

ASSESSMENT AND AVOIDANCE OF INCIDENTAL MORTALITY
OF ANTARCTIC MARINE LIVING RESOURCES

Marine Debris

5.1 Reports of assessment of incidental mortality in the Convention Area in the 1995/96 season were submitted by Australia, Brazil, Republic of Korea, Japan, South Africa, UK and USA (CCAMLR-XV/BG/28, 29, 13, 12, 11, 6 and 26). Reports on surveys of beached marine debris were received from the UK (CCAMLR-XV/BG/4, 5 and 16) and Chile (CCAMLR-XV/BG/27).

5.2 Japan advised that all its krill fishing vessels are equipped with incinerators for burning plastic materials such as pieces of net gear, etc. No fishing gear lost from Japanese vessels and no sightings of marine debris were reported in 1995/96 (CCAMLR-XV/BG/12).

5.3 South Africa reported that the Prince Edward Islands have been proclaimed as a Special Nature Reserve. A management plan for this reserve includes specific provisions for the minimisation of incidental mortality of marine mammals and birds arising from the presence of waste materials and debris in the islands' fishing zone (CCAMLR-XV/BG/11).

5.4 The USA reported that marine debris was observed at Seal Island and several other islands (South Shetland Islands). No sightings of marine debris were reported in waters around the South Shetland Islands, including waters around Elephant Island (CCAMLR-XV/BG/26).

5.5 Australia reported that surveys of marine debris were conducted on a monthly basis throughout the 1996 winter at Macquarie Island (located about 300 n miles north of the Convention Area) (CCAMLR-XV/BG/28). A limited comparative marine survey of pelagic plastics, using a neuston net, is planned for the 1996/97 season. The survey will cover waters around Tasmania, Macquarie Island and waters further south in the Convention Area.

5.6 Brazil reported that collection of debris around the Brazilian Antarctic station, laboratories and shelters along the coastline of the Kelter Peninsula, King George Island, has been carried out since 1985 (CCAMLR-XV/BG/29).

5.7 Chile reported that annual surveys of beached marine debris were continued at Cape Shirreff, Livingston Island (CCAMLR-XV/BG/27). During the most recent survey, as in previous seasons, plastic was the principal item (>94%). As in the 1994/95 season, the discovery this season of some plastic items which showed evidence of having been processed in vessels'

on-board incinerators, was of particular concern. All solid residues of such incineration should be removed from the Antarctic Treaty area in accordance with Annex III to the Protocol on Environmental Protection to the Antarctic Treaty.

5.8 The UK survey of marine debris at Bird Island, South Georgia, in 1994/95 showed a three-fold increase in the overall amount of debris compared with 1993/94 (CCAMLR-XV/BG/4 and 5). Nylon line, mainly identical to that used in the longline fishery, comprised 80% of debris items. Out of 16 packaging bands found, 14 had been cut as required by Conservation Measure 63/XII. Most debris clearly originated from vessels fishing around South Georgia.

5.9 The review of patterns in the incidence of debris over the last five years at Bird Island showed that the slight reduction from 1992 to 1994 has not been sustained (CCAMLR-XV/BG/6). The indication of a relationship between fishing effort and debris level suggests that there is no evidence of improved standards in discarding waste material overboard in the Convention Area. Therefore, the review concluded that there is at present little evidence that CCAMLR's effort to reduce the amount of marine debris in the Southern Ocean has been effective.

5.10 The UK also reported on the sixth consecutive year of surveys of beached marine debris on Signy Island, South Orkney Islands (CCAMLR-XV/BG/16). The survey data showed that in 1995/96 there was a marked reduction in both weight of debris and the total amount of items found on all three study beaches compared to data from 1994/95 and 1993/94. Nearly all the packaging bands found had been cut.

5.11 It was noted that the Scientific Committee considered several reports on the impact of marine debris on marine mammals and birds submitted by the UK and Chile (SC-CAMLR-XV/BG/3, 4, 5 and 27). As in previous years, there have been reports of entanglements of fur seals in marine debris in the South Georgia and Cape Shirreff (Livingston Island) areas (SC-CAMLR-XV, paragraphs 3.56 to 3.60). Levels of entanglement at South Georgia had increased in 1995/96, following previous decreases.

5.12 The Commission noted with satisfaction that several Members had reported results of surveys monitoring the incidence of marine debris in the Convention Area. The Commission reiterated its call that Members to continue to do this in accordance with the standard method adopted in 1993 (CCAMLR-XIII, paragraph 4.10) and also urged wider participation of Members in this important activity.

5.13 However, the Commission noted with concern that current survey data indicate some increases in the amount of marine debris and that fishing vessels are probably the main source of this type of pollution (SC-CAMLR-XV, paragraphs 3.62 to 3.64).

5.14 Chile noted that given the existing and negotiated status of international agreements concerning the protection of marine ecosystems, particularly those governing discharge of waste material into the oceans, pollution in the Convention Area should be minimal and diminishing. Nevertheless, season after season, marine debris continues to arrive on the shores of sub-Antarctic islands, the Antarctic Peninsula and its associated islands. This debris also entangles and kills marine mammals and birds and becomes incorporated in the nests of some Antarctic birds.

5.15 Chile suggested that the Commission might wish to publish a range of educational materials on the problem of marine debris in Antarctic waters. This suggestion was supported by a number of delegates.

5.16 The Commission agreed that to counteract the current trend of increasing pollution from marine debris in the Southern Ocean, most of which appears to originate from vessels fishing within the Convention Area, a new educational initiative should be undertaken. It requested the Secretariat to consult with Members in order to prepare appropriate materials to form the basis of a campaign to reduce marine debris in this region.

5.17 These materials should include explanations of the international (including CCAMLR) regulations in force, the ecological and environmental reasons for avoiding pollution from marine debris and advice on all appropriate procedures to avoid discharge of such debris at sea. They should be widely distributed and used by CCAMLR Members to educate fishermen and fishing vessel operators on the potential impact of marine debris on the Antarctic ecosystem and on ways to avoid all types of marine pollution.

5.18 Members suggested that to assist the Secretariat in this task and to facilitate the provision to the Commission of relevant information on marine debris, it might be helpful to establish an ad hoc working group to be coordinated by the Secretariat and to operate by correspondence.

5.19 The Commission agreed with this suggestion and Members were invited to notify the Secretariat of the names and addresses of their nominees for this working group.

5.20 It was noted that it would also be important for the Secretariat to liaise with other groups with similar interests, including the SCAR Group of Specialists on Environmental Affairs and Conservation and IUCN.

5.21 Following last year's request from the Commission, the Secretariat prepared an article on marine debris surveys in the Convention Area and submitted it for publication in the recently-established newsletter *Marine Debris Worldwide* (USA). Advice was received that unfortunately, due to lack of funds, publication of the newsletter had been discontinued until further notice.

5.22 The Commission agreed that the Secretariat should update the article in the light of marine debris survey results reported to CCAMLR at this meeting, and submit it for publication elsewhere, possibly in the journal *Marine Pollution*.

5.23 The Commission also noted advice received from the Standing Committee on Observation and Inspection (SCOI) that plastic packaging bands were reported by CCAMLR Inspectors as still being used on some vessels. An apparent ambiguity in the definition in Conservation Measure 63/XII of the start of prohibition of plastic packaging bands in the Convention Area was highlighted. Conservation Measure 63/XII was revised accordingly.

Incidental Mortality of Seabirds and Marine Mammals during Fishing Operations

Incidental Mortality in Longline Fisheries

5.24 During the 1995/96 season observers had conducted observations in accordance with the Scheme of International Scientific Observation on all 16 longline vessels fishing for *D. eleginoides* in Subarea 48.3. The data collected by observers on incidental mortality of seabirds were analysed by WG-FSA and considered by the Scientific Committee (SC-CAMLR-XV, paragraphs 3.27 to 3.34).

5.25 At the meeting, the Commission also received a report from the Republic of Korea giving details of seabird by-catch experienced by a Korean longliner fishing in Subarea 48.3 during the 1995/96 season and the application of measures prescribed by Conservation Measure 29/XIV (CCAMLR-XV/BG/13).

5.26 Difficulties have been encountered by WG-FSA in the analysis of the 1996 data from the Scientific Observer Program, mainly because of the late submission to the Secretariat of most of the observers' reports (SC-CAMLR-XV, paragraphs 3.26 to 3.28).

5.27 The estimate for the 1995/96 season in Subarea 48.3 (ca. 2 300 birds caught of which about 1 600 were dead) is still preliminary as this was extrapolated from observer data, which so far have been analysed for three vessels only, to all fishing vessels working in Subarea 48.3. It should be noted, however, that fisheries fine-scale catch and effort reports give the total number of birds killed at ca. 1 260, which is of the same order of magnitude as the extrapolated estimate. Most birds, and especially albatrosses, were caught during the daytime (39% of all sets); white-chinned petrel was the main species caught at night (SC-CAMLR-XV, paragraph 3.29).

5.28 The Commission agreed with the Scientific Committee's endorsement of WG-FSA's conclusions in respect of the analyses of the 1996 observer data undertaken so far, that (SC-CAMLR-XV, paragraph 3.33):

- (i) the number of seabirds, especially black-browed albatrosses, being caught is a matter of serious concern; and
- (ii) daytime setting is the major contributor to these high catch rates, especially of albatrosses; discharge of offal on the same side of the vessel as the haul is also contributing. Both practices increase interactions with birds and result in decreased fishing efficiency.

5.29 The Commission requested Members to take all appropriate steps to ensure compliance with all aspects of Conservation Measure 29/XIV, thereby achieving a substantial reduction in seabird by-catch and more cost-effective fishing (SC-CAMLR-XV, paragraph 3.33).

5.30 The Commission noted the recommendation of the Scientific Committee with regard to the results of an experimental study by France on the use of offal discharge as a means of reducing seabird by-catch. Although offal discharge did produce significantly lower by-catch rates, the continuation of this practice is not recommended because it attracts more birds to the vicinity of the vessel (SC-CAMLR-XV, paragraph 3.35).

5.31 The Commission noted that considerable information was available on seabird by-catch and the use of mitigating measures in areas adjacent to the Convention Area. The Commission noted that these reports (SC-CAMLR-XV, paragraph 3.36):

- (i) show that by-catch of albatrosses breeding in the Convention Area is prevalent in waters outside the Convention Area;

- (ii) indicate that streamer lines of CCAMLR specification are effective in reducing by-catch; and
- (iii) contain methods of analysis of by-catch data of relevance to CCAMLR.

5.32 The Commission endorsed the decisions of the Scientific Committee with regard to cooperation with CCSBT and especially with its Working Group on Ecologically Related Species (ERS). In particular, it encouraged CCSBT to implement provisions to reduce by-catch of seabirds in regions adjacent to the Convention Area (SC-CAMLR-XV, paragraph 3.37).

5.33 The Commission also noted with approval that the use of mitigating measures similar to those required by CCAMLR is now mandatory in two areas adjacent to the Convention Area (Falklands/Malvinas Islands and Australian Fishing Zone south of 30°S) (SC-CAMLR-XV, paragraph 3.36).

5.34 The Commission took note of the contribution Japanese fishermen have made to the development of mitigating measures and also the reduction in the by-catch of seabirds in the tuna longline fisheries (SC-CAMLR-XV, paragraph 3.40).

5.35 The Commission noted that the Scientific Committee discussed the possibility of delaying the start and closure of the fishing season in Subarea 48.3 in order to provide better protection to seabirds. The Scientific Committee was unable to reconcile the different views expressed, but agreed that the consequences of delaying the opening and closure of the fishing season should be investigated by WG-FSA as a matter of priority at next year's meeting (SC-CAMLR-XV, paragraphs 3.41 to 3.45).

5.36 As a result, the Scientific Committee reiterated to the Commission its recommendation of last year that, on the understanding that there would be full compliance with Conservation Measure 29/XIV, the fishing season of 1 March to 31 August should be retained for 1996/97 in Subarea 48.3 (SC-CAMLR-XV, paragraph 3.46). The Commission endorsed this advice.

5.37 In relation to this, the UK expressed concern that changes to the fishing season, which would substantially assist in further reducing the incidental mortality of seabirds in Subarea 48.3 (SC-CAMLR-XV, paragraph 3.41; see also Annex 5, paragraph 7.71), should not continue to be postponed simply because Members continue to be unable to provide the data necessary for assessing the consequences for the fishery of changing the fishing season.

5.38 The USA noted that it would also be necessary to consider the appropriate timing of fishing seasons for *D. eleginoides* in other areas and divisions where longline fisheries are being undertaken or proposed.

5.39 The Commission agreed with the Scientific Committee's point of view on the following (SC-CAMLR-XV, paragraph 3.47):

- (i) the need to continue 100% observer coverage within all longline fisheries;
- (ii) the continuation of the work of the Scientific Observer Data Analyst; and
- (iii) the retention of Conservation Measure 29/XIV in its present form, subject to a minor revision to define precisely the meanings of the terms 'nautical twilight' and 'dawn'.

5.40 With respect to 5.39(iii) above, the Scientific Committee provided new information on the definition of the terms 'nautical twilight' and 'dawn' (SC-CAMLR-XV, paragraphs 3.48 to 3.52). These are taken into account in the revision of Conservation Measure 29/XIV (paragraph 7.9).

5.41 The Commission noted that a substantial proportion of albatrosses (20%) and shearwaters and petrels (52%), had not been identified to species by the observers, indicating a clear need for the identification manual proposed by New Zealand (SC-CAMLR-XV, paragraphs 3.22 and 3.32). The Commission agreed with the Scientific Committee that there was a need to develop the skill and knowledge of observers to enable them to identify seabirds accurately. The Commission's conclusion regarding the publication of the seabird identification manual is given in paragraphs 3.14 to 3.16.

5.42 In conclusion, the Commission endorsed in full all recommendations of the Scientific Committee relating to incidental mortality of seabirds in fisheries and contained in paragraph 3.65 of the Scientific Committee's report (SC-CAMLR-XV).

5.43 The Scientific Committee reported that there has been substantial intersessional work undertaken by the Secretariat in conjunction with ad hoc WG-IMALF and coordinated by the Science Officer (SC-CAMLR-XV, paragraph 3.22). This work, *inter alia*, involved the production of the book *Fish the Sea Not the Sky*, aimed at educating fishermen about methods available to reduce incidental mortality of seabirds and improve efficiency of bottom longline fisheries.

5.44 The Commission joined the Scientific Committee in thanking all who were involved in the production of the book, the Editor, Graphics Designer and especially Australia for the generous funds permitting publication of the book in all four languages of the Commission.

5.45 The Commission agreed that the book should be distributed to all vessels fishing with bottom longlines both in the Convention Area and in adjacent waters. Members were requested to ensure that the book reaches its intended readers, i.e. fishermen on board longline vessels. Members were also requested to advise the Secretariat of the addresses of recipients of the book.

5.46 It was recommended that Members should also use the book as educational material in training programs for scientific observers.

5.47 The Commission noted that the message contained in the book, *Fish the Sea Not the Sky*, was clear and succinct. Accordingly, the Commission agreed with the proposal of WG-FSA that the Secretariat should produce a flier, poster and/or sticker which could be used to reach a wider audience than the book alone (SC-CAMLR-XV, Annex 5, paragraph 7.8).

5.48 It was also agreed that Members should be asked to request their fishermen and/or scientific observers to comment on whether the book was present on the vessels, how effective it was in improving efficiency of fishing and in reducing seabird mortality, and also give comments for future revision of the book.

5.49 Some Members noted the possibility of publishing the book in languages other than the official CCAMLR languages. In this regard the Commission noted that the copyright on the book belongs to CCAMLR and that any Member could request from CCAMLR all the necessary text and graphics to enable the book to be translated and published in other languages.

5.50 It was suggested that another appropriate way to publicise the Commission's book would be for the Secretariat to prepare a brief illustrated article for publication in fishing magazines, such as *Fishing News International*.

5.51 The Delegation of Argentina pointed out that the practice followed by this Commission and other international organisations with respect to place names should be followed in this case as requested in its note to the Secretariat dated 3 November 1992 regarding the Falkland/Malvinas Islands.

Incidental Mortality in Trawl Fisheries

5.52 Practically no incidental mortality had been observed in the trawl fishery in Division 58.5.1 since the ban on the use of netsonde cables came into effect in the trawl fishery around Kerguelen Islands. The Commission, recognising that the French trawl fishery catch currently comprises 40% of the total reported catch of *D. eleginoides* in Division 58.5.1, noted that this makes a major contribution to reducing the incidental mortality of birds when compared to the longline fishery (SC-CAMLR-XV, paragraph 3.55).