

ASSESSMENT AND AVOIDANCE OF INCIDENTAL MORTALITY OF ANTARCTIC MARINE LIVING RESOURCES

Marine Debris

6.1 The Commission noted reports received from Members which summarised their activities in relation to information requested by the Commission on marine debris and incidental mortality of Antarctic seabirds and marine mammals. Reports were received from the following Members: South Africa (CCAMLR-XVII/BG/6), Australia (BG/11), Republic of Korea (BG/14), Japan (BG/15), USA (BG/36), UK (BG/37), France (BG/41), Brazil (BG/51) and Poland (BG/52).

6.2 The Commission noted that there is scope for improving the effectiveness of the use of information submitted by Members in their reports. In particular, the Commission agreed with the recommendation of SCOI and requested the Secretariat to examine intersessionally whether improvements could be made to Members' reporting obligations, including the *Reports of Members' Activities* and *Reports on Avoidance and Assessment of Incidental Mortality* to reduce the number of reports, duplication between reports and improve the timing of the reports' deadlines (Annex 5, paragraph 6.2).

6.3 The Commission recalled that Members are required to report annually on gear lost during fishing operations. In 1997/1998, reports of lost gear were received from the UK (CCAMLR-XVII/BG/37), France (BG/41) and South Africa (BG/6).

6.4 The Commission noted the concerns of the Scientific Committee (SC-CAMLR-XVII, paragraph 4.85) and SCOI (Annex 5, paragraph 2.4) that there may be quite extensive amounts of gear lost from longline vessels which are currently unreported to CCAMLR. The lost gear may have an additional impact both on fish stocks (ghost fishing) and seabird and marine mammal populations (entanglement, ingestions). This problem is likely to be more acute in the unregulated fishery, exacerbated by instances of large-scale gear loss, when complete longlines are abandoned in order that vessels may evade sighting or inspection.

6.5 CCAMLR Members currently carry out monitoring of beached marine debris, in accordance with the CCAMLR standard method on the conduct of surveys of beached marine debris, at several locations. The CCAMLR database on marine debris surveys was established by the Secretariat in 1997. It currently holds 25 sets of data collected by four Members (Chile, Norway, UK and USA) from 1994 to 1997. At CCAMLR-XVI, the Commission encouraged all Members to submit data from marine debris surveys to the CCAMLR database (CCAMLR-XVI, paragraph 6.16). During the 1997/98 intersessional period, only one new dataset, covering seven beach surveys on Bird Island, South Georgia (Subarea 48.3) conducted by the UK in 1997, had been submitted. A summary of data currently contained in the database and their preliminary analysis are given in CCAMLR-XVII/BG/22.

6.6 In accordance with the Commission's decision last year, the Secretariat published a set of educational materials on the problem of marine debris in Antarctic waters. The set consists of a poster and a mini-poster. These materials are intended for distribution to all fishing, research, re-supply and tourist vessels working in Antarctic waters. Members were asked to circulate the material widely and were requested to advise the Secretariat of the number of copies of posters they require. Following requests received, a number of copies have already been provided to Members for distribution to interested national organisations. Copies of posters were also sent to the International Association of Antarctica Tour Operators (IAATO).

6.7 The Commission thanked the Secretariat and its Science Officer for their intersessional work on the subject of marine debris and its impact on Antarctic marine living resources.

6.8 The UK reported that in 1996/97, the seventh consecutive end-of-summer survey of beached man-made debris at Bird Island (CCAMLR-XVII/BG/7) revealed a total of 289 items,

60% less than the record totals of 725 and 710 items in 1994/95 and 1995/96 respectively. This may reflect reduced fishing effort (especially illegal longlining) in the area in 1996/97. Unusually, more debris items (62%) were collected at the end of summer than throughout the winter. Nylon line, identical to that attached to longline fishing gear, accounted for 57% of items, nearly all of which clearly originated from fishing vessels. Despite the CCAMLR ban on the use of plastic packaging bands being in force since 1994/95, many of these bands, 9% of which were uncut, were found ashore.

6.9 The UK also reported the results of the eighth annual beach litter survey, at three study beaches at Signy Island, South Orkney Islands (Subarea 48.2) during the 1997/98 austral summer (CCAMLR-XVII/BG/20). A total of 29 items weighing 3.6 kg were recovered from Cummings Cove; 11 items weighing 0.9 kg were found at Foca Cove and four items with a total weight of 1.7 kg were found at Starfish Cove. The total number of marine debris items collected from the three beaches was the lowest recorded since the surveys began in 1990, following a continuing downward trend since 1993/94. The proportion of plastic items recovered remained high, accounting for 57% of all items found. Despite the ban on the use of packaging bands, nine (36% of all plastic items) were recorded, although all had been cut. On the positive side this represents a continuing reduction since the record total of 115 bands in 1993/94.

6.10 South Africa reported on standardised beach litter surveys at sub-Antarctic Marion Island (Subarea 58.7) for the period 1996 to 1998, in comparison with surveys done in 1984 and 1995, prior to the onset of unregulated illegal fishing in this area (CCAMLR-XVII/BG/25). An exponential increase in the litter accumulation was noted in annual accumulation studies at designated beaches. Styrofoam pieces and plastic bottles showed the largest increases while fishing equipment also doubled during this period. An increase in the number and proportion of Spanish script items was noted, while French script items only appeared after the onset of illegal fishing. Monthly accumulation showed a strong seasonal effect, which also corresponded to periods of reported illegal fishing. Of the litter items that could be identified to their place of origin, most were from South America, while Oriental and French items also featured significantly. French items are noteworthy in light of reports of illegal fishing vessels using Port Louis, Mauritius, to land catches and resupply. A fast turnover rate of litter and very little accumulation effect were recorded in a beach litter retention study.

6.11 Chile presented the report of its survey of marine debris carried out at Cape Shirreff (Subarea 48.1) (CCAMLR-XVII/BG/27) and highlighted the findings of expanded polystyrene, which is prohibited under Annex III of the Madrid Protocol, evidence of incinerated material, and bundles of packaging bands, the use of which is prohibited by CCAMLR. It was noted, however, that these could have come from outside the Convention Area, or from unauthorised fishing vessels. Chile suggested that it might be worthwhile investigating the possibility of requiring the deployment on fishing vessels of logbooks for recording solid waste material generated, and the possibility of establishing guidelines to facilitate the recording of marine debris by scientists and others in Antarctic expeditions.

6.12 Other documents contained reports of debris survey work by the USA at Palmer Station, Antarctic Peninsula (Subarea 48.1) (CCAMLR-XVII/BG/36), Brazil at King George Island, South Shetland Island group (Subarea 48.1) (CCAMLR-XVII/BG/51) and Australia, undertaking at-sea collection and evaluation of pelagic plastics and synthetic artefacts on transects across the Southern Ocean (CCAMLR-XVII/BG/11).

6.13 Noting considerable progress in the collection and evaluation of scientific data on marine debris and the suggestions raised by Chile, the Commission requested the Scientific Committee to include annual reviews of this topic on its agenda for future meetings, thereby providing the Commission with a summary report on which to commence its discussion under this agenda item in the future. This represents a change from current practice, whereby the Scientific Committee has previously only considered aspects relating to interactions between marine animals and debris.

6.14 The Commission endorsed the Science Officer's request that all Members conducting surveys of marine debris should submit historic, as well as current data to the Secretariat as soon as possible and in accordance with requirements of the CCAMLR standard method on the conduct of surveys of beached marine debris.

6.15 The Commission noted the reports of UK surveys of entanglements of fur seals and marine debris at South Georgia and Signy Island, South Orkney Islands (SC-CAMLR-XVII, paragraphs 4.76 and 4.77); the reductions in entanglement levels at the two sites were encouraging but the increased incidence of packaging bands remains a concern. The Commission also noted reports from the UK, South Africa and France of increased levels of fishing gear associated with seabirds at South Georgia, Marion Island and Crozet Islands respectively (SC-CAMLR-XVII, paragraphs 4.78 to 4.82).

6.16 The Commission expressed concern at the evidence for the continuing (even increasing) presence of packaging bands (sometimes uncut or retied into loops) in the Convention Area. It agreed with the Scientific Committee this is not necessarily evidence of failure by vessels of Members of CCAMLR to comply with Conservation Measure 63/XV, as the bands could well derive from vessels engaged in illegal or unregulated fishing (SC-CAMLR-XVII, paragraph 4.84). However, the Commission noted that observers reported the presence of packaging bands on at least two vessels in the Convention Area in 1997/98 (SC-CAMLR-XVII, Annex 5, Table 14). It commended South Africa for its prompt and effective action in this respect (CCAMLR-XVII/BG/29).

Incidental Mortality of Marine Animals during Fishing Operations

6.17 The Commission noted the extensive 1998 intersessional activities, the productive meeting of ad hoc WG-IMALF during WG-FSA and its report, summarised in SC-CAMLR-XVII, paragraphs 4.35 to 4.74. It thanked ad hoc WG-IMALF and its Convener, Prof. J. Croxall (UK) for such a comprehensive and detailed report, addressing a topic of major importance for the Commission.

6.18 The Commission noted the final revised estimates for seabird by-catch in 1997 (SC-CAMLR-XVII, paragraphs 4.38 and 4.39) and endorsed ad hoc WG-IMALF plans for detailed analysis of 1998 and 1999 data (SC-CAMLR-XVII, paragraph 4.40). The Commission noted the results of the existing analysis of the 1998 data on seabird by-catch whereby:

- (i) in Subarea 48.3 (SC-CAMLR-XVII, paragraph 4.43):
 - (a) 79 seabirds (83% white-chinned petrels, 12% black-browed albatrosses) were observed killed at an overall catch rate of 0.025 birds/thousand hooks compared with 712 seabirds at a catch rate of 0.23 birds/thousand hooks in 1997;
 - (b) an estimated 640 birds were killed, a substantial reduction (88% fewer) from the estimated 1997 kill of 5 755;
 - (c) these results represent a major improvement compared with 1997, due to the much higher levels of compliance with CCAMLR conservation measures; and
 - (d) the one-month delay (from 1 March to 1 April) in the start of the fishing season was thought to be a major factor in reducing bird by-catch in 1998.
- (ii) in Subareas 58.6 (outside the French EEZ) and 58.7 (SC-CAMLR-XVII,

paragraph 4.44):

- (a) 498 seabirds of five species (mainly (96%) white-chinned petrels) were observed killed with an average catch rate of 0.117 birds/thousand hooks, compared with 834 seabirds at a catch rate of 0.52 birds/thousand hooks in 1997;
- (b) the reduction in seabird by-catch rates compared with 1997 was probably because of improved compliance with Conservation Measure 29/XVI, especially with respect to night setting and use of streamer lines (though the 5 n miles fishing exclusion zone around the Prince Edward Islands may have contributed); and
- (c) by-catch occurred mainly during summer, peaking during February to mid-March, the chick-rearing period of white-chinned petrels.

The Commission noted that, as last year, these are absolute numbers of birds observed killed, not estimates of the total seabird by-catch mortality in these subareas. Based on last year's data, the observed total may be about 75% of the estimated total by-catch (SC-CAMLR-XVII, Annex 5, paragraph 7.57).

- (iii) in Division 58.5.1 (SC-CAMLR-XVII, Annex 5, paragraph 7.40) results from two longliners indicated by-catch levels of zero and 15 white-chinned petrels at a rate of 0.016 birds/thousand hooks (compared with 1.93 birds/thousand hooks for two hauls from unregulated vessels in this division); and
- (iv) in Subareas 48.1, 48.2, 88.1 and 88.3 fishing feasibility surveys and new and exploratory fisheries reported no seabird by-catch (SC-CAMLR-XVII, Annex 5, paragraphs 7.25 and 7.26).

6.19 The Commission endorsed the advice of the Scientific Committee, that:

- (i) there had been a substantial reduction (by 90% in Subarea 48.3 and about 50% in Subareas 58.6 and 58.7) in seabird by-catch in the regulated fisheries in the Convention Area in 1997/98;
- (ii) this was in part attributable to greater compliance with the mitigating measures set out in Conservation Measure 29/XVI and to the later commencement of the fishing season in most areas in 1997/98 than in preceding years; and
- (iii) that the highest by-catch rates recorded were for sets commenced in daytime and for those undertaken during February and March in Subareas 58.6 and 58.7 and in April in Subarea 48.3.

6.20 The Commission noted that despite general improvement in compliance with Conservation Measure 29/XVI there are still numerous failures in compliance, especially with line weighting, but also with night setting, offal discharge and streamer lines (SC-CAMLR-XVII, paragraph 4.47).

6.21 Chile commented on non-compliance by vessels with line weighting provisions in Conservation Measure 29/XVI and emphasised the importance of identifying cost-effective strategies for increasing the effectiveness of conservation measures intended to reduce the incidental catch of seabirds, such as those outlined in SC-CAMLR-XVII, paragraph 4.52.

6.22 The Commission noted that estimates of seabird by-catch mortality from unregulated fishing in the Convention Area in 1998 (50 000 to 89 000 seabirds) are essentially similar to those of 1997 (SC-CAMLR-XVII, paragraph 4.49). It noted further that these levels of

by-catch are:

- (i) about two orders of magnitude greater than in the regulated fishery; and
- (ii) unsustainable for the albatross, giant petrel and white-chinned petrel populations concerned (SC-CAMLR-XVII, paragraph 4.50).

This is a most serious situation, viewed with the greatest concern by the Commission, which is proposing a wide range of measures to address the problem of unregulated and illegal fishing (paragraphs 5.16 to 5.71).

6.23 The Commission noted data from Australia and New Zealand on the continuing by-catch of seabirds from the Convention Area in fisheries operating outside, especially tuna fisheries in adjacent regions (SC-CAMLR-XVII, paragraph 4.51).

6.24 The Commission endorsed the advice of the Scientific Committee (SC-CAMLR-XVII, paragraph 4.52) in respect of new information relating to methods for mitigating seabird by-catch in longline fisheries, relating to:

- (i) offal discharge, in that vessels discharging offal during the haul on the same side as the line hauling site should not be allowed to fish in the Convention Area and drew this especially to the attention of those involved in licensing of vessels to fish in EEZs;
- (ii) the importance of adequate line weighting as potentially the most effective of existing mitigating measures, the need to develop more efficient methods to weight lines and the high priority for experimental research into the effects of line sink rates;
- (iii) the possible future need to add a provision to Conservation Measure 29/XVI governing the use of line floats;
- (iv) the need to investigate the use of line-setting devices;
- (v) encouraging the development and testing of underwater setting tubes, especially current initiatives by Australia, New Zealand, Norway and South Africa; and
- (vi) the need for research into artificial bait, gear colour and bait-taking behaviour of seabirds.

6.25 The Commission recalled that last year it requested the Secretariat to arrange for comments on the draft of the FAO International Plan of Action on the Reduction of Incidental Catch of Seabirds in Longline Fisheries (IPOA) from ad hoc WG-IMALF (SC-CAMLR-XVII/BG/5) to be forwarded to the FAO in time for consideration at the FAO Consultation to be held in Rome from 26 to 30 October 1998 (CCAMLR-XVI, paragraph 12.4). The revised IPOA would then be submitted for adoption at the next meeting of the FAO Committee on Fisheries (COFI) to be held in February 1999.

6.26 It noted that comments from WG-FSA had been forwarded and that ad hoc WG-IMALF members (notably Mr N. Brothers (Australia) and Mr J. Cooper (South Africa)) had been very active in developing key background documents for the FAO Consultation, which had resulted in the draft IPOA being accepted for adoption at the forthcoming COFI meeting (CCAMLR-XVII/BG/58).

6.27 The Commission encouraged all Members to support the adoption of IPOA at the COFI meeting. It requested all nations fishing in the Southern Ocean then to adopt their own National Plans of Action (within the IPOA) by 2001.

6.28 The Commission asked the Scientific Committee to monitor progress on the IPOA and to arrange for an observer to represent the Scientific Committee at this element of the COFI meeting in 1999.

6.29 The Commission noted assessments and advice provided by the Scientific Committee in respect of protection of seabirds from incidental mortality in relation to proposals for new and exploratory longline fisheries for *Dissostichus* spp. in the Convention Area (SC-CAMLR-XVII, paragraphs 4.60 to 4.67). These were considered under Agenda Item 7.

6.30 The Commission endorsed the recommendation of the Scientific Committee that Conservation Measure 29/XVI should be retained in full for longline fishing in all parts of the Convention Area in 1998/99 (SC-CAMLR-XVII, paragraph 4.70). It approved a variation to this, however, in respect of the New Zealand longline fishery in Subarea 88.1 south of 65°S (SC-CAMLR-XVII, paragraphs 4.66 and 4.67).

6.31 The Commission noted the strategic advice of the Scientific Committee concerning policies and practices believed essential to addressing and resolving the issue of seabird by-catch in longline fisheries (SC-CAMLR-XVII, paragraph 4.71), specifically that:

- (i) sustained development of underwater setting offers the most likely medium- to long-term solution to the problem;
- (ii) work to develop line weighting regimes to ensure sink rates that will preclude seabirds accessing bait offers the best short-term solution, as well as the likelihood of permitting exemption from several other mitigating measures currently in use in the Convention Area; and
- (iii) in the meantime, improved compliance with the existing suite of mitigation measures in Conservation Measure 29/XVI is essential.

6.32 The Commission also endorsed the advice of the Scientific Committee concerning:

- (i) improved training and education of fishing companies, vessel captains, fishing masters, crew, scientific observers and technical coordinators (SC-CAMLR-XVII, Annex 5, paragraph 7.194);
- (ii) development of a range of national and international plans of action, e.g. those under FAO, the Convention on the Conservation of Migratory Species of Wild Animals (CMS) and the Australian Threat Abatement Plan (SC-CAMLR-XVII, Annex 5, paragraph 7.196); and
- (iii) action relating to improved regulation of high seas fishing (especially through harmonisation of management measures) and encouraging Members (and other countries fishing in the Convention Area) to ratify and promote entry into force of instruments such as UNIA, the FAO Compliance Agreement and the Code of Conduct for Responsible Fisheries.

6.33 New Zealand reported on the good progress made on the seabird identification guide which it expects to have available for delivery to Members in early 1999 (CCAMLR-XVII/BG/55). It thanked the guide's Oversight Committee, the sponsors and the technical experts in each of the four CCAMLR languages who have worked hard to ensure that an important publication worthy of CCAMLR is produced.

6.34 The Commission commended Brazil for its initiative in translating the CCAMLR booklet *Fish the Sea Not the Sky* into Portuguese (CCAMLR-XVII/BG/51).

6.35 Brazil noted that it does not undertake commercial fishing in Antarctic waters.

Nevertheless, it believes in the need for an educational program for fishers that operate in its waters because these fishing grounds are used as feeding grounds for breeding and migrating individuals of some species of Antarctic seabirds. Brazil hoped that other Members would undertake similar educational actions in relation to fisheries conducted outside the CCAMLR Convention Area but of relevance to species occurring within it.

6.36 The Commission noted that during the 1997/98 season there had been only one bird killed in collision with a trawl warp, and that there had been no evidence of fishing with net monitor cables in contravention of Conservation Measure 30/X (SC-CAMLR-XVII, paragraph 4.74).