

ASSESSMENT AND AVOIDANCE OF INCIDENTAL MORTALITY
OF ANTARCTIC MARINE LIVING RESOURCES

Marine Debris

6.1 Reports on the assessment and avoidance of incidental mortality in the Convention Area in the 1996/97 season were submitted by South Africa, Japan, Republic of Korea, Australia, UK, USA, Brazil and Poland (CCAMLR-XVI/BG/5, 8, 11, 13, 15, 24, 34 and 39). Reports on surveys of beached marine debris were received from the UK (CCAMLR-XVI/BG/4, 6, 10 and 26), Chile (CCAMLR-XVI/BG/35), USA (CCAMLR-XVI/BG/24), Australia (CCAMLR-XVI/BG/13), Brazil (CCAMLR-XVI/BG/34), Norway (CCAMLR-XVI/MA/3) and Uruguay (CCAMLR-XVI/BG/22). The observer from ASOC also submitted a paper on oceanic debris observations in the Southern Ocean Whale Sanctuary (SC-CAMLR-XVI/BG/29).

6.2 The sixth year survey of beached marine debris at Bird Island (South Georgia) conducted by the UK in 1995/96 (CCAMLR-XVI/BG/4) revealed a total amount of debris 2% less than in 1994/95. However, whereas the total amount of debris collected during the winter (April–September) was 40% lower than in 1994/95, the number of items collected at the end of summer (March) was 75% greater than in the previous year. Nylon line, identical with that used in longline gear, accounted for 77% of items; the number of packaging bands found was the highest for many years, as was the proportion of these which were uncut.

6.3 Most of the large amount of debris collected from a 1-km stretch of beach on the south coast of South Georgia in December 1995 originated from fishing activities (CCAMLR-XVI/BG/26). The debris included 361 packaging bands of the type used to secure bait boxes; a considerable proportion of the bands were uncut.

6.4 Brief beach debris surveys were carried out by the UK at two sites in the South Sandwich Islands (CCAMLR-XVI/BG/10). Low levels of debris were recorded, probably due to the absence of fishing in this area. Although most of the debris on Candlemas Island was plastic, over half being fishing net floats, no fishing net or fishing line fragments or packaging bands were found.

6.5 The seventh beach marine debris survey was carried out by the UK at Signy Island (South Orkneys) during the 1996/97 austral summer (CCAMLR-XVI/BG/6). The total amount of marine debris collected was the lowest recorded since the surveys began in 1990, both in terms of weight and number of items, continuing a downward trend since 1993/94. However, the proportion of plastic items found remained high, accounting for 79% of all items found. Almost half of the plastic items were packaging bands, all of which were found cut.

6.6 The UK noted that the results of its surveys substantiated the strong concerns on debris and waste disposal expressed by the Commission last year (CCAMLR-XV, paragraph 5.13) and indicated the continuing need for appropriate action.

6.7 Chile conducted for the fourth consecutive season marine debris surveys on the CEMP site at Cape Shirreff along a 14-km stretch of coastline (CCAMLR-XVI/BG/35). Plastic comprised 94% of the total amount of debris collected. The amount of marine debris was lower this year, but the presence of polystyrene was observed as the most abundant for the first time. As was the case in previous seasons, partially burnt plastic material was found on the beaches, which infers that ashes produced during incineration were dumped into the sea.

6.8 Beaches of Seal Island (South Shetlands) were surveyed by American expeditioners during January 1997 (CCAMLR-XVI/BG/24). No debris was observed. Surveys were continued at Palmer Station, Anvers Island (Antarctic Peninsula).

6.9 A survey of marine debris was conducted by Australia in 1996/97 at Macquarie Island, about 300 n miles north of the Convention Area (CCAMLR-XVI/BG/13). The amount of marine debris found was similar to that of past years, although there has been an increase in debris associated with local fishing activity.

6.10 Brazil reported that every month during the Antarctic summer all debris is being collected from a 1-km stretch of coastline near the Commandante Ferraz Station (King George Island). The amount of debris has diminished since the removal of old decaying buildings that were in the area (CCAMLR-XVI/BG/34).

6.11 Norway has initiated in the 1996/97 season a long-term program of beach marine debris surveys on Bouvet Island (CCAMLR-XVI/MA/3). The surveys will be conducted in accordance with CCAMLR standard methods.

6.12 Australia reported the loss in Division 58.5.2 of two portions of trawl net and the recovery of numerous items of discarded fishing gear, including trawl netting and large sections of longline gear from illegal fishing in the same area (CCAMLR-XVI/BG/13).

6.13 No lost or discarded fishing gear in 1996/97 were reported by South Africa, Japan, the Republic of Korea, UK, USA, Brazil and Poland (CCAMLR-XVI/BG/5, 8, 11, 15, 24, 34 and 39). Japan advised that all its krill fishing vessels are equipped with incinerators for burning plastic material such as pieces of net gear, etc.

6.14 ASOC advised of the results of oceanic debris observations in the Southern Ocean Whale Sanctuary, which were conducted from December 1994 to March 1995 in the area from the Antarctic Peninsula to the Ross Sea (SC-CAMLR-XVI/BG/29). Man-made megalitter was nowhere common, but was seen mostly near and to the west of the Antarctic Peninsula, and north and northwest of the Ross Sea, and consisted mostly of plastic items, especially styrofoam fragments. Fishing gear was not a major component of man-made debris. It was pointed out that the survey was carried out prior to the escalation in fishing effort which happened in the Convention Area in recent years.

6.15 The Commission adopted a standard method for monitoring beached marine debris in 1993. Members conducting monitoring in accordance with this method have submitted a number of datasets to the Secretariat in the required standard format. In anticipation of more data being received, the Secretariat established a CCAMLR database for marine debris surveys (CCAMLR-XVI/BG/30). All data submitted so far have been loaded in to the database.

6.16 The Commission encouraged more Members to submit data from marine debris surveys to the Secretariat on a regular basis. The CCAMLR standard method and data reporting requirements are appended to CCAMLR-XVI/BG/30.

6.17 It was noted that the listings in CCAMLR-XVI/BG/30 of the data held in the database contained some errors. In addition, the data included results from surveys conducted according to the CCAMLR method as well as those from ad hoc surveys of different design. It was agreed that:

- (i) the Science Officer would correspond intersessionally with the relevant Members (if possible via the Members of the ad hoc group established by the Commission last year) to correct the current entries in the database; and
- (ii) the data collected according to the CCAMLR method should be held separately from the results reported from the use of other methods.

6.18 Argentina noted that finding of fragments of trawl netting in marine debris washed ashore in Area 48 may indicate that some commercial fishing with bottom trawls may still take place. The UK and Chile indicated the difficulty of identifying the nature and origin of the fragments of fishing net in which animals were typically entangled. However, the UK advised that most fragments of nets found in marine debris in Subarea 48.3 had a mesh size similar to that of krill trawls.

6.19 The Commission agreed with the suggestion from Argentina that efforts should be made to trace the origin of trawl net fragments and that the marine debris database established by the Secretariat could be used to keep records of this information.

6.20 The Commission noted the reports received by the Scientific Committee of entanglement in marine debris of Antarctic fur seals at Bird Island, South Georgia (Subarea 48.3), Signy Island, South Orkney Islands (Subarea 48.2), Cape Shirreff, South Shetland Islands (Subarea 48.1) and at Bouvet Island (Subarea 48.6) (SC-CAMLR-XVI, paragraphs 4.74 to 4.79). These reports indicate that the levels of injury and death of marine mammals in the Convention Area through entanglement in marine debris showed no sign of decreasing in recent years.

6.21 The Scientific Committee also reported the considerable evidence of seabirds and marine mammals entangled in debris which had clearly originated from fishing vessels. In particular, it recognised that the continuing occurrence of entanglement in packaging bands indicated inadequate compliance with Conservation Measure 63/XV, which prohibits the use of packaging bands on fishing vessels in the Convention Area. Although some of the debris and packaging bands presumably originate from the unregulated fisheries in the Convention Area, there is clear evidence that many vessels in regulated fisheries are still using packaging bands – and some of them were observed to discard these at sea (SC-CAMLR-XVI, Annex 5, paragraph 3.38 and Table 7).

6.22 The Commission noted with concern that, despite the ban on the use of plastic packaging bands aboard fishing vessels introduced in 1996 (Conservation Measure 63/XV), considerable numbers of packaging bands are still being washed ashore. It was agreed that Members must take further steps to ensure that fishermen are aware of, and comply with, regulations preventing the disposal of debris in Antarctic waters.

6.23 The Commission agreed with the Scientific Committee that appropriate in-port inspection of vessels prior to departure for fishing grounds might assist vessels in complying with this conservation measure. Reminding fishing companies that excellent alternatives to plastic packaging bands exist might also be timely (SC-CAMLR-XVI, paragraph 4.87).

6.24 It was noted that the forthcoming CCAMLR brochure on marine debris would be an appropriate place to publicise these issues and concerns (CCAMLR-XVI/BG/29).

6.25 The Science Officer introduced the work undertaken on the draft of the marine debris brochure (CCAMLR-XVI/BG/29). It was emphasised that the present text was a draft and that some factual references still require correction. Also, the language used in the brochure would still need some editing to make use of language-specific colloquialisms appropriate for the target audience. The intention is to publish the brochure next year.

6.26 The UK stated that, despite provisions of MARPOL, Annex IV to the Environmental Protocol to the Antarctic Treaty and CCAMLR measures, there was still a major problem with marine debris in the Convention Area. It had been noted that 50% of fishing vessels are still disposing of materials at sea (SC-CAMLR-XVI, Annex 5, Table 7). The UK noted that it was important to consider the target audience and to design a range of educational materials accordingly. The principal audience was fishing companies and fishermen, and the message on disposal at sea should be succinct and eye-catching.

6.27 The Commission noted that last year it did not give clear advice to the Secretariat on the range of educational materials required, nor provide funds for their publication. It was decided that the Secretariat be requested to complete its work on the brochure and publish it within the budget allocated for this purpose in the 1998 budget of the Commission.

6.28 The Secretariat was also requested to consider if the CCAMLR marine debris placard and the flier published in 1993 could be usefully updated to include recent CCAMLR measures and initiatives. It was also requested to extract from the prepared brochure a short summary targeting fishermen and containing a simple message on how to handle waste on board fishing vessels. This work should be carried out intersessionally in consultation with the ad hoc group on marine debris. The results of this work should be reported to the 1998 meeting of the Commission.

Incidental Mortality of Seabirds and Marine Mammals during Fishing Operations

Incidental Mortality in Longline Fisheries

6.29 The Commission noted the intersessional work by the Working Group on Incidental Mortality Arising from Longline Fishing (WG-IMALF) and the Secretariat on incidental mortality in longline fisheries in 1996/97 (SC-CAMLR-XVI, paragraphs 4.36 to 4.41) and their plans for intersessional work in 1997/98 (SC-CAMLR-XVI paragraphs 4.38, 4.40, 4.51, 4.58, 4.66).

6.30 In particular, the Commission endorsed the reciprocal observership for the 1998 meetings of CCSBT Ecosystem and Related Species Working Group (CCSBT-ERSWG) and CCAMLR WG-FSA, and the provision of data to CCSBT on longline fishing effort for *Dissostichus* spp. fisheries to be used in modelling of the potential impact of longline fisheries on seabirds in the southern oceans (SC-CAMLR-XVI, paragraph 4.39).

6.31 The Commission also noted the comments and endorsed the recommendations of the Scientific Committee with respect to interactions with the secretariats of the Convention on the Conservation of Migratory Species of Wild Animals (CMS) and the Convention of Biodiversity (CBD) of CCAMLR's work in relation to albatross conservation (SC-CAMLR-XVI, paragraphs 4.41 and 4.42).

6.32 Australia indicated that, in respect of the listing of albatrosses on the appendices of the CMS, it is planning to take a lead role in developing a regional agreement with the southern hemisphere range states for conservation of albatrosses in the southern hemisphere. The Commission encouraged Australia in this initiative.

6.33 As part of the CCAMLR campaign for the prevention of incidental mortality of seabirds in longline fisheries, the book *Fish the Sea Not the Sky* was published in 1996. The Commission noted the Secretariat's report on the distribution of the book (CCAMLR-XVI/BG/23) and that it was considered in detail by the Scientific Committee (SC-CAMLR-XVI, Annex 5, paragraphs 7.8 to 7.12).

6.34 The Commission endorsed the recommendation of the Scientific Committee that the Secretariat should send copies of the CCAMLR book *Fish the Sea Not the Sky* to companies believed to be engaged in longline fishing in the Convention Area and adjacent regions, with the request that additional copies of the booklet be obtained from CCAMLR and placed on board all their vessels (SC-CAMLR-XVI, paragraph 4.37). Members were asked to advise the Secretariat, through national technical coordinators of observer programs, of the names and addresses of fishing companies of their countries which operate in the Convention Area.

6.35 Brazil informed the Commission that it was undertaking a translation into Portuguese of *Fish the Sea Not the Sky* and would be distributing this widely. This initiative was welcomed by the Commission.

6.36 In accordance with the decision of the Commission (CCAMLR-XV, paragraph 5.47), a flier and sticker to promote the message of the book were prepared. The Commission approved mock-ups of the flier and sticker which will be published in 1998 within the budget allocation for 1998.

6.37 The Commission considered the advice of the Scientific Committee on assessment and avoidance of incidental mortality of marine animals during longline fishing operations (SC-CAMLR-XVI, paragraphs 4.43 to 4.67). It noted that the advice was based partly on intersessional work undertaken by WG-IMALF and mainly on detailed assessments during WG-FSA based on data and reports provided by CCAMLR scientific observers on longline fishing vessels (SC-CAMLR-XVI, Annex 5, paragraphs 7.1 to 7.148).

6.38 The Commission welcomed the improvement in the quality and quantity of data and the quality of the reports provided by the scientific observers (SC-CAMLR-XVI, paragraph 4.44).

6.39 The Commission noted the advice of the Scientific Committee that no improvement could be made to the assessment of incidental mortality of seabirds from longline fisheries for *D. eleginoides* operating in the Convention Area in 1995/96. The estimated total seabird mortality remained at about 1 600 birds in Subarea 48.3 (SC-CAMLR-XVI, paragraph 4.43).

6.40 For the 1997 season the Commission noted the report of the Scientific Committee (SC-CAMLR-XVI, paragraphs 4.48 to 4.50), that:

- (i) the estimated total of seabird mortality in longline fisheries for *D. eleginoides* in Subareas 48.3 and 58.6/58.7 was 5 755 and 879 birds, respectively;

- (ii) the species mainly affected in the two areas were albatrosses (40% black-browed albatross in Subarea 48.3; 23% grey-headed/yellow-nosed albatrosses in Subareas 58.6/58.7) and white-chinned petrels (48% in Subarea 48.3; 73% in Subareas 58.6/58.7).

6.41 The Commission expressed concern at the number of seabirds killed in the Convention Area this year in the regulated fishery and noted that these included albatrosses of species classified as globally threatened.

6.42 It noted with concern that in 1996/97 there had been generally poor compliance with the provisions of Conservation Measure 29/XV, especially in respect of the use of streamer lines and discharge of offal but also with respect to night-time setting in Subareas 58.6/58.7.

6.43 The Commission noted a number of suggestions from the Scientific Committee on the improvement of compliance with Conservation Measure 29/XV, which include education and training in respect of CCAMLR conservation measures, access to the fishery on conditions of full compliance with conservation measures and in-port inspection of fishing vessels in order to ensure that they fully understand all relevant CCAMLR conservation measures, that they possess streamer lines of CCAMLR specification and that they can comply in full with offal discharge requirements (SC-CAMLR-XVI, paragraph 4.52).

6.44 In respect of improving education and training of fishing companies, vessel captains, fishing masters, crew and scientific observers, in relation to the use of measures to reduce by-catch of seabirds in longline fisheries, the Commission urged Members to collaborate in these initiatives, and to seek international support of them.

6.45 The Commission remitted the other suggestions in paragraph 6.43 above to SCOI for consideration next year.

6.46 The Commission noted the unanimous recommendation of the Scientific Committee that, from the perspective of achieving a significant reduction in seabird by-catch, the start of the longline fishing season in the Convention Area should be delayed until after 1 May (SC-CAMLR-XVI, paragraph 4.61). It agreed that the implications and application of this advice should be considered, in conjunction with the advice on fishing seasons in relation to new and exploratory fisheries, under the agenda item dealing with the consideration of conservation measures (paragraphs 9.20 to 9.22).

6.47 It was re-emphasised that this recommendation of the Scientific Committee had not taken into account fishery operational considerations and potential measures to combat unregulated fishing.

6.48 The Commission endorsed the advice of the Scientific Committee relating to the potential revision of footnotes to Conservation Measure 29/XV (SC-CAMLR-XVI, paragraph 4.65).

6.49 At this time it was noted that paragraph 3 of Conservation Measure 29/XV needed revision to remove inconsistencies; it was also agreed to try to improve the requirements of this paragraph in relation to offal discharge.

6.50 The European Community expressed concern with the procedure followed in regard to this conservation measure. It believed it would have been preferable for additional information to have been gathered, including from fishing companies. Nevertheless, and in the overriding interest of protecting bird populations, the Community concurred with the revised Conservation Measure 29/XVI.

6.51 The Commission noted and encouraged the initiatives of Norway and New Zealand in investigating devices for underwater setting of longlines and requested Members to report on the use of such devices. It endorsed the advice of the Scientific Committee that the use of devices enabling longlines to be set underwater may in future enable vessels to avoid restrictions to fishing seasons and also restrictions imposed by Conservation Measure 29/XV (SC-CAMLR-XVI, paragraphs 4.67 and 9.80).

6.52 The Commission noted that the Scientific Committee had tried to estimate the incidental mortality of seabird in unregulated fisheries for *D. eleginoides* in the Convention Area. They expressed great concern that, even at a conservative estimate of 16 500 to 26 800 seabirds, the level of seabird by-catch in the unregulated fishery for *D. eleginoides* in Subareas 58.6/58.7 (and probably also in Divisions 58.5.1 and 58.5.2) in 1996/97 was at least 20-times greater than that for the regulated fishery. They noted the Scientific Committee advice that the impact on white-chinned petrels and albatrosses is entirely unsustainable for the populations concerned (including those of at least two globally threatened species) – principally those at breeding sites in the Indian Ocean (Prince Edward Islands, Crozet, Kerguelen, Heard/McDonald Islands) (SC-CAMLR-XVI, paragraph 4.54).

6.53 It was noted that the values given above were based on the assumption that the estimated rate of seabird by-catch in the unregulated fishery in Subareas 58.6 and 58.7 was the same as that in the regulated fishery in these subareas. This was agreed to be a highly conservative assumption; it was noted that the alternative assumption – that the by-catch in the unregulated fishery is at a level equivalent to the highest rate observed in the regulated fishery in Subareas 58.6 and 58.7 in 1997 – gives estimates of by-catch of 66 000 to 107 000 seabirds.

6.54 The Commission agreed that the strongest possible action should be taken to eliminate unregulated fishing, which is likely to cause the collapse of the populations of several species of albatross and of white-chinned petrels (SC-CAMLR-XVI, paragraph 4.55).

6.55 The Commission also urged those responsible for regulating longline fishing in the areas immediately to the north of the Convention Area adjacent to Subareas 48.3 and 48.6, Division 58.5.1 and Subareas 58.6, 58.7 and 88.1 to adopt the provisions of Conservation Measure 29/XV and to consider restricting the fishing season to periods outside the main breeding season of albatrosses and petrels (SC-CAMLR-XVI, paragraph 4.59).

6.56 Japan wished to reiterate its reservation that, although it shares the concern expressed in the preceding paragraph, the Commission should be cautious in addressing issues which do not fall into its competence (SC-CAMLR-XVI, paragraph 4.60).

6.57 New Zealand noted that in the New Zealand EEZ, night setting and seasonal closures are being evaluated along with other possible mitigation measures including, as the Scientific Committee noted (SC-CAMLR-XVI, paragraph 4.66), underwater setting devices. New

Zealand intends to report to CCAMLR next year on the outcomes of the work in the New Zealand EEZ.

6.58 Australia reported that it had listed, in July 1995, the incidental catch (or by-catch) of seabirds during oceanic longline fishing operations as a key threatening process on schedule 3 of its Endangered Species Protection Act 1992. This listing requires the preparation of a Threat Abatement Plan currently being developed in consultation with the fishing industry, non-government conservation organisation, scientists and government conservation and fisheries management agencies. The plan, which will reduce the threat to seabirds in the Australian Fishing Zone, should be available for public comment by December 1997.

6.59 The Commission also noted information reported to the Scientific Committee by scientific observers (SC-CAMLR-XVI, Annex 5, paragraphs 8.1 and 8.2). In particular, three fur seals became entangled and drowned during the August cruise of *Ercilla* (Chile) in Subarea 48.3. Three other fur seals were entangled but were able to free themselves. South Africa's observers also reported that in Subareas 58.6 and 58.7, two sperm whales and one minke whale became entangled in longlines, but broke free.

Incidental Mortality in Trawl Fisheries

6.60 No incidental mortality of marine animals in trawl fisheries directed at *Dissostichus* spp. has been reported during the past two years (SC-CAMLR-XVI, paragraph 4.69).

6.61 Japan reported that krill fishing vessels caught one Antarctic fur seal and one penguin in Subarea 48.1 and one Antarctic fur seal in Subarea 48.3. One seal and one penguin in Subarea 48.1 died; the other seal was released alive.

Other Matters

6.62 At the last year's meeting the Commission considered a proposal from New Zealand on the publication of a seabird identification guide and agreed to contribute to its production. It took into consideration the fact that the guide would be used at sea by scientific observers designated in accordance with the CCAMLR Scheme of International Scientific Observation.

6.63 Production of the guide is being coordinated by the New Zealand Government. Together with nominees of other sponsors of this publication, the Chairman of the Scientific Committee and the Secretariat are providing technical oversight of the guide's content and quality.

6.64 The progress report on the publication of the Identification Guide to Southern Ocean Seabirds has been submitted to the Commission by New Zealand (CCAMLR-XVI/BG/41).

6.65 A meeting of sponsors of this publication (WWF, IUCN, CCAMLR and UK) was held during CCAMLR-XVI. The guide is expected to be published and distributed to sponsors and also to CCAMLR Members in early 1998, with first priority being given to CCAMLR scientific observers.