>C. gunnari</i>	4/1 – 5/2/07	Scientific Observer Logbook 4/10/07 Cruise Report 4/10/07	Cruise, vessel, and IMAF details
K	32	48.3 <i>C. gunnari</i>	31/12 – 25/1/07	Scientific Observer Logbook 2/3/07 Cruise Report 2/4/07	Cruise, vessel, and IMAF details
D	29	48.3 <i>C. gunnari</i>	26/12 – 31/1/07	Scientific Observer Logbook 2/3/07 Cruise Report 14/9/07	Cruise, vessel, and IMAF details
D	36	48.3 <i>C. gunnari</i>	1/1 – 20/1/07	Scientific Observer Logbook 2/3/07 Cruise Report 14/9/07	Cruise, vessel, and IMAF details
*B	39	58.5.2 <i>D. eleginoides</i> <i>C. gunnari</i>	4/6 – 15/8/07	Scientific Observer Logbook 15/9/07 Cruise Report 15/9/07	Cruise, vessel, and IMAF details
*B	39	58.5.2 <i>D. eleginoides</i> <i>C. gunnari</i>	4/2 – 4/3/07	Scientific Observer Logbook 12/9/07 Cruise Report 12/9/07	Cruise, vessel, and IMAF details
*B	39	58.5.2 <i>D. eleginoides</i>	21/4 – 21/5/07	Scientific Observer Logbook 6/8/07 Cruise Report 6/8/07	Cruise, vessel, and IMAF details
*B	39	58.5.2 <i>D. eleginoides</i> <i>C. gunnari</i>	at sea		
C	34	48.3 <i>E. superba</i>	10/7 – 26/7/07	Scientific Observer Logbook 30/8/07 Cruise Report 4/9/07	Cruise, vessel, and IMAF details
G	30	48.3 <i>E. superba</i>	14/7 – 13/8/07	Scientific Observer Logbook 10/9/07 Cruise Report 14/9/07	Cruise, vessel, and IMAF details
G	30	48.3 <i>E. superba</i>	14/8 – 10/9/07	Scientific Observer Logbook 4/10/07 Cruise Report 4/10/07	Cruise, vessel, and IMAF details
N	31	48.3 <i>E. superba</i>	12/8 – 1/9/07	Scientific Observer Logbook 26/9/07 Cruise Report 4/10/07	Cruise, vessel, and IMAF details

\* National observer.

Table 2: Scientific observations conducted on board trawl vessels within the Convention Area for the 2006/07 season. TOP: *Dissostichus eleginoides*; ANI: *Champscephalus gunnari*; KRI: *Euphausia superba*.

Vessel	Flag	Dates of Fishing	ASD Code	Target Species	Number of trawls	
					Total	Observed (%)
29	D	21/1 – 24/1/07	48.3	ANI	21	20 (95)
35	K	8/1 – 31/1/07	48.3	ANI	31	28 (90)
32	K	5/1 – 18/1/07	48.3	ANI	38	36 (95)
36	D	9/1 – 14/1/07	48.3	ANI	12	7 (58)
*39	B	20/4 – 19/5/07	58.5.2	TOP	233	231 (99)
*39	B	2/2 – 4/3/07	58.5.2	ANI	1	1 (100)
				TOP	224	212 (95)
*39	B	12/6 – 7/8/07	58.5.2	ANI	82	82 (100)
				TOP	465	462 (99)
30	G	10/12 – 6/3/07	48.1	KRI	6	5 (83)
			48.2	KRI	125	62 (50)
30	G	18/7 – 13/8/07	48.3	KRI	276	57 (20)
30	G	12/3 – 21/6/07	48.1	KRI	37	32 (86)
			48.2	KRI	488	319 (65)
30	G	16/8 – 28/8/07	48.3	KRI	19	12 (63)
34	C	12/3 – 21/6/07	48.3	KRI	157	48 (31)
31	N	12/8 – 31/8/07	48.3	KRI	128	77 (60)

\*: National observer.

Table 3: Observed incidences of seabird and marine mammal entanglements with trawl gear for the 2006/07 season. DIC: *Diomedea chrysostoma*; DIM: *Diomedea melanophrys*; PRO: *Procellaria aequinoctialis*; DAC: *Daption capense*; \*: data from cruise report.

Vessel	Dates of Fishing	ASD Code	Species	Total observed	
				Mortality (dead or injured)	Released alive (uninjured)
29	21/1 – 24/1/07	48.3	DIC	1	
			DIM		1
			PRO	3	1
35	8/1 – 31/1/07	48.3	DIM		1
32	5/1 – 18/1/07	48.3			
36	9/1 – 14/1/07	48.3	DIM	2	
39	20/4 – 19/5/07	58.5.2			
39	2/2 – 4/3/07	58.5.2			
39	12/6 – 7/8/07	58.5.2	DAC	2	
30	10/12 – 6/3/07	48.1,48.2			
30	18/7 – 13/8/07	48.3			
30	12/3 – 21/6/07	48.1,48.2			
30	16/8 – 28/8/07	48.3			
34	12/3 – 21/6/07	48.3			
31	12/8 – 31/8/07	48.3			



Table 4: Seabird mortality totals and rates (BPT: birds/trawl) and species composition, recorded by observers in the CCAMLR Convention Area trawl fishery during the 2006/07 season. DIC – grey-headed albatross; DIM – black-browed albatross; PRO – white-chinned petrel; DAC – cape petrel.

Season	Area	Vessel (Target species)	Cruise dates	Trawls		BPT	Dead				Total dead	Alive (combined)
				Set	Observed		DIC	DIM	PRO	DAC		
2007	48.1,48.2	30 (KRI)	10/12 – 6/3/07	131	67	0.00					0	0
		30 (KRI)	12/3 – 21/6/07	525	351	0.00					0	2
		<b>Total</b>		656	418	0.00					0	2
48.3		29 (ANI)	21/1 – 24/1/07	21	20	0.20	1		3		4	2
		35 (ANI)	8/1 – 31/1/07	31	28	0.00					0	1
		32 (ANI)	5/1 – 18/1/07	38	36	0.00					0	0
		36 (ANI)	9/1 – 14/1/07	12	7	0.29		2			2	0
		<b>Total</b>		102	91	0.07	1	2	3		6	3
48.3		30 (KRI)	18/7 – 13/8/07	276	57	0.00					0	0
		30 (KRI)	16/8 – 28/8/07	19	12	0.00					0	0
		34 (KRI)	12/3 – 21/6/07	157	48	0.00					0	0
		31 (KRI)	12/8 – 31/8/07	128	77	0.00					0	0
		<b>Total</b>		580	194	0.00					0	0
58.5.2		29 (ANI/TOP)	20/4 – 19/5/07	233	231	0.00					0	0
		29 (ANI/TOP)	2/2 – 4/3/07	225	213	0.00					0	0
		29 (ANI/TOP)	12/6 – 7/8/07	547	492	<0.01				2	2	0
		<b>Total</b>		1005	936	<0.01			2	2	0	

Table 5: Seabird mortality totals and rates (BPT: birds/trawl) and species composition of by-catch, recorded by observers in the CCAMLR Convention Area trawl fisheries over the last six seasons. DIC – grey-headed albatross; DIM – black-browed albatross; PRO – white-chinned petrel; PWD – Antarctic prion; PTZ – unknown petrel; DAC – cape petrel; MAI – southern giant petrel; MAH – northern giant petrel.

Season	Area	Target Species	Trips Observed	Trawls			BPT	Dead							Total dead	Alive	
				Set	observed	(%)		DIC	DIM	PRO	MAH	PWD	PTZ	DAC			MAI
2002	48.3	<i>E. superba</i>	5	992	755	76	<0.10									0	0
	48.3	<i>C. gunnari</i>	5	460	431	94	0.16		18	49		1				68	52
	58.5.2	<i>D. eleginoides</i> <i>C. gunnari</i>	6	904	850	94	<0.10									0	1
2003	48.3	<i>E. superba</i>	6	1928	1073	56										0	0
	48.3	<i>C. gunnari</i>	3	184	182	99	0.20	1	7	28						36	15
	58.5.2	<i>D. eleginoides</i> <i>C. gunnari</i>	8	1311	1309	100	<0.105		2	2				2		6	11
2004	48	<i>E. superba</i>	1	334	258	77	<0.10									0	0
	48.3	<i>E. superba</i>	6	1145	829	72	<0.10									0	0
	48.3	<i>C. gunnari</i>	6	247	238	96	0.37	1	26	59					1	87	132
	58.5.2	<i>D. eleginoides</i> <i>C. gunnari</i>	5	1218	1215	100	<0.10									0	13
2005	48.2	<i>E. superba</i>	2	391	285	73	<0.10								1	1	0
	48.3	<i>C. gunnari</i>	7	337	277	82	<0.14		9	1	1					11	14
	48.3	<i>E. superba</i>	5	1451	842	58	<0.10									0	0
	58.5.2	<i>D. eleginoides</i> <i>C. gunnari</i>	6	1303	1301	100	<0.11		5	3						8	0
2006	48.1	<i>E. superba</i>	2	1127	839	74	0.00									0	0
	48.3	<i>C. gunnari</i>	5	585	457	78	0.07	1	11	20				1		33	89
	48.3	<i>E. superba</i>	2	395	181	46	0.00									0	0
	58.5.2	<i>D. eleginoides</i> <i>C. gunnari</i>	3	1086	1086	100	0.00									0	0
2007	48.1/2	<i>E. superba</i>	2	656	418	64	0.00									0	2
	48.3	<i>C. gunnari</i>	4	102	91	89	0.07	1	2	3						6	3
	48.3	<i>E. superba</i>	4	580	194	33	0.00									0	0
	58.5.2	<i>D. eleginoides</i> <i>C. gunnari</i>	3	1005	936	93	<0.01								2	2	0

Table 6: Seal mortality totals and rates (SPT: seals/trawl) and species composition, recorded by observers in the CCAMLR Convention Area trawl fishery during the 2005/06 season. SLP – Leopard seal; SES – Southern elephant seal.

Season	Area	Vessel (Target species)	Cruise dates	Trawls		SPT	Dead		Total dead	Alive (combined)
				Set	Observed		SLP	SEA		
2007	48.1,4 8.2	30 (KRI)	10/12 – 6/3/07	131	67	0.00			0	0
		30 (KRI)	12/3 – 21/6/07	525	351	0.00			0	0
		<b>Total</b>		656	418	0.00			0	0
	48.3	29 (ANI)	21/1 – 24/1/07	21	20	0.00			0	0
		35 (ANI)	8/1 – 31/1/07	31	28	0.00			0	0
		32 (ANI)	5/1 – 18/1/07	38	36	0.00			0	0
		36 (ANI)	9/1 – 14/1/07	12	7	0.00			0	0
		<b>Total</b>		102	91	0.00			0	0
	48.3	30 (KRI)	18/7 – 13/8/07	276	57	0.00			0	0
		30 (KRI)	16/8 – 28/8/07	19	12	0.00			0	0
		34 (KRI)	12/3 – 21/6/07	157	48	0.00			0	0
		31 (KRI)	12/8 – 31/8/07	128	77	0.00			0	0
		<b>Total</b>		580	194	0.00			0	0
	58.5.2	30 (ANI/TOP)	20/4 – 19/5/07	233	231	0.00			0	0
		30 (ANI/TOP)	2/2 – 4/3/07	225	213	0.00			0	0
30 (ANI/TOP)		12/6 – 7/8/07	547	492	0.00			0	0	
<b>Total</b>			1005	936	0.00			0	0	

Table 7: Seal mortality totals and rates (SPT: seals/trawl) and species composition of by-catch, recorded by observers in the CCAMLR Convention Area trawl fisheries over the last seven seasons. SLP – Leopard seal; SEA – Antarctic fur seal; SES – Southern elephant seal.

Season	Area	Target Species	Trips Observed	Trawls		SPT	Dead			Total dead	Alive (combined)
				Set	Observed		SLP	SEA	SES		
2001	48.1	<i>E. superba</i>	2	485	427	0.00				0	0
	48.3	<i>C. gunnari</i>	6	381	350	0.00				0	0
	58.5.2	<i>D. eleginoides</i> <i>C. gunnari</i>	7	1441	1387	0.001		1		1	2
2002	48.3	<i>E. superba</i>	5	992	755	0.00				0	0
	48.3	<i>C. gunnari</i>	5	460	431	0.00				0	0
	58.5.2	<i>D. eleginoides</i> <i>C. gunnari</i>	6	904	850	0.001		1		1	0
2003	48.3	<i>E. superba</i>	6	1928	1073	0.03		27		27	15
	48.3	<i>C. gunnari</i>	3	184	182	0.00				0	0
	58.5.2	<i>D. eleginoides</i> <i>C. gunnari</i>	8	1311	1309	0.003		2	2	4	2
2004	48	<i>E. superba</i>	1	334	258	0		0		0	0
	48.3	<i>E. superba</i>	6	1145	829	0.17		142		142	12
	48.3	<i>C. gunnari</i>	6	247	238	0				0	0
	58.5.2	<i>D. eleginoides</i> <i>C. gunnari</i>	5	1218	1215	0.002		3		3	0
2005	48.2	<i>E. superba</i>	2	391	285	0.06		16		16	8
	48.3	<i>C. gunnari</i>	7	337	277	0.00		0		0	2
	48.3	<i>E. superba</i>	5	1451	842	0.006		5		5	64
	58.5.2	<i>D. eleginoides</i> <i>C. gunnari</i>	6	1303	1301	0.00				0	1
2006	48.1	<i>E. superba</i>	2	1127	839	0.001		1		1	0
	48.3	<i>C. gunnari</i>	5	585	457	0.00				0	0
	48.3	<i>E. superba</i>	2	395	181	0.00				0	0
	58.5.2	<i>D. eleginoides</i> <i>C. gunnari</i>	3	1086	1086	0.00	1			1	0
2007	48.1/2	<i>E. superba</i>	2	656	418	0.00				0	0
	48.3	<i>C. gunnari</i>	4	102	91	0.00				0	0
	48.3	<i>E. superba</i>	4	580	194	0.00				0	0
	58.5.2	<i>D. eleginoides</i> <i>C. gunnari</i>	3	1005	936	0.00				0	0

### APPENDIX III

#### A SUMMARY OF SCIENTIFIC OBSERVATIONS RELATED TO CONSERVATION MEASURES 25-02 (2005), 25-03 (2003) AND 26-01 (2006)

##### Introduction

This report summarises the information collected by observers for the 2006/07 season relating to compliance with Conservation Measures 25-02 (2005) “Minimisation of the Incidental Mortality of Seabirds in the Course of Longline Fishing or Longline Fishing Research in the Convention Area”, 25-03 (2003) “Minimisation of the Incidental Mortality of Seabirds and Marine Mammals in the Course of Trawling in the Convention Area”, and 26-01 (2006) “General environmental protection during fishing”.

##### Waste Disposal

2. The presence of bait box packaging bands on board vessels was reported by observers on 8 cruises (Table 1). Observers reported that all bait box packaging bands were cut and retained or incinerated.

3. Observers on board 2 vessels reported that fishing gear, such as snoods and hooks, were occasionally being disposed of at sea (Table 1).

4. Observers reported hooks being present in offal discards on 3 vessels, of these two were described as rare events (Table 1). The observer on board Vessel 20, fishing in Subarea 48.3, reported that there was no system in place for removing hooks from discards and that the discarding of offal with hooks present was a daily occurrence.

5. The observer on board Vessels 29 & 25 reported that inorganic waste was occasionally discarded overboard, however the observer on board Vessel 19 indicated that inorganic waste was often discarded overboard (Table 1).

##### Marine Mammal Incidental Mortality

6. A total of 3 incidences of marine mammal mortalities and no entanglement (released alive) were observed in the Convention Area during the 2006/07 season (Table 2). Observers on board Vessels 2 & 4 in Subarea 48.3 each reported a single mortality of a southern

elephant seal (*Mirounga leonina*) One southern elephant seal (*M. leonina*) mortality was also observed on the second cruise of Vessel 18 in Division 58.5.2. All of these mortalities were caused from entanglements in the mainline.

7. No incidences of whale entanglements with the fishing gear were observed.

#### Streamer Lines

8. The overall compliance with streamer line design was again higher this season compared with the previous season, with only 5 (15%) vessels failing to comply with all aspects of streamer line design (Table 3). Streamer line design compliance in Subareas 48.4, 48.6, 58.6, 58.7 and Division 58.5.2 was 100%, 90% in Subarea 48.3, 93% in Subareas 88.1 and 88.2, and 58.7, and 50% in Divisions 58.4.1, 58.4.2, 58.4.3a, 58.4.3b. A summary of streamer line compliance since the 1996/97 season is contained in Table 4.

10. The aerial extent of streamers line has been reported by all observers this season, with measurements varying widely from 26 to 170 metres (Table 5).

#### Offal Discharge

11. All but 2 vessels complied fully with the requirement of either retaining offal on board or discharging offal on the opposite side to where the line was hauled during the 2007 season (WG-FSA-07/6, Table 2). Vessel 14, fishing in Divisions 58.4.1 and 58.4.3b, discharged offal on 7 occasions due to mechanical problems. Vessel 19, fishing in Subarea 88.1, was observed discarding offal during 1 haul.

12. One vessel, Vessel 20 fishing in Subarea 48.3, was observed discharging during 4 (3.7%) longline sets.

13. Two krill trawl vessels, Vessels 30 & 31, fishing in Area 48 was observed discarding offal during net shooting and hauling (Table 6). The observer on board Vessel 31 said that this only occurred when the vessel was processing krill as meat, which occurred on 3 occasions. Observers on Vessel 30 reported offal being discharged mainly as a watery by-product from the factory, but this did consist of shells and small amounts of krill lost from the conveyor system,

14. Vessels 32 & 33, fishing for icefish in Subarea 48.3, were both observed discharging offal during net shooting and hauling (Table 6).

### Minimisation of Deck Lighting

15. Observers onboard all trawl vessels, except Vessel 30, reported on the efforts to minimise deck lighting directed out of the vessel. These ranged from minimising the number of lights on the deck to facing lights inwards so that minimum light was directed out from the vessel.

### Night Setting

16. Compliance with night setting has remained high this season, with 100% night setting observed in Subareas 48.3, 48.4 and 58.6 and 58.7 (Table 4).

16. Vessels fishing in Subareas 48.6, 88.1, 88.2 and Divisions 58.4.1, 58.4.2, 58.4.3a, 58.4.3b and 58.5.2 may set longlines during daylight hours providing they can demonstrate a consistent minimum line sink rate of 0.3 m/s, or use an integrated weighted line of at least 50 g/m and achieve a sink rate of 0.2 m/s. All vessels fishing in these areas complied with one or both of these requirements (Table 7).

### Line Weighting

17. This season, full compliance with line weighting for Spanish longline systems (6kg every 20m or 8.5kg every 40m) was achieved for all vessels fishing in Subarea 48.3, 58.6 and 58.7 (Table 4). Vessels in all other areas were exempt from the line weighting requirements, as they met the conditions for either sink rates or used an integrated weighted line, as per Conservation Measure 24-02 (2005) (Figure 1).

### Net Monitoring Cables

18. There were reports of 2 vessels, Vessels 30 & 34 using net monitoring cables in the Convention Area during the 2006/07 season.

Table 1: Disposal of wastes and oil reported by observers during the 2006/07 season. Y: disposed of over board; N: waste retained or incinerated at sea; B: bait box packaging bands present on board; -: no information; N/A: Not applicable.

Vessel name (Nationality)	Dates of trip	Fishing method	Packing bands	Oil	Gear debris	Garbage (inorgani c)	Hooks in discards
<b>Subarea 48.1, 48.2</b>							
30	10/12 – 6/3/07	Trawl	Trawl	N	N	N	N
30	10/3 – 5/7/07	Trawl	Trawl	N	N	N	N
<b>Subarea 48.3</b>							
6	31/3 – 30/4/07	Pot	N	N	N	N	N/A
1	1/6 – 27/8/07	Spanish	N	N	N	N	N
2	1/5 – 26/8/07	Auto	-	-	-	-	-
20	27/4 – 13/7/07	Spanish	N	-	N	N	Y(daily)
4	1/5 – 26/8/07	Auto	N	N	N	N	N
5	23/4 – 27/8/07	Spanish	N(B)	N	N	N	N
6	1/5 – 23/7/07	Auto	N	N	N	N	N
7	1/5 – 29/8/07	Auto	N(B)	N	N	N	N
8	19/4 – 17/8/07	Spnaish	N	N	N	N	N
9	1/5 – 26/8/07	Auto	N (B)	N	N	N	-
10	14/4 – 20/8/07	Spanish	N	N	N	N	N
35	4/1 – 7/2/07	Trawl	N	N	N	N	-
32	31/12 – 25/1/07	Trawl	N	N	N	N	N/A
29	26/12 – 31/1/07	Trawl	N	N	Y	Y	N/A
36	1/1 – 20/1/07	Trawl	N	N	N	N	N/A
34	10/7 – 26/7/07	Trawl	N	N	-	N	N/A
30	14/7 – 13/8/07	Trawl	N	N	N	N	N/A
31	13/8 – 4/9/07	Trawl	N	N	N	N	N/A
<b>Subarea 48.4</b>							
4	7/4 – 26/8/07	<i>Auto</i>	N	N	N	N	N
<b>Subarea 48.6</b>							
11	10/3 – 16/4/07	Auto	N	N	N	N	N
12	23/3 – 5/7/07	Auto	N(B)	N	N	N	N
<b>Divisions 58.4.1, 58.4.2, 58.4.3a, 58.4.3b</b>							
13*	14/2 – 1/4/07	Spanish	N	N	N	N	N
14	14/11 – 4/4/07	Spanish	N	N	N	N	N
15	13/12 – 7/5/07	Spanish	N	N	N	N	N
12	16/12 – 18/3/07	Auto	N	N	N	N	N
16	15/11 – 9/4/07	Spanish	N(B)	-	N	N	N
17	5/12 – 19/3/07	Spanish	N	Y	N	N	N
<b>Division 58.5.2</b>							
18	12/4 – 1/7/07	Auto	N	N	N	N	N
18	5/7 – 15/9/07	Auto	N	N	N	N	N
37	4/6 – 15/8/07	Trawl	N	N	N	N	N/A
37	4/2 – 4/3/07	Trawl	N	N	N	N	N/A
37	21/4 – 21/5/07	Trawl	N	N	N	N	N/A
<b>Subareas 58.6, 58.7</b>							
10	27/1 – 5/4/07	Spanish	N(B)	N	N	N	Y(rarely)
19	19/4 – 14/6/07	Auto	N(B)	N	N	Y	N
19	25/7 – 30/8/07	Auto	N	N	N	N	N
<b>Subarea 88.1 and 88.2</b>							
13	1/12 – 9/2/07	Spanish	N	N	N	N	N

Table 1 (continued)

Vessel name (Nationality)	Dates of trip	Fishing method	Packing bands	Oil	Gear debris	Garbage (inorgani c)	Hooks in discards
20	4/12 – 13/2/07	Spanish	N	N	N	N	N
21	1/12 – 15/2/07	Auto	N	N	N	N	N
22	22/11 – 12/2/07	Auto	N	N	N	N	N
18	21/11 – 16/2/07	Auto	N	N	N	N	N
4	1/12 – 2/2/07	Auto	N	N	N	N	N
23	3/1 – 3/2/07	Auto	N(B)	Y	N	N	N
19	23/12 – 9/2/07	Auto	N	N	N	N	N
24	4/1 – 15/2/07	Auto	N	N	N	N	N
25	23/11 – 19/2/07	Auto	N	N	Y	Y	Y( rarely)
9	22/12 – 22/2/07	Auto	N	N	N	N	N
11	15/11 – 28/2/07	Auto	N	N	N	N	N
26	17/11 – 21/3/07	Spanish	N	N	N	N	N
27	17/11 – 24/3/07	Spanish	N	N	N	N	N
2	23/11 – 26/2/07	Auto	N	N	N	N	N

\* Vessel 13 also conducted a small amount of fishing in Subarea 48.6 during this cruise.

Table 2: Marine mammal incidental mortality and interactions with fishing operations reported by observers during the 2006/07 season. Y: yes; N: No; KIW: killer whale; SPW: sperm whale; SEA: Antarctic fur seal; SES: Southern elephant seal; SLP: Leopard seal; SET: crabeater seal; SEL: Sea Lion.

Vessel name (Nationality)	Dates of trip	Observation reported	Mammal (species)		Fish loss observed (species)
			Killed	Entangled	
<b>Subarea 48.1, 48.2</b>					
30	10/12 – 6/3/07	Y	N	N	N
30	10/3 – 5/7/07	Y	N	N	N
<b>Subarea 48.3</b>					
6	31/3 – 30/4/07	Y	N	N	N
1	1/6 – 27/8/07	Y	N	N	N
2	1/5 – 26/8/07	Y	Y (1SES)	N	N
20	27/4 – 13/7/07	Y	N	N	N
4	1/5 – 26/8/07	Y	Y (1SES)	N	Y (SEA)
5	23/4 – 27/8/07	Y	N	N	Y (KIW, SEA)
6	1/5 – 23/7/07	Y	N	N	Y (KIW)
7	1/5 – 29/8/07	Y	N	N	Y (KIW)
8	19/4 – 17/8/07	Y	N	N	Y (KIW, SPW)
9	1/5 – 26/8/07	N			-
10	14/4 – 20/8/07	Y	N	N	Y (SEA)
35	4/1 – 7/2/07	N			
32	31/12 – 25/1/07	Y	N	N	N
29	26/12 – 31/1/07	Y	N	N	N
36	1/1 – 20/1/07	Y	N	N	N
34	10/7 – 26/7/07	Y	N	N	N
30	14/7 – 13/8/07	Y	N	N	N
31	13/8 – 4/9/07	N			
<b>Subarea 48.4</b>					
4	7/4 – 26/8/07	Y	N	N	N
<b>Subarea 48.6</b>					
11	10/3 – 16/4/07	Y	N	N	N
12	23/3 – 5/7/07	Y	N	N	N
<b>Divisions 58.4.1, 58.4.2, 58.4.3a, 58.4.3b</b>					
13*	14/2 – 1/4/07	Y	N	N	N
14	14/11 – 4/4/07	Y	N	N	N
15	13/12 – 7/5/07	Y	N	N	N
12	16/12 – 18/3/07	Y	N	N	N
16	15/11 – 9/4/07	Y	N	N	N
17	5/12 – 19/3/07	Y	N	N	N
<b>Division 58.5.2</b>					
18	12/4 – 1/7/07	Y	N	N	N
18	5/7 – 15/9/07	Y	Y (1 SES)	N	N
37	4/6 – 15/8/07	Y	N	N	Y (SEA)
37	4/2 – 4/3/07	Y	N	N	N
37	21/4 – 21/5/07	Y	N	N	N
<b>Subareas 58.6, 58.7</b>					
10	27/1 – 5/4/07	Y	N	N	Y (KIW, SPW)
19	19/4 – 14/6/07	Y	N	N	Y (KIW, SPW)
19	25/7 – 30/8/07	Y	N	N	Y (KIW, SPW)

Table 2 (continued)

Vessel name (Nationality)	Dates of trip	Observation reported	Mammal	(species)	Fish loss observed (species)
<b>Subarea 88.1 and 88.2</b>					
13	1/12 – 9/2/07	Y	N	N	N
20	4/12 – 13/2/07	Y	N	N	N
21	1/12 – 15/2/07	Y	N	N	N
22	22/11 – 12/2/07	Y	N	N	N
18	21/11 – 16/2/07	Y	N	N	N
4	1/12 – 2/2/07	Y	N	N	N
23	3/1 – 3/2/07	Y	N	N	N
19	23/12 – 9/2/07	Y	N	N	N
24	4/1 – 15/2/07	Y	N	N	N
25	23/11 – 19/2/07	Y	N	N	N
9	22/12 – 22/2/07	Y	N	N	N
11	15/11 – 28/2/07	Y	N	N	N
26	17/11 – 21/3/07	Y	N	N	N
27	17/11 – 24/3/07	Y	N	N	N
2	23/11 – 26/2/07	Y	N	N	N

\* Vessel 13 also conducted a small amount of fishing in Subarea 48.6 during this cruise.

Table 3: Compliance, as reported by observers, of streamer lines with the minimum specifications set out in Conservation Measure 25-02 (2005) during the 2006/07 Season. Y: yes; N: no; -: no information; MP: Moon pool; \*: Conservation Measure not applicable in this area.

Vessel name (Nationality)	Dates of fishing	Fishing method	Compliance with CCAMLR specifications	Compliance with details of streamer line specifications				Length of streamers (m)	Streamer line in use %		Haul scaring device used %
				Attachment, height above water (m)	Total length (m)	No. streamers per line	Spacing of streamers per line (m)		Night	Day	
<b>Subarea 48.3</b>											
1	12/6 – 23/8/07	Spanish	Y	Y (8)	Y (150)	7	Y (5)	Y (7)	100		100
7	9/5 – 24/8/07	Auto	Y	Y (7)	Y (150)	16	Y (5)	Y (8)	100		100
9	1/5 – 24/8/07	Auto	Y	Y (7.3)	Y (155)	13	Y (5)	Y (1-8)	100		100
2	1/5 – 24/8/07	Auto	Y	Y (7.3)	Y (154)	13	Y (5)	Y (1-8)	100		MP
20	13/5 – 6/7/07	Spanish	Y	Y (7)	Y (150)	8	Y (5)	Y (6.8)	100		87
8	1/5 – 4/8/07	Spanish	N	Y (7.6)	Y (154)	7	Y (5)	N (1-6)	100		100
10	3/5 – 15/8/07	Spanish	Y	Y (8)	Y (174)	10	Y (5)	Y (8.5)	100		100
6	1/5 – 17/7/07	Auto	Y	Y (7)	Y (150)	7	Y (5)	Y (7)	100		100
4	1/5 – 20/8/07	Auto	Y	Y (8.2)	Y (213)	24	Y (5)	Y (9.6)	100		100
5	1/5 – 24/8/07	Spanish	Y	Y (7)	Y (150)	9	Y (5)	Y (5-6.5)	100		100
<b>Subarea 48.4</b>											
4	7/4 – 15/4/06	Auto	Y	Y (8.2)	Y (213)	24	Y (5)	Y (9.6)	100		100*
<b>Subarea 48.6</b>											
11	21/3 – 2/4/07	Auto	Y	Y (7.1)	Y (150)	9	Y (5)	Y (3-7)	100	100	0*
12	29/3 – 29/6/07	Auto	Y	Y (7.5)	Y (152)	6	Y (5)	Y (4.5-7)	100	100	99*
<b>Divisions 58.4.1, 58.4.2, 58.4.3a, 58.4.3b</b>											
14	1/12 – 22/3/07	Spanish	Y	Y (7.2)	Y (160)	12	Y (5)	Y (1-6.5)		100	95*
15	1/1 – 28/3/07	Spanish	N	Y (7)	N (100)	9	Y (5)	Y (1-6.5)	100	100	0*
16	1/12 – 22/3/07	Spanish	Y	Y (7)	Y (154)	12	Y (5)	Y (1-6.5)	100	100	0*
17	18/12 – 7/3/07	Spanish	N	Y (7)	Y (150)	10	Y (5)	N (1-4.5)	100	100	100*
12	31/12 – 4/3/07	Auto	N	Y (10)	Y (160)	6	N (5.4)	Y (5 -7.2)	100	100	85*
13 <sup>1</sup>	28/2 – 29/3/07	Spanish	Y	Y (7.8)	Y (150)	10	Y (5)	Y (1-6.5)	100	100	100*
<b>Division 58.5.2</b>											
18	27/4 – 18/6/07	Auto	Y	Y (7)	Y (170)	17	Y (4)	Y (1.2-7)	100		100
18	15/7 – 3/9/07	Auto	Y	Y (7)	Y (175)	13	Y (5)	Y (1.2-7)	100	100	100
<b>Subareas 58.6, 58.7</b>											
10	10/2 – 30/3/07	Spanish	Y	Y (8.2)	Y (150)	10	Y (4.6)	Y (10)	100		100
19	25/7 – 24/8/07	Auto	Y	Y (7.2)	Y (150)	14	Y (5)	Y (1-6.6)	100		0
19	24/4 – 12/6/07	Auto	Y	Y (8)	Y (150)	20	Y (5)	Y (8)	100	100	0
<b>Subareas 88.1, 88.2</b>											
21	4/12 – 6/2/07	Auto	Y	Y (7.5)	Y (160)	38	Y (2.5)	Y (1-85)		100	MP*
20	8/12 – 1/2/07	Spanish	Y	Y (7.5)	Y (200)	40	Y (4)	Y (0.5-6.7)		100	0*
18	4/12 – 5/2/07	Auto	Y	Y (7)	Y (170)	17	Y (4)	Y (1-8.6)	100	100	0*
13	11/12 – 1/2/07	Spanish	Y	Y (7.8)	Y (150)	10	Y (5)	Y (1-6.5)		100	100*

19	31/12 – 1/2/07	Auto	Y	Y (7.7)	Y (160)	10	Y (5)	Y (6.5)	100	0*
23	3/1 – 2/2/07	Auto	Y	Y (8.3)	Y (150)	6	Y (5)	Y (1-6.5)	100	0*

Table 3 (continued)

Vessel name (Nationality)	Dates of fishing	Fishing method	Compliance with CCAMLR specifications	Compliance with details of streamer line specifications			Length of streamers (m)	Streamer line in use %		Haul scaring device used %
				Attachment, height above water (m)	Total length (m)	No. streamers per line		Spacing of streamers per line (m)	Setting Night	
<b>Subareas 88.1, 88.2</b>										
22	1/12 – 6/2/07	Auto	Y	Y (7.7)	Y (213)	11	Y (4.7)	Y (1-8)	100	0*
4	1/12 – 1/2/07	Auto	Y	Y (8)	Y (250)	22	Y (4.7)	Y (1-9.2)	100	0*
25	2/12 – 11/2/07	Auto	Y	Y (7)	Y (150)	27	Y (4.8)	Y (7.2)	100	0*
9	1/12 – 8/2/07	Auto	Y	Y (7.6)	Y (155)	7	Y (5)	-	100	100
2	2/12 – 14/2/07	Auto	Y	Y (8.4)	Y (165)	13	Y (5)	Y (1-8.4)	100	100
11	1/12 – 15/2/07	Auto	Y	Y (7)	Y (150)	16	Y (4.7)	Y (1-7)	100	MP*
24	4/1 – 14/2/07	Auto	N	Y (7.7)	Y (151)	6	Y (4.8)	N (2.5-6)	100	0*
26	29/12 – 2/3/07	Spanish	Y	Y (7)	Y (150)	8	Y (5)	Y (1-6.5)	100	0*
27	29/12 – 1/3/07	Spanish	Y	Y (7)	Y (150)	7	Y (5)	Y (1-6.5)	100	0*

1 Vessel 13 also conducted a small amount of fishing in Subarea 48.6 during this cruise.

Table 4: Summary of scientific observations relating to compliance with Conservation Measure 25-02 (2005), based on data from scientific observers from 1996/97 to 2006/07 season. Values in parentheses are % of observer records that were complete. na: not applicable.

Subarea/ season	Line weighting (Spanish system only)			Night setting (% night)	Offal discharge (%) opposite haul	Streamer line compliance (%)					Total catch rate (birds/1 000 hooks)		
	Compliance %	Median weight (kg)	Median spacing (m)			Overall	Attached height	Total length	No. streamers	Distance apart	Night	Day	
Subarea 48.3													
1996/97	0 (91)	5.0	45	81	0 (91)	6 (94)	47 (83)	24 (94)	76 (94)	100 (78)	0.18	0.93	
1997/98	0 (100)	6.0	42.5	90	31 (100)	13 (100)	64 (93)	33 (100)	100 (93)	100 (93)	0.03	0.04	
1998/99	5 (100)	6.0	43.2	80 <sup>1</sup>	71 (100)	0 (95)	84 (90)	26 (90)	76 (81)	94 (86)	0.01	0.08 <sup>1</sup>	
1999/00	1 (91)	6.0	44	92	76 (100)	31 (94)	100 (65)	25 (71)	100 (65)	85 (76)	<0.01	<0.01	
2000/01	21 (95)	6.8	41	95	95 (95)	50 (85)	88 (90)	53 (94)	94 94	82 (94)	<0.01	<0.01	
2001/02	63 (100)	8.6	40	99	100 (100)	87 (100)	94 (100)	93 (100)	100 (100)	100 (100)	0.002	0	
2002/03	100 (100)	9.0	39	98	100 (100)	87 (100)	91 (100)	96 (100)	100 (100)	100 (100)	<0.001	0	
2003/04	87 (100)	9.0	40	98	100 (100)	69 (94)	88 (100)	93 (94)	<sup>7</sup>	100 (100)	0.001	0	
2004/05	100 (100)	9.5	45	99	100 (100)	75 (100)	88 (100)	88 (100)	<sup>7</sup>	100 (100)	0.001	0	
2005/06	100 (100)	10.0	40	100	100 (100)	100 (100)	100 (100)	100 (100)	<sup>7</sup>	100 (100)	0	0	
2006/07	100 (100)	9.8	39	100	100 (100)	90 (100)	100 (100)	100 (100)	<sup>7</sup>	90 (100)	0	0	
Subarea 48.4													
2005/06	Auto only	na	na	100	100 (100)	100 (100)	100 (100)	100 (100)	<sup>7</sup>	100 (100)	0	0	
2006/07	Auto only	na	na	100	100 (100)	100 (100)	100 (100)	100 (100)	<sup>7</sup>	100 (100)	0	0	
Subarea 48.6													
2003/04	100 (100)	7.0	20	41 <sup>6</sup>	No Discharge	0 (100)	100 (100)	100 (100)	<sup>7</sup>	0 (100)	0	0	
2004/05	100 (100)	6.5	19.5	29 <sup>6</sup>	No Discharge	100 (100)	100 (100)	100 (100)	<sup>7</sup>	0 (100)	0	0	
2005/06	Auto only	na	na	36 <sup>6</sup>	No Discharge	50 (100)	100 (100)	50 (100)	<sup>7</sup>	100 (100)	0	0	
2006/07	Auto only	na	na	44 <sup>6</sup>	No Discharge	100 (100)	100 (100)	100 (100)	<sup>7</sup>	100 (100)	0	0	
Division 58.4.1, 58.4.2, 58.4.3a, 58.4.3b													
2002/03	Auto only	na	na	24 <sup>5</sup>	No Discharge	100 (100)	100 (100)	100 (100)	100 (100)	100 (100)	0	0	
2003/04	Auto only	na	na	0 <sup>5</sup>	No Discharge	100 (100)	100 (100)	100 (100)	<sup>7</sup>	100 (100)	0	0	
2004/05	33 <sup>9</sup> (100)	7.9	40	26 <sup>5</sup>	No Discharge	88 (100)	100 (100)	100 (100)	<sup>7</sup>	88 (100)	0	<0.001	
2005/06	16 <sup>9</sup> (100)	7.2	48	16 <sup>5</sup>	No Discharge	100 (100)	100 (100)	100 (100)	<sup>7</sup>	100 (100)	0	<0.001	
2006/07	20 <sup>9</sup> (100)	7.7	40	10 <sup>5</sup>	4% by 1 vessel <sup>10</sup>	50 (100)	100 (100)	83 (100)	<sup>7</sup>	83 (100)	0	0	
Division 58.4.4													
1999/00	0 <sup>9</sup> (100)	5	45	50	0 (100)	0 (100)	100 (100)	0 (100)	100 (100)	100 (100)	0	0	
Division 58.5.2													
2002/03	Auto only	na	na	100	No Discharge	100 (100)	100 (100)	100 (100)	100 (100)	100 (100)	0	0	
2003/04	Auto only	na	na	99	No Discharge	100 (100)	100 (100)	100 (100)	<sup>7</sup>	100 (100)	0	0	
2004/05	Auto Only	na	na	50 <sup>8</sup>	No Discharge	100 (100)	100 (100)	100 (100)	<sup>7</sup>	100 (100)	0	0	
2005/06	Auto Only	na	na	53 <sup>8</sup>	No Discharge	100 (100)	100 (100)	100 (100)	<sup>7</sup>	100 (100)	0	0	

2006/07	Auto Only	na	na	54 <sup>8</sup>	No Discharge	100 (100)	100 (100)	100 (100)	7	100 (100)	0	0
Subareas 58.6 and 58.7												
1996/97	0 (60)	6	35	52	69 (87)	10 (66)	100 (60)	10 (66)	90 (66)	60 (66)	0.52	0.39

Table 4 (continued)

Subarea/ season	Line weighting (Spanish system only)			Night setting (% night)	Offal discharge (%) opposite haul	Streamer line compliance (%)					Total catch rate (birds/1 000 hooks)		
	Compliance %	Median weight (kg)	Median spacing (m)			Overall	Attached height	Total length	No. streamers	Distance apart	Night	Day	
Subareas 58.6 and 58.7													
1997/98	0 (100)	6	55	93	87 (94)	9 (92)	91 (92)	11 (75)	100 (75)	90 (83)	0.08	0.11	
1998/99	0 (100)	8	50	84 <sup>2</sup>	100 (89)	0 (100)	100 (90)	10 (100)	100 (90)	100 (90)	0.05	0	
1999/00	0 (83)	6	88	72	100 (93)	8 (100)	91 (92)	0 (92)	100 (92)	91 (92)	0.03	0.01	
2000/01	18 (100)	5.8	40	78	100 (100)	64 (100)	100 (100)	64 (100)	100 (100)	100 (100)	0.01	0.04	
2001/02	66 (100)	6.6	40	99	100 (100)	100 (100)	100 (100)	100 (100)	100 (100)	100 (100)	0	0	
2002/03	0 (100)	6.0	41	98	50 (100)	100 (100)	100 (100)	100 (100)	100 (100)	100 (100)	<0.01	0	
2003/04	100 (100)	7.0	20	83	100 (100)	50 (100)	50 (100)	100 (100)	7	100 (100)	0.03	0.01	
2004/05	100 (100)	6.5	20	100	100 (100)	0 (100)	100 (100)	100 (100)	7	0 (100)	0.149	0	
2005/06	100 (100)	9.1	40	100	100 (100)	0 (100)	100 (100)	100 (100)	7	0 (100)	0	0	
2006/07	100 (100)	10.4	40	100	100 (100)	0 (100)	100 (100)	100 (100)	7	0 (100)	0	0	
Subarea 88.1, 88.2													
1996/97	Auto only	na	na	50	0 (100)	100 (100)	100 (100)	100 (100)	100 (100)	100 (100)	0	0	
1997/98	Auto only	na	na	71	0 (100)	100 (100)	100 (100)	100 (100)	100 (100)	100 (100)	0	0	
1998/99	Auto only	na	na	1 <sup>3</sup>	100 (100)	100 (100)	100 (100)	100 (100)	100 (100)	100 (100)	0	0	
1999/00	Auto only	na	na	6 <sup>4</sup>	No Discharge	67 (100)	100 (100)	67 (100)	100 (100)	100 (100)	0	0	
2000/01	1 (100)	12	40	18 <sup>4</sup>	No Discharge	100 (100)	100 (100)	100 (100)	100 (100)	100 (100)	0	0	
2001/02	Auto only	na	na	33 <sup>4</sup>	No Discharge	100 (100)	100 (100)	100 (100)	100 (100)	100 (100)	0	0	
2002/03	100 (100)	9.6	41	21 <sup>4</sup>	1 incidence by 1 vessel	100 (100)	100 (100)	100 (100)	100 (100)	100 (100)	0	0	
2003/04	89 (100)	9	40	5 <sup>4</sup>	24% by 1 vessel	59 (100)	82 (100)	86 (100)	7	100 (100)	0	<0.01	
2004/05	33 <sup>9</sup> (100)	9.0	45	1 <sup>4</sup>	1% by 1 vessel	64 (100)	100 (100)	100 (100)	7	64 (100)	0	0	
2005/06	100 <sup>9</sup> (100)	9.2	35	1 <sup>4</sup>	No Discharge	85 (92)	100 (92)	85 (92)	7	100 (92)	0	0	
2006/07	100 <sup>9</sup> (100)	10	36	4 <sup>4</sup>	1% by 1 vessel	93 (100)	100 (100)	100 (100)	7	93 (93)	0	0	

<sup>1</sup> Includes daytime setting – and associated seabird by-catch – as part of line-weighting experiments on Vessel 2 (WG-FSA-99/5).

<sup>2</sup> Includes some daytime setting in conjunction with use of an underwater-setting funnel on *Eldfisk* (WG-FSA-99/42).

<sup>3</sup> Conservation Measure 169/XVII allowed some vessels to undertake daytime setting south of 65°S in Subarea 88.1 to conduct a line-weighting experiment.

<sup>4</sup> Conservation Measures 210/XIX, 216/XX and 41-09 (2002, 2003,2004) permit daytime setting south of 65°S in Subarea 88.1 if able to demonstrate a sink rate of 0.3 m/s.

<sup>5</sup> Conservation Measure 41-05 (2002,2003,2004) permits daytime setting in Division 58.4.2 if the vessel can demonstrate a sink rate of 0.3 m/s.

<sup>6</sup> Conservation Measure 41-04 (2003,2004) permits daytime setting in Subarea 48.6 if the vessel can demonstrate a sink rate of 0.3 m/s.

- <sup>7</sup> Conservation Measure 25-02 (2003) was updated and the requirement for a minimum of 5 streamers per line was removed.
- <sup>8</sup> Conservation Measure 41-08 (2004) permits daylight setting with the use of an integrated weighted line of at least 50g/m.
- <sup>9</sup> Conservation Measure 24-02 (2004) exempts vessels from line weighting requirements if they comply with sink rates or have an integrated weighted line of 50 g/m.
- <sup>10</sup> The *Tronio* discharged offal on 7 occasions due to a mechanical problems.

Table 5: Aerial extent of streamer lines reported by observers during the 2006/07 season.

Vessel name	Dates of fishing	Fishing method	Average Setting Speed (knots)	Aerial extent of streamer line
<b>Subarea 48.3</b>				
1	12/6 – 23/8/07	Spanish	6.2	150
7	9/5 – 24/8/07	Auto	7.6	50
9	1/5 – 24/8/07	Auto	7.0	45
2	1/5 – 24/8/07	Auto	7.8	45
20	13/5 – 6/7/07	Spanish	7.8	50
8	1/5 – 4/8/07	Spanish	8.4	32
10	3/5 – 15/8/07	Spanish	7.7	50
6	1/5 – 17/7/07	Auto	6.0	50
4	1/5 – 20/8/07	Auto	6.7	118
5	1/5 – 24/8/07	Spanish	8.0	60
<b>Subarea 48.4</b>				
4	7/4 – 15/4/06	Auto	6.8	118
<b>Subarea 48.6</b>				
11	21/3 – 2/4/07	Auto	7.4	30
12	29/3 – 29/6/07	Auto	7.7	45
<b>Divisions 58.4.1, 58.4.2, 58.4.3a, 58.4.3b</b>				
14	1/12 – 22/3/07	Spanish	8.7	50
15	1/1 – 28/3/07	Spanish	8.0	40
16	1/12 – 22/3/07	Spanish	8.1	100
17	18/12 – 7/3/07	Spanish	8.5	145
12	31/12 – 4/3/07	Auto	7.6	26
13	28/2 – 29/3/07	Spanish	10.0	55
<b>Division 58.5.2</b>				
18	27/4 – 18/6/07	Auto	5.9	60
18	15/7 – 3/9/07	Auto	6.0	75
<b>Subareas 58.6, 58.7</b>				
10	10/2 – 30/3/07	Spanish	7.5	30
19	25/7 – 24/8/07	Auto	6.0	37
19	24/4 – 12/6/07	Auto	6.5	35
<b>Subareas 88.1, 88.2</b>				
21	4/12 – 6/2/07	Auto	5.8	50
20	8/12 – 1/2/07	Spanish	7.8	170
18	4/12 – 5/2/07	Auto	5.4	50
13	11/12 – 1/2/07	Spanish	11	55
19	31/12 – 1/2/07	Auto	7.1	60
23	3/1 – 2/2/07	Auto		60
22	1/12 – 6/2/07	Auto	5.9	75
4	1/12 – 1/2/07	Auto	5.7	100
25	2/12 – 11/2/07	Auto	6.5	65
9	1/12 – 8/2/07	Auto	6.9	40
2	2/12 – 14/2/07	Auto	7.1	45
11	1/12 – 15/2/07	Auto	7.1	75
24	4/1 – 14/2/07	Auto	6.5	90
26	29/12 – 2/3/07	Spanish	7.0	90
27	29/12 – 1/3/07	Spanish	6.6	40

Table 6: Offal discharge observed during net shooting and hauling operations in the CCAMLR Convention area during the 2006/07 season.

Vessel	Area	Cruise dates	Nets not cleaned prior to shooting	Offal discharged during	
				Net shooting (%)	Net hauling (%)
30	48.3	18/7 – 13/8/07		241 (87)	235 (85)
30	48.1, 48.2	10/12 – 6/3/07	Net was not cleaned	1 (1)	2 (1.5)
30	48.1, 48.2	12/3 – 21/6/07	Net was not cleaned		
31	48.3	12/8 – 31/8/07		1 (0.8)	2 (1.5)
33	48.3	21/1 – 24/1/07		5 (24)	
32	48.3	5/1 – 18/1/07		1 (2.6)	1 (2.6)

Table 7: Sink rates recorded by observers using bottle tests and Time Depth Recorders (TDR) in Subareas 48.6, 88.1, 88.2 and Divisions 58.4.1, 58.4.2, 58.4.3a, 58.4.3b during the 2006/07 season. \*: vessels operated with an integrated weighted line of at least 50 g/m.

Ship name	Subarea Division	Number of tests conducted	Sink rate		average (m/second)	standard deviation	Line weights	
			min	Max			kg/m	IWL g/m
11*	48.6	13	0.29	0.37	0.32	0.03		50
12	48.6	103	0.48	0.88	0.65	0.07	11 / 50	
14	48.4.1/3a/3b	92	0.26	1.00	0.42	0.09	7.7 / 40	
15*	58.4.1/2/3b	20	0.37	0.50	0.43	0.04	8 / 40	130
16	58.4.1/3b	116	0.40	1.00	0.69	0.10	7 / 108	
17*	58.4.1/2	46	0.32	0.40	0.36	0.03	5 / 40	200
12	58.4.3a/3b	84	0.56	0.84	0.68	0.06	11 / 50	
13	58.4.2	34	0.34	0.56	0.41	0.05	14 / 37	
21*	88.1	123	0.21	0.67	0.27	0.05		50
20	88.1	28	0.31	0.43	0.37	0.03	10 / 69	
18*	88.1	57	0.21	0.71	0.34	0.09		50
13	88.1	32	0.33	0.67	0.43	0.08	14 / 37	
19*	88.1	41	0.24	0.56	0.42	0.08		140
23*	88.1	28	0.23	0.63	0.37	0.08		50
22*	88.1	58	0.12	0.77	0.30	0.10		50
4*	88.1	63	0.21	1.06	0.36	0.10		50
25*	88.1, 88.2	11	0.43	1.25	0.80	0.30	13.6/540	56
9*	88.1, 88.2	6	0.24	0.31	0.28	0.02		50
2*	88.1, 88.2	57	0.23	0.48	0.26	0.03		50
11*	88.1, 88.2	89	0.22	0.53	0.32	0.05		50
24*	88.1, 88.2	40	0.20	0.83	0.39	0.10		50
26	88.1, 88.2	12	0.34	0.48	0.40	0.05	10 / 35	
27	88.1, 88.2	20	0.91	1.43	1.20	0.20	9.8 / 20	

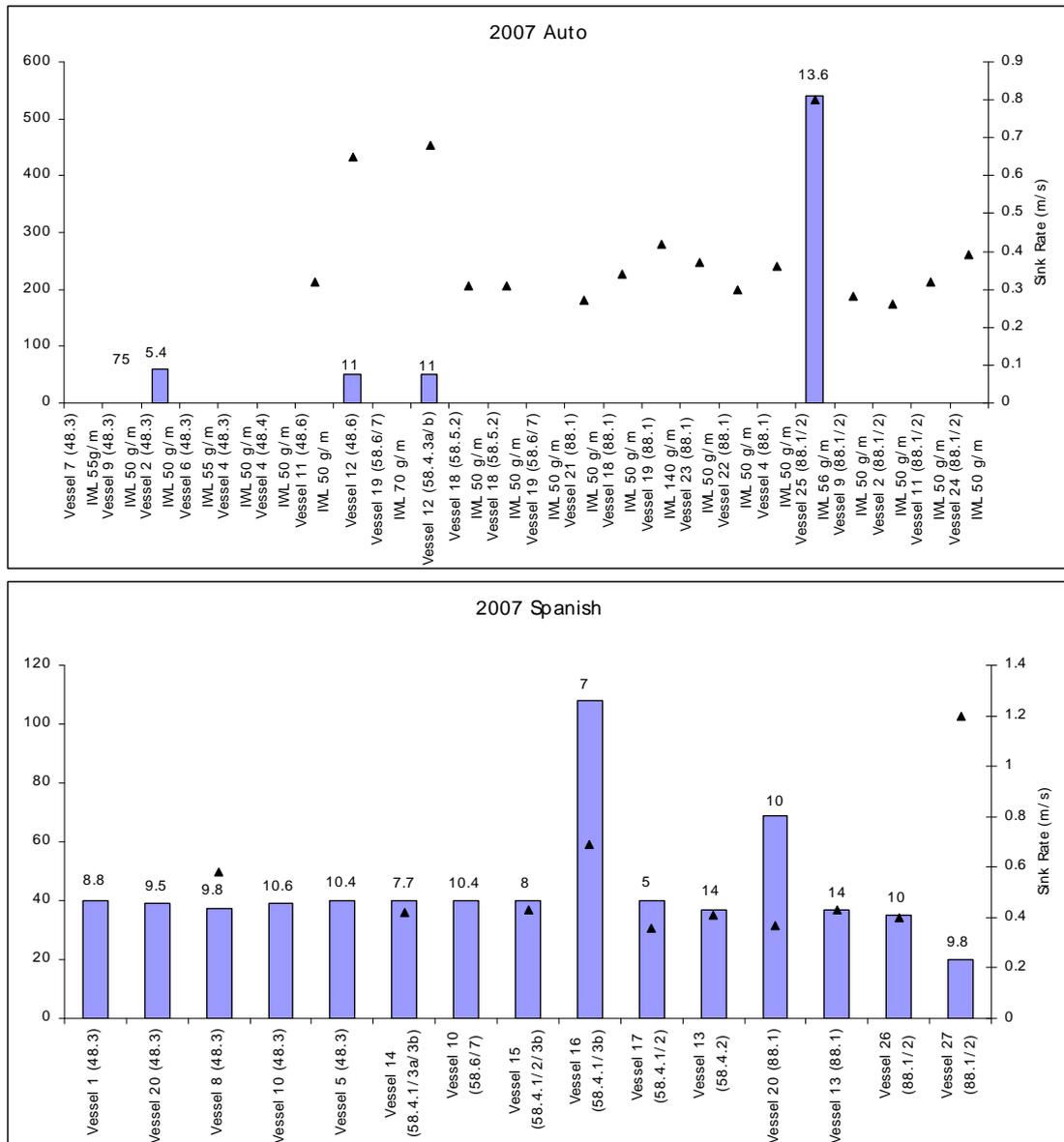


Figure 1: Longline weight spacing (y-axis in metres) and weights used (kilograms) by Spanish and autoline systems during the 2006/07 season. ▲: Sink rate (metres/second); IWL: Integrated Weighted Line (grams/metre).