



Agreement on the Conservation of Albatrosses and Petrels

Second Meeting of the Parties

Christchurch, New Zealand, 13 – 17 November 2006

**Excerpts from the 25th meeting of the Commission for
the Conservation of Antarctic Marine Living
Resources (CCAMLR XXV) reports**

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This information paper provides excerpts from the 25th meeting of the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR XXV), held in Hobart from 23 October to 3 November 2006. The excerpts relate to the incidental capture of seabirds during fishing operations.

Excerpts from CCAMLR XXV Commission Report

ASSESSMENT AND AVOIDANCE OF INCIDENTAL MORTALITY

Marine debris

5.1 The Commission noted the report prepared by the Secretariat and considered by the Scientific Committee on the current status and trends of national surveys on monitoring marine debris and its impact on marine mammals and seabirds in the Convention Area (SC-CAMLR-XXV/BG/9; SC-CAMLR-XXV, paragraphs 6.1 to 6.12).

5.2 It also noted that Members conducted marine debris programs in accordance with the CCAMLR standard methods at 12 sites, predominantly within Area 48 (SC-CAMLR-XXV, paragraph 6.2).

5.3 The Commission noted the continual reduction in levels of marine debris reported throughout the Convention Area, and encouraged all Members to submit data on marine debris to the Secretariat in the CCAMLR standard format (SC-CAMLR-XXV, paragraph 6.12).

5.4 It endorsed a proposal by the UK to provide information on marine debris to the annual CEP meeting and that this could be forwarded as a summary of the deliberations of the Scientific Committee and the Commission on the matter.

Incidental mortality of seabirds and marine mammals during fishing operations

5.5 The Commission considered and noted all items of general advice received from the Scientific Committee regarding incidental mortality of seabirds and marine mammals during fishing operations (SC-CAMLR-XXV, paragraph 5.56).

5.6 In particular, it noted with great satisfaction the continuing low levels of incidental seabird mortality in regulated longline fisheries in most parts of the Convention Area in 2006 and that for the first time, no albatrosses were reported taken in regulated longline fisheries.

5.7 Australia informed the Commission that all of its longline vessels operating in the Convention Area have used paired streamer lines for the past three years, and will provide advice on its experience to the next meeting of ad hoc WG-IMAF.

5.8 South Africa supported the Scientific Committee's recommendation to expand the level of data collected to assess seabird interactions with trawl warp cables through dedicated trawl warp observations (SC-CAMLR-XXV, paragraph 5.21). South Africa informed the Commission that it has enacted domestic legislation for bottom trawl fisheries in its continental EEZ making it compulsory for these fisheries to deploy streamer lines. It requested other Members to be mindful of potential interactions between seabirds and trawl warps.

5.9 Japan noted that the use of bird lines alongside trawl warps on their krill vessels had been very effective in avoiding seabird incidental mortality. Similarly, seal excluder devices had also been effective in reducing fur seal mortality in this fishery.

5.10 The UK noted CCAMLR's exemplary record in reducing seabird by-catch in longline fisheries, and recommended that extracts from the Scientific Committee and Commission reports be reported to ACAP at its next meeting in mid-November 2006.

5.11 New Zealand informed the Commission that it would be in a position to present this information on behalf of the Commission to the 2nd meeting of ACAP Parties.

5.12 The Commission agreed with the UK proposal and thanked New Zealand for its offer to act as the CCAMLR Observer at the 2nd meeting of ACAP Parties.

5.13 Russia and Ukraine informed the Commission of their use of recently modified longline gear that has resulted in the reduction of both macrourid and seabird by-catch. Russia had presented a description of the gear used to WG-FSA (WG-FSA-06/5). It also encouraged experimental trials to determine the extent in the reduction of by-catch rates (SC-CAMLR-XXV, Annex 5, paragraphs 3.14 and 6.52).

5.14 The European Community praised the Commission's achievements in reducing seabird and marine mammal incidental mortality associated with fishing in the Convention Area. It noted CCAMLR's role as a model of best practice for other RFMOs in effectively reducing seabird by-catch. The European Community recommended that the Secretariat continue to exchange information with other RFMOs on CCAMLR's implementation of seabird mitigation measures.

5.15 The Co-convenor of ad hoc WG-IMAF noted the growing cooperation with RFMOs over the past year on seabird by-catch reduction (SC-CAMLR-XXV, Annex 5, Appendix D, paragraphs 160 to 177).

5.16 Noting the above, New Zealand proposed revising Resolution 22/XXIII to further enhance cooperation with other RFMOs on effective seabird by-catch mitigation measures (see paragraphs 5.17 to 5.29 below).

5.17 Chile and Brazil informed the Commission of their recent implementation of their NPOA-Seabirds.

5.18 The USA noted that Uruguay has recently finalised its NPOA-Seabirds and that together these three new NPOAs represent a significant accomplishment. It also supported a revision of Resolution 22/XXIII to enhance cooperation with other RFMOs.

5.19 The Commission endorsed the Scientific Committee's recommendations (SC-CAMLR-XXV, paragraph 5.57) in respect of further actions to address the issue of incidental mortality associated with fishing in the Convention Area.

5.20 The Commission also considered various other incidental mortality-associated matters highlighted by the Scientific Committee (SC-CAMLR-XXV, paragraph 5.58) and made several decisions together with additional comments as described in the paragraphs below.

5.21 In particular, the Commission noted the success of net binding in reducing seabird by-catch in pelagic trawl fisheries for mackerel icesh in Subarea 48.3 (SC-CAMLR-XXV, paragraph 5.57(v)) and accepted the proposed revision of Conservation Measure 42-01 encouraging the use of net binding (SC-CAMLR-XXV, paragraph 5.58(i)).

5.22 Australia requested the Scientific Committee and ad hoc WG-IMAF to provide additional clarification on area-specific risks associated with seabird-trawl net interactions. This information should be further considered next year following provision of additional information from vessels using net binding.

5.23 The UK suggested that any proposed revision to Conservation Measure 42-01 in relation to net binding should only be made obligatory following some limited period of application so that further information on its effectiveness can be obtained. The Scientific Committee would then be in a better position to consider modifying the measure.

5.24 Australia welcomed the work to be undertaken in Subarea 48.3 and looked forward to considering the outcomes of this work at the next meeting of the Scientific Committee. It suggested that such a requirement for net binding was unlikely to be needed to be implemented uniformly and reiterated its request (see paragraph 5.21) that the Scientific Committee and ad hoc WG-IMAF consider those circumstances where application of net binding would be most effective.

5.25 In considering other requests, the Commission, in particular, noted that requests for continued action in respect of seabird mortality caused by IUU fishing and observer coverage in krill fisheries have already been considered by the Commission under other agenda items.

5.26 The USA informed the Commission that they would be able to represent CCAMLR at the tuna RFMO meeting in Kobe, Japan, in January 2007 and that they would report back to Commission next year. The Commission was appreciative of this offer.

5.27 The Commission requested that the Secretariat provide a paper to the Kobe meeting describing the scientific and fisheries management processes CCAMLR has followed in developing its seabird by-catch mitigation measures.

5.28 Australia noted that it was appropriate for CCAMLR Members that are also members of other RFMOs to ensure that seabird mortalities are reported and mitigation measures are improved in the fisheries being managed by such organisations.

5.29 Following the Scientific Committee's recommendation (SC-CAMLR-XXV, paragraph 5.58(v)), the Commission encouraged Members to support a BirdLife

International initiative at COFI-27 to advance best-practice guidelines for the setting-up and implementation of NPOA-Seabirds.

Excerpts CCAMLR XXV Scientific Committee Report

INCIDENTAL MORTALITY

5.1 The Scientific Committee reviewed the report of ad hoc WG-IMAF (Annex 5, section 7 and Appendix D). It endorsed the report and its conclusions, and the plan of intersessional work (SC-CAMLR-XXV/BG/28) subject to the comments set out below.

5.2 The Scientific Committee invited Members to review the membership of ad hoc WG-IMAF and to facilitate the attendance of their representatives at its meetings especially South American members. Further, where possible and appropriate, the attendance of technical coordinators would be beneficial to WG-IMAF, WG-FSA and the general coordination of the observer program (Annex 5, Appendix D, paragraph 5).

Incidental mortality of seabirds during regulated fishing in the Convention Area in 2005/06

5.3 The Scientific Committee noted that:

- (i) the total number of observed seabird mortalities in all longline fisheries in the Convention Area, with the exception of the French EEZ in Subarea 58.6 and Division 58.5.1, was one (a white-chinned petrel in Division 58.4.3b). The total extrapolated longline mortality was two birds (Annex 5, Appendix D, Table 3). This compared to 97 birds estimated killed in longline fisheries in the Convention Area, with the exception of the French EEZ, in 2004/05 (Annex 5, Appendix D, paragraph 11);
- (ii) the total reported seabird mortality from observers for Subarea 58.6 and Division 58.5.1 was 57 and 592 birds respectively (Annex 5, Appendix D, Table 4). The extrapolated total seabird mortalities for Subarea 58.6 and Division 58.5.1 were 235 and 2 352 respectively (Annex 5, Appendix D, Table 5). This compared to estimates of 242 and 4 387 respectively in 2004/05 (SC-CAMLR-XXIV, paragraph 5.8);
- (iii) when seabird mortalities from the Subarea 58.6 and Division 58.5.1 EEZs within the Convention Area are included, the total extrapolated seabird mortalities during longline fishing operations in longline fisheries was estimated to be 2 589 (Annex 5, Appendix D, paragraph 6);
- (iv) for the first time no albatrosses were observed captured in longline fisheries in the Convention Area (Annex 5, Appendix D, Table 8 and Annex 5, Appendix D, paragraph 6);
- (v) in the Subarea 48.3 trawl icefish fishery 33 seabirds, including both albatrosses and petrels, were observed killed and another 89 released alive and uninjured (Annex 5, Appendix D, Table 12). The rate of mortality in this subarea in 2006 was 0.07 birds per trawl compared to 0.14, 0.37 and 0.20 in 2005, 2004 and 2003 respectively (Annex 5, Appendix D, paragraph 23 and Table 14);

- (vi) there were no seabird mortalities observed in the Division 58.5.2 trawl fishery, the Area 48 krill fishery or any of the pot fisheries (Annex 5, Appendix D, paragraphs 26, 29 and 32).

5.4 The Scientific Committee noted that 97% of reported seabird captures in the Convention Area with the exception of the French EEZ in Subarea 58.6 and Division 58.5.1, were during longline hauling (Annex 5, Appendix D, paragraph 12). For the French EEZ in Subarea 58.6 and Division 58.5.1, 28% of seabirds captured were caught alive (30% in 2004/05), indicating that they were taken on the haul (Annex 5, Appendix D, paragraph 16). This emphasises a need to increase the focus on haul mitigation measures to reduce the remaining seabird by-catch in longline fisheries in the Convention Area (Annex 5, Appendix D, paragraph 16).

5.5 The Scientific Committee noted the ongoing efforts to use and develop effective mitigation measures in the French EEZ fisheries and that France continues to reduce its total seabird by-catch by about one half each year (Annex 5, Appendix D, paragraphs 15 and 19). However, the level of seabird captures during longline fishing in the French EEZ remains far above that recorded elsewhere in the Convention Area. Seasonal differences in the fishing patterns between areas may account for the differences in catch rates between the French EEZ and other areas, with no longline fishing conducted in equivalent high-risk areas during the summer period (Annex 5, Appendix D, paragraph 19).

5.6 With respect to the French EEZ in Subarea 58.6 and Division 58.5.1 the Scientific Committee recommended that:

- (i) consideration be given to increasing the proportion of hooks observed (e.g. to 40–50%) (Annex 5, Appendix D, paragraph 17);
- (ii) a thorough analysis of data be undertaken for the 2003/04 through 2005/06 seasons (Annex 5, Appendix D, paragraph 17);
- (iii) provision of additional information on the nature of captures, the factors affecting captures, and details of mitigation devices used (Annex 5, Appendix D, paragraph 18);
- (iv) all relevant raw by-catch data be submitted, as is done for other Convention Area subareas and divisions, to allow reporting on the total seabird by-catch for the entire Convention Area (Annex 5, Appendix D, paragraph 20).

5.7 Prof. Beddington asked what additional measures France intended to apply to address the continuing by-catch of seabirds in this fishery. Prof. Duhamel indicated that France was considering a revision to the closed season with the intention of further reducing the overlap between the white-chinned petrel breeding season and the fishery. Further, all the vessels in the French EEZ are now autoliners using 50 g/m IWLs and implementing the full range of Conservation Measure 25-02 requirements. Dr Holt enquired as to whether the fishing season could be deferred until after 1 May as occurs in other areas. Prof. Duhamel noted that, due to severe weather conditions during the austral winter, France considered that a delayed season was not feasible for safety reasons.

5.8 Prof. Duhamel noted that an increase in the proportion of hooks observed would be logistically difficult to achieve given the present workload of observers and that only a single observer is deployed on vessels in this fishery due to limited space

aboard the vessels. Mr Smith, as ad hoc WG-IMAF Co-convenor, noted that, higher observation rates were achieved in other Convention Area fisheries through the deployment of two observers and that the recommendation was to allow the levels of error associated with estimates of incidental mortality to be better determined, as current levels of coverage may be insufficient to allow this to occur in a statistically robust manner.

5.9 The Scientific Committee looked forward to a detailed submission of information from France in 2007 to address its recommendations in paragraph 5.6(ii) to (iv) and requested that France consider further its ability to work toward the recommendation in paragraph 5.6(i).

5.10 The Scientific Committee noted that the continuing decreases in incidental mortality in the Convention Area were positive and in particular noted the significance of having no albatross mortality observed in the Convention Area longline fisheries in 2005/06.

5.11 The Scientific Committee acknowledged the continued decline of seabird and marine mammal by-catch in the Convention Area, but noted that several areas of concern remain: in the French EEZ of Subarea 58.6 and Division 58.5.1, during longline haul operations, and during icefish trawl operations in Subarea 48.3 (Annex 5, paragraph 7.9). The ongoing success in minimising and mitigating by-catch of seabirds in longline fisheries in the Convention Area has resulted from an ongoing and adaptive approach to application of mitigation measures. The success and uptake of this approach has been contingent on the sustained very high level (100%) of observer coverage in the Convention Area (Annex 5, Appendix D, paragraph 63).

Incidental mortality of marine mammals during regulated fishing in the Convention Area in 2005/06

5.12 The Scientific Committee noted that:

- (i) there were no reports of incidental mortality of marine mammals in longline gear; this differs from 2004/05, when both pinnipeds (5 animals) and cetaceans (2 animals) were reported caught (Annex 5, Appendix D, paragraph 33);
- (ii) two marine mammals were reported entangled and released alive in longline fisheries; one Antarctic fur seal (*Arctocephalus gazella*) in Division 58.5.2 and one southern elephant seal (*Mirounga leonina*) in Subarea 88.1/88.2 (Annex 5, Appendix D, paragraph 33);
- (iii) one Antarctic fur seal was reported caught and killed in the krill trawl fishery in Subarea 48.1; as compared to 95 Antarctic fur seals observed caught during krill fishing operations in the same area (Area 48) in 2004/05 (Annex 5, Appendix D, paragraph 34);
- (iv) one leopard seal (*Hydrurga leptonyx*) was caught and killed in the Division 58.5.2 toothfish trawl fishery (compared to one Antarctic fur seal in 2004/05) (Annex 5, Appendix D, paragraph 36);
- (v) there were no reports of incidental mortality of marine mammals in pot fisheries (Annex 5, Appendix D, paragraph 37).

5.13 Methods reported deployed to avoid marine mammal capture were net barriers and a seal exclusion device. The Scientific Committee encouraged the continued reporting of use and experiences with mitigation measures as it is useful to make annual comparisons along with the capture rates of associated gear, with a view to identifying potentially effective methods over time (Annex 5, Appendix D, paragraph 35).

5.14 The Scientific Committee noted the positive result this year with the reduction in marine mammal mortalities; however, whilst this is good news the need for continued vigilance and monitoring of incidental mortality in fisheries was emphasised, recollecting that three years ago seal by-catch in trawl fisheries was a new and difficult issue. The Scientific Committee further noted the need for improved reporting of the use of mitigation measures in all trawl fisheries so that the successful measures used could be documented and made available more widely.

Information relating to the implementation of Conservation Measures 25-01, 25-02 and 25-03

5.15 The Scientific Committee noted that implementation of Conservation Measures 25-01, 25-02 and 25-03 is summarised as follows:

- (i) With respect to Conservation Measure 25-01, observer reports indicated 100% implementation of this measure (Annex 5, Appendix D, paragraph 39).
- (ii) With respect to Conservation Measure 25-02 –
 - (a) line weighting (Spanish system) – 100% reported implementation in all subareas and divisions (Annex 5, Appendix D, paragraph 40 and Table 10);
 - (b) line weighting (autoline system) – all vessels in high latitude areas fishing in daylight met the requirement to achieve a consistent minimum line sink rate as described in Conservation Measure 24-02. Only one vessel using a variation on the autoline method used clip-on weights to achieve their sink rate requirements. All other autoline vessels were now using IWLs. The vessel using a trot-line system met the sink-rate requirements in Subarea 48.6 (Annex 5, Appendix D, paragraph 40);
 - (c) night setting and offal discharge – 100% implementation of night setting, and also for offal discharge restrictions in all areas where this was required (Subareas 48.3, 48.4, 58.6, 58.7, 88.1 and 88.2) (Annex 5, Appendix D, paragraph 41 and Table 10);
 - (d) discard of hooks – hooks were present in discards on 6 of 36 longline cruises; on three of these this was reported as a rare event. However, the observer's report for the *Globalpesca I* in Divisions 58.4.1, 58.4.2, 58.4.3a, 58.4.3b, the *Protegat* in Subarea 48.3, and the *Punta Ballena* in Subareas 88.1/88.2 indicated that this was a daily occurrence (Annex 5, Appendix D, paragraph 42);

- (e) streamer lines – the number of cruises fully implementing streamer line specifications has increased from 74% to 80% this year (Annex 5, Appendix D, Table 9), although this is not as high as the 92% (34 of 37 cruises) in 2003. Four vessels failed on one streamer line specification and two vessels failed on two specifications. There was 100% implementation of attachment height (Annex 5, Appendix D, paragraphs 43 and 44 and Table 9);
 - (f) haul-scaring devices – in Subarea 48.3, four vessels did not use haul-scaring devices on all hauls. In Division 58.5.2, two trips were reported with 100% and 94% implementation of this requirement respectively. In Subareas 58.6 and 58.7 outside the French EEZ there was 100% implementation (one vessel fished) (Annex 5, Appendix D, paragraph 46 and Table 9).
- (iii) With respect to Conservation Measure 25-03 –
- (a) one of 9 trawl vessels in the Convention Area (11%) did not implement the prohibition on the discharge of offal during the shooting or hauling of trawl gear in Subarea 48.3 (Annex 5, Appendix D, paragraph 56). This level of implementation is higher than 2005, when 2 of 8 (22%) vessels discharged offal;
 - (b) three vessels were reported as having used net sonde cables. It was unclear whether these were actually net sonde cables or paravanes as had been the case in previous years, and the Scientific Committee requested additional information from scientific observers (Annex 5, Appendix D, paragraph 48);
 - (c) observer reports suggested that the reduced level of seabird mortality recorded during shooting operations was due to improved application of mitigation measures, including net cleaning, and a combination of weight added to the net and net binding. However, due to the lack of a specific field in the Observers Logbook to record the use of the method the Scientific Committee requested additional information from scientific observers (Annex 5, Appendix D, paragraphs 51 and 58).

5.16 The Scientific Committee expressed concern about the level of discard of hooks in offal, in particular on those vessels where this was reported as a daily occurrence. Dr Holt noted that hooks continued to be found in nests of giant petrels in areas far from fishing grounds (paragraph 6.10). Dr Agnew noted that a long time series of marine debris data had been collected and reported by the UK. The data indicated a decline in incidence of hooks in seabirds on the breeding colonies in recent years (SC-CAMLR-XXV/BG/9), attributed to the decrease in offal discharge in the general southeast Atlantic due to implementation of conservation measures. Further, Dr Agnew noted that standard forms are available from the Secretariat for reporting the incidence of hooks in seabirds on the breeding colonies. The Scientific Committee recommended that Members collect data on the standard forms and report the data to CCAMLR (paragraph 6.9; see also www.ccamlr.org/pu/e/sc/deb/forms-inst.htm).

5.17 With respect to the icefish fishery in Subarea 48.3, the Scientific Committee recommended that an advisory note be added to Conservation Measure 42-01 to assist in the uptake of net binding as follows (Annex 5, Appendix D, paragraph 60):

Add the following sentence to 'mitigation' paragraph 7:

Vessels are encouraged to use net binding as a means to reduce seabird interactions. See SC-CAMLR-XXV, Annex 5, Appendix D, paragraph 59 for guidelines for net binding.

5.18 The Scientific Committee, noting the success to date of net binding in the icefish fishery in Subarea 48.3, recommended the use of net binding in other pelagic trawl fisheries in the Convention Area be tested as appropriate to assess its utility and provided guidelines to assist in a uniform uptake of this mitigation measure (Annex 5, Appendix D, paragraphs 59 and 61).

Incidental mortalities of seabirds during fishing outside the Convention Area

5.19 The Scientific Committee noted that new data on the incidental mortality of seabirds outside the Convention Area had been presented by New Zealand and South Africa. The data from South Africa included black-browed albatrosses likely to be predominantly Convention Area seabirds breeding at South Georgia. The data provided suggest that the levels of by-catch of Convention Area seabirds outside the Convention Area are much greater in magnitude than those reported within the Convention Area and are cause for serious concern (Annex 5, Appendix D, paragraphs 64, 67 and 68).

5.20 A substantial proportion of the mortality reported outside the Convention Area occurs when seabirds collide with trawl warp cables (Annex 5, Appendix D, paragraphs 68 to 70). This mortality is cryptic and experience outside the Convention Area suggests that it requires targeted observation to be detected (Annex 5, Appendix D, paragraph 71).

5.21 The Scientific Committee recommended expanded data collection to determine the extent of the interaction by dedicated seabird observers (Annex 5, Appendix D, paragraphs 62, 71 and 73) to assess the extent of seabird interactions with trawl warp cables in Convention Area fisheries to document if seabird interactions with trawl warp cables are occurring in the Convention Area fisheries (Annex 5, Appendix D, paragraph 75).

Incidental mortality of seabirds during unregulated longline fishing in the Convention Area

5.22 The Scientific Committee noted that overall estimated total for the whole Convention Area in 2005/06 indicates a potential seabird by-catch in the unregulated fishery of 4 583 (95% CI range of 3 756 to 12 237) seabirds (SC-CAMLR-XXV/BG/27; Annex 5, Appendix D, paragraph 81 and Table 17).

5.23 In comparison with estimates for previous years, calculated in identical fashion, the value for 2005/06 is similar to the value estimated for 2003/04 (SC-CAMLR-XXV/BG/27). These are the lowest reported values since estimates started in 1996. This presumably reflects a commensurate reduction in toothfish removals and/or changes in the areas from where IUU fishing occurs (Annex 5, Appendix D, paragraph 82).

5.24 The Scientific Committee reiterated its conclusions of recent years that even these levels of IUU incidental mortality of seabirds were of substantial concern and likely unsustainable for some of the populations concerned (Annex 5, Appendix D, paragraph 86). Unlike this year in the regulated longline fishery where no albatross were reported killed, these IUU estimates include a substantial number of albatrosses many of which are still critically threatened. The Commission was encouraged to continue to take action in respect of incidental mortality of seabirds caused by IUU fishing (Annex 5, Appendix D, paragraph 87).

5.25 Prof. Moreno noted the gear conversion to deep-water gill nets by some IUU vessels and that this may have an impact on the estimation of IUU catch and therefore the estimation of incidental seabird mortality in Convention Area. Mr Smith, as ad hoc WG-IMAF Co-convenor, noted that consideration of this issue had been incorporated into the WG-IMAF intersessional work plan. Dr Constable noted that if the use of deep-water gill nets in the Convention Area were to be prohibited undertaking such work may not be a priority. The Scientific Committee agreed that with respect to this item the work plan should be reviewed after the Commission had considered this matter.

Research into and experience with mitigation measures

5.26 The Scientific Committee noted:

- (i) the success to date within the Convention Area in reducing seabird by-catch, but that the mitigation measures used continue to require refinement to potentially allow for fishing at any time of day without seasonal closure of fishing grounds (Annex 5, Appendix D, paragraph 89);
- (ii) as CCAMLR mitigation measures and practices have been held up as a role model outside the Convention Area, and successfully exported to some of those fisheries, research into mitigation measure refinement remains a priority to support the export of best-practice mitigation (Annex 5, Appendix D, paragraph 89);
- (iii) research endorsed at CCAMLR-XXIV (SC-CAMLR-XXIV paragraph 5.16) to further develop improvements to the line-weighting regimes and use of streamer lines for both Spanish system and autoline vessels (Annex 5, Appendix D, paragraphs 88 to 102);
- (iv) expectation that a suite of best-practice seabird by-catch mitigation for Spanish system longline vessels (Annex 5, Appendix D, paragraph 90) and autoline vessels (Annex 5, Appendix D, paragraph 102) can be developed in the near future.

5.27 With respect to future improvements to Conservation Measure 25-02 and 24 02, the Scientific Committee recommended:

- (i) testing the efficacy of the new Spanish longline system line-weighting regime as a seabird deterrent and for operational characteristics (Annex 5, Appendix D, paragraph 89);

- (ii) further research on the utility and cost of mechanised streamer line systems (Annex 5, Appendix D, paragraph 97);
- (iii) testing the effectiveness of paired streamer lines in Southern Ocean conditions with typical seabird assemblages (Annex 5, Appendix D, paragraph 102);
- (iv) Observer Logbook and cruise report modifications to improve data collections for longline haul mitigation, longline sink rates, estimation of access windows (vessel speed, sink rate, aerial extent of streamer lines).

5.28 Prof. Beddington clarified that CCAMLR's export of best mitigation practice is actually of its model of by-catch assessment, mitigation development and conservation measure implementation. The specific mitigation measures used very successfully in CCAMLR Convention Area fisheries have been designed for demersal longline gear and that the export of identical measures to pelagic longline fisheries would not be sensible without suitable modifications for the different gear and fishery operations.

5.29 Prof. Beddington queried as to why additional mitigation research was of priority when seabird by-catch in the Convention Area fisheries was at such low levels. Ms Rivera, as ad hoc WG-IMAF Co-convenor, noted that the current best mitigation practice included night-setting and seasonal closures in most subareas and divisions. Past direction from the Scientific Committee and Commission (SC-CAMLR-XX, paragraph 4.63; CCAMLR-XX paragraph 6.26; SC-CAMLR-XXIV, paragraph 5.16) has been to pursue the development of measures that might allow fishing during the day and without seasonal closures. Ms Rivera further noted that without additional modifications and improvements to the current conservation measures, fishing during these times would likely not be possible without an associated significant increase in seabird by-catch.

5.30 With respect to the *Shinsei Maru* bottom-line system, the Scientific Committee noted that the threats to Convention Area seabirds during line-setting operations would be minimal and potentially lower than with the traditional Spanish system and requested that continued reporting of this methodology occur to provide information on its performance in relation to seabird by-catch (Annex 5, Appendix D, paragraphs 92 to 94).

Observer data collection

5.31 The Scientific Committee reviewed data collection needs relative to several areas of seabird and marine mammal interaction and mitigation and recommended additions or changes to logbooks and cruise reports including:

- (i) improved reporting on:
 - (a) the use of net sonde cables (Annex 5, Appendix D, paragraph 48);
 - (b) the implementation of net binding (Annex 5, Appendix D, paragraphs 51 and 58);

- (c) the adoption of mitigation measures in the icefish trawl fishery (Annex 5, Appendix D, paragraph 57);
 - (d) haul mitigation devices used in the Convention Area (Annex 5, Appendix D, paragraphs 107 and 120);
 - (e) data required for estimating the longline seabird access window (Annex 5, Appendix D, paragraphs 104, 118 and 119);
- (ii) the implementation of a trawl warp-strike data protocol (Annex 5, Appendix D, paragraphs 62, 71, 122 to 123).

5.32 The Scientific Committee recommended that coverage of the krill fishery be increased to allow for adequate and representative sampling across all trawl fisheries for monitoring of by-catch and efficacy of mitigation measures especially with respect to the implementation of the trawl warp strike data protocol (paragraph 5.32(ii)) (Annex 5, Appendix D, paragraphs 31 and 60).

5.33 The Scientific Committee recognised that a careful balance is needed when tasking observer duties; accordingly, priorities must be identified and established. In making the recommendations in paragraph 5.31, the Scientific Committee noted the general review of the implementation of the observer program (paragraphs 2.7 to 2.21).

Risk assessment of fisheries by statistical area

5.34 The Scientific Committee encouraged the further development by ad hoc WG-IMAF of a paper describing the methodology and approaches of CCAMLR's risk assessment of fisheries to seabird by-catch. Such a paper is likely to be useful to groups outside CCAMLR seeking to undertake similar processes, particularly those with fishery management responsibilities where Convention Area seabirds are taken outside the Convention Area (Annex 5, Appendix D, paragraphs 135 to 137).

5.35 The Scientific Committee noted that a key utility of the risk assessment is that it covers all of the Convention Area and is not restricted only to new and exploratory fisheries.

Incidental mortality of seabirds in relation to new and exploratory fisheries

5.36 The Scientific Committee noted that:

- (i) Of the 39 applications for exploratory longline fisheries for 2005/06, 22 were undertaken (Annex 5, Appendix D, paragraph 138). A single seabird mortality was observed in Division 58.4.3b (Annex 5, Appendix D, paragraph 139).
- (ii) The assessment of potential risk of interactions between seabirds and longline fisheries for all statistical areas in the Convention Area was reviewed, revised and provided as advice to the Scientific Committee and Commission as SC-CAMLR-XXV/BG/26 with no changes to levels of risk this year (Annex 5, Appendix D, paragraphs 131 and 134).
- (iii) The 41 proposals by 12 Members for exploratory fisheries in seven subareas/divisions of the Convention Area in 2006/07 were addressed in relation to the advice in Annex 5, Appendix D, Figure 2 and Table 18

and SC-CAMLR-XXV/26. The results, summarised in Annex 5, Appendix D, Table 19, involve two categories: those that provide sufficient information and are assessed as conforming with advice relating to incidental mortality of seabirds (Annex 5, Appendix D, paragraph 143(i)), and those that contain insufficient information to be certain that they conform with advice relating to incidental mortality of seabirds (Annex 5, Appendix D, paragraph 143(ii)). The potential inconsistencies in the 13 proposals in this category were resolved at the meeting; all are now in conformity with advice relating to the incidental mortality of seabirds.

- (iv) Issues relating to: exemptions from setting longlines at night; exemptions in respect of closed seasons; maintaining maximum levels for the incidental mortality of seabirds as in the 41-series conservation measures, with reversion to the provisions of Conservation Measure 25-02 when these are reached; and including reference to the definition of birds caught in all relevant conservation measures; have been advised previously (SC-CAMLR-XXIV, paragraph 5.33(iv)) and advice remains unchanged.

5.37 The Scientific Committee welcomed improvements in notifications this year and requested that Members take greater care in future submissions to ensure the intent to comply with relevant seabird by-catch measures was clear (Annex 5, Appendix D, paragraph 145).

5.38 The Scientific Committee welcomed proposed improvements to the pro forma and checklist prepared to assist Members in fulfilling notification requirements (CCAMLR-XXV/29). The Scientific Committee recommended that the one-page summary of notifications should also include a checklist to address Members' intentions comply with the four assessed elements: Conservation Measure 25-02; Conservation Measure 24-02 and if an exemption is sought from setting longlines at night, or fish outside specified fishing seasons; specified seabird by-catch levels; and scientific observer requirements (Annex 5, Appendix D, paragraph 147).

5.39 The Scientific Committee reiterated its recommendation that any vessel operating under the provisions of Conservation Measure 24-02, and which catches a total of three (3) seabirds, as defined in SC CAMLR-XXII, Annex 5, paragraphs 6.214 to 6.217, shall revert to night setting in accordance with Conservation Measure 25-02 (Annex 5, Appendix D, paragraph 148).

International and national initiatives relating to incidental mortality of seabirds in relation to longline fishing

5.40 The Scientific Committee noted reports on current international initiatives under the auspices of:

- (i) ACAP – items of particular relevance to CCAMLR (Annex 5, Appendix D, paragraph 150);
- (ii) FAO (NPOA-Seabirds) – noting the completion of plans by Brazil and Chile, a developing plan by Uruguay, and awaiting finalisation of South Africa's plan (Annex 5, Appendix D, paragraphs 153 to 155);

- (iii) RFMOs – responses received to CCAMLR Resolution 22/XXIII from IOTC; progress with IATTC, IOTC, SEAFO, and WCPFC (Annex 5, Appendix D, paragraphs 163 to 173);
- (iv) NGOs – an update on BirdLife International's Albatross Task Force (Annex 5, Appendix D, paragraph 159) and its NPOA-Seabirds initiative (Annex 5, Appendix D, paragraph 156);
- (v) a mitigation workshop held in Hobart, Australia, to assist in refining an experimental program for identifying and developing effective seabird mitigation measures for pelagic longline fisheries (Annex 5, Appendix D, paragraph 158).

5.41 The Scientific Committee noted the considerable progress made by some RFMOs and opportunities to work cooperatively with CCAMLR. However, it was recognised that for pelagic longline gear types in particular, there is at present no best-practice mitigation strategy that has been rigorously tested and available for widespread uptake by the major RFMOs operating within the ranges of seabirds that breed and forage in the CCAMLR Convention Area (Annex 5, Appendix D, paragraph 174). The development of effective pelagic mitigation measures and their uptake outside the Convention Area should remain a high priority for CCAMLR, particularly for those fisheries where Convention Area seabirds are caught (Annex 5, Appendix D, paragraphs 158 and 175).

5.42 The Scientific Committee recommended that Members that are also members of WCPFC participate at its December 2006 meeting regarding the adoption of appropriate seabird mitigation measures within the WCPFC area (Annex 5, Appendix D, paragraphs 171 and 175).

5.43 Given the by-catch impacts of adjacent RFMO fisheries to birds that breed and forage in the Convention Area and consistent with CCAMLR's Resolution 22/XXIII, the Scientific Committee recommended that Members should be proactive in engaging with RFMOs and in promoting information exchange and strengthening their input into RFMO meetings by including seabird experts on member state delegations. It was also agreed that a critical role of Members was to become involved in the development and implementation of seabird resolutions and other measures to reduce by-catch of albatrosses and petrels within RFMO jurisdictions (Annex 5, Appendix D, paragraph 151).

5.44 The Scientific Committee recommended that CCAMLR and its Members support a BirdLife International initiative at COFI-27 to advance best practice guidelines for NPOA-Seabirds (Annex 5, Appendix D, paragraph 156).

5.45 The Scientific Committee recommended that the Commission be represented at the January 2007 tuna RFMOs meeting in Kobe, Japan, and that a paper be developed by Secretariat describing the scientific and other processes CCAMLR has followed in developing and implementing effective seabird by-catch mitigation measures (Annex 5, Appendix D, paragraph 176).

Streamlining the work of the Scientific Committee

5.46 The Scientific Committee endorsed the recommendation to retain the linkage between WG-IMAF and WG-FSA (Annex 5, Appendix D, paragraphs 183 to 184). It noted the shared areas of interest between ad hoc WG-IMAF and WG EMM and

encouraged ongoing dialogue between the two groups (Annex 5, Appendix D, paragraph 187).

5.47 The Scientific Committee noted the support of ad hoc WG-IMAF for the proposals for the restructure of the Scientific Committee's working groups (SC-CAMLR-XXV/4, paragraphs 14.1 to 14.9, and Annex 5, Appendix D, paragraphs 185 and 186).

5.48 The Scientific Committee endorsed the WG-IMAF review of its terms of reference during the intersessional period with a view to proposing revisions in 2007 (Annex 5, Appendix D, paragraph 192) and the development of a medium-term research plan (Annex 5, Appendix D, paragraphs 193 to 195).

Other business

5.49 The Scientific Committee noted that Australia had requested consideration of a proposal to extend the fishing season extension in Division 58.5.2 by seven months for longline vessels on the basis that the vessel limit for seabird by-catch coupled with the remaining mitigation measures specified in relevant conservation measures would be sufficient to achieve the level of mitigation required. The Scientific Committee endorsed the advice provided on the proposal (Annex 5, paragraphs 7.66 to 7.70).

5.50 Dr Constable presented a revised proposal from Australia to extend the fishing season in Division 58.5.2 by two weeks for longline vessels, with the season start date to be mid-April rather than 1 May. All elements of Conservation Measure 25-02 including night setting, the use of paired streamer lines, the use of IWLs, the use of two observers and the existing seabird by-catch limit for season extension in that area would be applied to this additional season extension. Further, the vessel would operate in such a manner as to allow lines to be set and hauled sequentially to allow for accurate monitoring of the seabird by-catch limit.

5.51 Mr Smith, as ad hoc WG-IMAF Co-convenor, noted that in general this proposal did not conflict with the advice provided by WG-IMAF on this matter and was in line with the preference for a step-wise roll-back in seasonal closures. Further, he noted that the season was being extended in the austral autumn rather than in the austral spring as recommended by WG-IMAF, but the controls proposed and the modest season extension should mitigate the higher risk in the austral autumn.

5.52 The Scientific Committee endorsed the proposal from Australia and noted that it looked forward to detailed information on its implementation.

5.53 The Scientific Committee noted that the quality of advice it could provide was enhanced when detailed technical information, when needed, was submitted in papers in advance of the meeting and further that where supporting technical documents were not tabled, insufficient information may mean that the Scientific Committee needs to defer the provision of advice until the following year.

5.54 With respect to the Japanese proposal seeking to conduct longline sink rate tests when within Subarea in 48.6 (CCAMLR-XXV/32), the Scientific Committee noted that the proposal did not pose any additional risk to seabirds provided the standard rate of sink test as detailed in Conservation Measure 24-02 is achieved (Annex 5, Appendix D, paragraph 212).

Advice to the Commission

5.55 This section attempts to distinguish between general advice (which the Commission may wish to note and/or endorse) and specific advice which includes requests to the Commission for action.

General advice

5.56 The Commission was requested to note:

- (i) the continuing low levels of incidental mortality of seabirds in regulated longline fisheries in most parts of the Convention Area in 2006 and that for the first time, no albatrosses were reported taken in regulated longline fisheries (paragraph 5.3);
- (ii) that effort is required on mitigating incidental mortality of seabirds during the haul of longlines (paragraph 5.4);
- (iii) levels of incidental mortality of seabirds in the French EEZs reduced from last year's and continued efforts to improve mitigation effectiveness (paragraphs 5.3 and 5.5 to 5.9);
- (iv) reduced levels of seabird and marine mammal incidental mortality in trawl fisheries in the Convention Area in 2006, notably of seabirds in the icefish fishery in Subarea 48.3 and of fur seals in krill fisheries in Area 48 (paragraphs 5.3 and 5.12);
- (v) the need for improved reporting of the use of mitigation measures in all trawl fisheries (paragraph 5.14);
- (vi) assessment of implementation of relevant conservation measures, including improved performance for all elements (paragraph 5.15);
- (vii) concern that daily discarding of hooks in offal, as reported on some vessels, may have adverse impacts on bird populations (paragraph 5.16);
- (viii) cryptic mortality of birds in trawl fisheries outside the Convention Area that is likely to be adversely impacting birds breeding within the Convention Area (paragraphs 5.19 and 5.20);
- (ix) despite the success to date in reducing Convention Area seabird by-catch, further research to develop mitigation best-practice including improvements to line-weighting regimes and use of streamer lines for longline vessels is required to potentially allow for fishing at any time of day without seasonal closure (paragraph 5.26);
- (x) the *Shinsei Maru* bottom-line system posed a minimal threat to seabirds and requests for further reporting on this system (paragraph 5.30);
- (xi) the Japanese proposal to conduct line sink rate testing within Subarea 48.6 (CCAMLR-XXV/32) did not pose any additional risk to seabirds provided the standard rate of sink test as detailed in Conservation Measure 24-02 is achieved (paragraph 5.54).

5.57 The Commission was requested to endorse:

- (i) attendance where possible and appropriate of technical coordinators at working group meetings (paragraph 5.2);
- (ii) recommendations for consideration of increasing the proportion of hooks observed, thorough analysis on 2003/04 to 2005/06 data and provision of additional information on the nature of seabird captures in the French EEZ (paragraph 5.6);
- (iii) continued reporting of use and experiences with trawl by-catch mitigation devices for marine mammals (paragraph 5.13);
- (iv) improved data collection on marine debris relating to impacts on seabirds (paragraph 5.16);
- (v) noting the success of net binding in reducing bird by-catch to date in Subarea 48.3, advice to test the utility of this mitigation measure in other pelagic trawl fisheries (paragraph 5.18);
- (vi) research to further improve Conservation Measures 25-02 and 24-02 (paragraph 5.27);
- (vii) improved reporting from observers on seabird and marine mammal interaction and mitigation and the implementation of a bird trawl warp strike data collection protocol (paragraph 5.31);
- (viii) the further development of a paper describing the CCAMLR risk assessment of fisheries to bird by-catch (paragraph 5.34);
- (ix) the recommendation that the checklist developed by the Secretariat to assist Members in their applications for new and exploratory fisheries be further improved (paragraph 5.38);
- (x) advice that the current linkage between WG-IMAF and WG-FSA be retained (paragraph 5.46);
- (xi) advice on the review of terms of reference and development of a medium-term research plan for the WG-IMAF (paragraph 5.49);
- (xii) advice on the Australian proposal for a season extension in Division 58.5.2 for longline vessels (paragraphs 5.50 to 5.53).

Specific advice

5.58 The Commission was requested to consider taking action in respect of:

- (i) suggested revisions to Conservation Measure 42-01 (paragraph 5.17);
- (ii) continued action in respect of seabird mortality caused by IUU fishing (paragraph 5.24);
- (iii) increasing observer coverage of the krill fishery (paragraph 5.32);
- (iv) a request to Members to proactively engage with RFMOs, strengthen their input into RFMO meetings by including seabird experts on

delegations and to become involved in the development and implementation of seabird resolutions and other measures to reduce by-catch of albatrosses and petrels within RFMO jurisdictions (paragraph 5.43);

- (v) a recommendation that CCAMLR and its Members support a BirdLife International initiative at COFI-27 to advance best practice guidelines for NPOA-Seabirds (paragraph 5.44);
- (vi) a recommendation that the Commission be represented at the January 2007 tuna RFMOs meeting in Kobe, Japan, and that a paper be developed by the Secretariat describing the scientific and other processes CCAMLR has followed in developing and implementing effective seabird by-catch mitigation measures (paragraph 5.45).

ADDITIONAL MONITORING AND MANAGEMENT ISSUES

Marine debris

6.1 The Secretariat provided a review of surveys of marine debris and its impact on marine mammals and seabirds conducted by Members in the Convention Area (SC-CAMLR-XXV/BG/9). In March 2006, the Secretariat contacted all Members requesting current data on marine debris surveys to be submitted for inclusion in the CCAMLR database. Data were received from the UK (data reported from Bird Island, South Georgia, and Signy Island, South Orkney Islands) and Uruguay (data reported from King George Island, South Shetland Islands).

6.2 The CCAMLR marine debris database contains data from 12 sites, predominantly within Area 48. Of these 12 sites, four contain data for at least three years that have been collected according to CCAMLR standard methods. Members, locations and durations are as follows:

- (i) beached marine debris: Chile (Cape Shirreff, Livingston Island, South Shetland Islands, 1993 to 1997), UK (Bird Island, South Georgia, 1989 to present; Signy Island, South Orkney Islands, 1991 to present), Uruguay (King George Island, South Shetland Islands, 2001 to present) and South Africa (Marion Island, 2004);
- (ii) debris associated with seabird colonies: UK (Bird Island, 1993 to present);
- (iii) marine mammal entanglement: UK (Bird Island, 1991 to present; Signy Island, 1997 to present);
- (iv) hydrocarbon soiling of seabirds: UK (Bird Island, 1993 to present).

6.3 A summary of the trends presented in SC-CAMLR-XXV/BG/9 indicated that:

- (i) marine debris, principally packaging items and fishing gear, reached a peak in the period from 1994 to 1996 at Bird Island and Signy Island and has declined thereafter;
- (ii) the level of marine debris found in seabird colonies at Bird Island increased between 1998 and 2003 since when there has been a substantial decline, particularly in the relative proportion of fishing gear, such as snoods and hooks;
- (iii) Antarctic fur seal entanglement at Bird Island reached a peak in 1993 and has shown a general decline since that time, with the lowest levels recorded in 2004/05. Plastic packaging bands, synthetic string/longline fragments and fishing net are the most frequent entangling materials;
- (iv) the number of seabirds contaminated with hydrocarbons remains low.

Reports of surveys of marine debris on beaches

6.4 Standardised surveys of marine debris were reported from Signy Island, South Orkney Islands, in 2005/06 (SC-CAMLR-XXV/BG/14), and Bird Island, South Georgia, in 2004/05 (SC-CAMLR-XXV/BG/12). In contrast to last year, when the

there was an increase in the number of items recovered, there was a decrease in the number of items of debris at both sites; Signy Island (29%) and Bird Island (43%).

6.5 Mr O. Pin (Uruguay) informed the Scientific Committee that Uruguay remained committed to the continued collection and submission of data on marine debris associated with fishing operations.

6.6 Prof. Moreno informed the Scientific Committee that, owing to the retirement of Prof. D. Torres (Chile) during the intersessional period, it had not been possible to present any data or analysis at this time. Nevertheless, Chile remains committed to the continued collection and reporting of marine debris.

6.7 As in previous years, Dr Naganobu reported that no fishing gear had been lost from Japanese krill trawlers and that there had been no debris sighted at sea during the 2005/06 season.

Entanglement of marine mammals in marine debris

6.8 Standardised reporting of the entanglement of Antarctic fur seals in marine debris was reported from Signy Island, South Orkney Islands (SC-CAMLR-XXV/BG/15), where one entangled animal was recorded from Bird Island, South Georgia (SC-CAMLR-XXV/BG/13), where two entangled seals were recorded during winter, a reduction of 60% compared to the previous year, whereas the eight seals recorded in summer were a 100% increase compared to the number recorded during the previous summer; the overall number recorded between 1 April 2005 and 31 March 2006 (10) is the second lowest number of entanglements recorded since 1991.

Marine debris associated with seabird colonies

6.9 Marine debris associated with seabirds at Bird Island, South Georgia, from 1 April 2005 to 31 March 2006, was reported in SC-CAMLR-XXV/BG/11. There were 44 items of fishing gear (mostly longlining gear) found in seabird colonies, an increase from the previous year but still lower than the values in the period from 2000 to 2003.

6.10 Dr Holt noted that hooks continued to be found in nests of giant petrels in areas far from fishing grounds (paragraph 5.16).

Seabirds and marine mammals soiled with hydrocarbons

6.11 There were three incubating wandering albatrosses (*Diomedea exulans*) at Bird Island, South Georgia, reported contaminated with oil between 1 April 2005 and 31 March 2006, all of these were reported on the same day (30 December 2005) (SC-CAMLR-XXV/BG/11). The Scientific Committee noted that five of the six cases of oil contamination of wandering albatrosses from the same location in the previous year also occurred during a two-week period in March 2005 (SC-CAMLR-XXIV, paragraph 6.12).

Management advice

6.12 The Scientific Committee noted the reduction in the levels of marine debris in some parts of the Convention Area and encouraged all Members to submit data on marine debris to the Secretariat.