

SCIENTIFIC COMMITTEE

4.1 The Chair of the Scientific Committee, Dr D. Miller (South Africa) reported on the meeting of the Scientific Committee. The Commission noted the general recommendations, advice, research and data requirements of the Scientific Committee. Substantive matters arising from the deliberations of the Scientific Committee were discussed under other parts of the Commission's agenda: illegal, unregulated and unreported (IUU) fishing (section 5); incidental mortality and marine debris (section 6); new and exploratory fisheries (section 7); observation and inspection (section 8); and management under uncertainty (section 10). The Commission thanked Dr Miller for his comprehensive report.

Intersessional Activities

4.2 The CCAMLR-2000 Survey was undertaken in January–February 2000 by the *Atlantida* (Russia), *James Clark Ross* (UK), *Kaiyo Maru* (Japan) and *Yuzhmorgeologiya* (USA). The survey was the successful culmination of plans set in motion during the 1996 WG-EMM meeting.

4.3 Three CCAMLR meetings were held during the 1999/2000 intersessional period:

- (i) the B₀ Workshop to analyse data from the CCAMLR-2000 Survey (La Jolla, USA, 30 May to 9 June 2000);
- (ii) the meeting of the Working Group on Ecosystem Monitoring and Management (WG-EMM) – Taormina, Italy, 17 to 28 July 2000; and
- (iii) the meeting of the Working Group on Fish Stock Assessment (WG-FSA), including the ad hoc Working Group on Incidental Mortality Arising from Longline Fishing (WG-IMALF) – Hobart, Australia, 9 to 19 October 2000.

Fishery Status and Trends

4.4 The total catch of krill reported in STATLANT data for the 1999/2000 split-year (1 July 1999 to 30 June 2000) was 101 286 tonnes, and this was taken in Area 48 by Japan (67 188 tonnes), Poland (20 721 tonnes), Republic of Korea (5 444 tonnes), Ukraine (985 tonnes) and Uruguay (6 948 tonnes). In comparison, the total catch of krill reported in Area 48 in the 1998/99 split-year was 103 318 tonnes.

4.5 The Commission noted that not all monthly catch and effort reports from the krill fishery were submitted by Members on time. The Commission reminded Members of their obligations to submit data in accordance with the schedules in Conservation Measures 32/X and 40/X (SC-CAMLR-XIX, paragraph 2.3).

4.6 The Commission noted the following plans for krill fishing during the 2000/01 season: Japan expects to reduce the number of its vessels from four to three but will maintain its current harvest

level; Argentina, the Republic of Korea, South Africa and Uruguay each expect to have one vessel fishing for krill. Both Russia and Ukraine indicated that they would possibly deploy two vessels each. The USA reported it will have one or two vessels fishing and the UK indicated it may have one vessel fishing for krill. No information was received from Poland, which has fished in recent years, nor from Canada, a non-Member that has previously stated its intention to fish for krill.

4.7 The total catch of finfish reported from the Convention Area during the 1999/2000 split-year was 19 283 tonnes, of which *Dissostichus eleginoides* accounted for 13 689 tonnes. This species was reported from Subareas 48.3 (4 693 tonnes), 58.6 (688 tonnes), 58.7 (720 tonnes) and 88.1 (<1 tonne), and Divisions 58.5.1 (5 009 tonnes) and 58.5.2 (2 579 tonnes) (SC-CAMLR-XIX/BG/1). The catch of *Dissostichus mawsoni* in Subarea 88.1 was 751 tonnes, and *Champscephalus gunnari* was caught in Subarea 48.3 (4 114 tonnes) and Division 58.5.2 (81 tonnes). In comparison, the total reported catch of finfish was 18 094 tonnes in 1998/99.

4.8 There had been no reported fishing for squid during the 1999/2000 split-year, and limited fishing for crab (4 tonnes) was conducted in Subarea 48.3 in September 1999 (see CCAMLR-XVIII, paragraph 4.6).

4.9 The Commission noted that the fishery for *C. gunnari* in Subarea 48.3 had exceeded the catch limit of 4 036 tonnes by 74 tonnes (SC-CAMLR-XIX, paragraph 2.12). This was attributable to late reporting of catch data by Chile to the Secretariat and a consequential late closure of the season. The Commission again urged better adherence to the reporting requirements by Members so that catch limits are not exceeded.

4.10 The Commission agreed that the presentation of catch data in the tables of the Scientific Committee report should be revised so as to provide more detail of catches by species and area.

4.11 The European Community drew to the attention of the Commission that it had agreed during CCAMLR-XVIII to advise the Scientific Committee that all catch statistics for CCAMLR Flag States, which are also Members of the European Community, should be listed by Flag States grouped under the heading 'European Community' (CCAMLR-XVIII, paragraph 8.11). The European Community therefore reiterated that in future this should be reflected accordingly in the data of the Scientific Committee.

Dependent Species

4.12 The Commission approved the minor technical revision of the management plans for both Cape Shirreff and Seal Islands. The revision had been undertaken by the Subgroup on Designation and Protection of CEMP Sites (SC-CAMLR-XVIII, paragraphs 4.21 to 4.24). In doing so, the subgroup had recommended a reorganisation of the conservation measures dealing with CEMP sites.

4.13 The intent of the reorganisation was to separate the procedures for according protection of CEMP sites (including guidance to writing management plans and the Code of Conduct which apply to all plans) from the designation of individual sites with associated management plans. The Commission approved this reorganisation.

4.14 The Commission noted that work was under way by the Subgroup on Designation and Protection of CEMP Sites to improve the reference collection of CEMP site maps held by the Secretariat (SC-CAMLR-XIX, paragraphs 4.9 to 4.11).

Harvested Species

Krill Resources

4.15 The Commission joined the Scientific Committee in thanking all Members involved in the success of the CCAMLR-2000 Survey of Subareas 48.1, 48.2, 48.3 and 48.4 which had been carried out in January–February 2000. The survey involved ships from Japan, Russia, UK and the USA. This survey had been the largest operation ever mounted in support of CCAMLR activities and was a significant milestone in the work of the Scientific Committee. The Commission congratulated the organisers of the survey which had achieved a considerable task of surveying such a large area. The Commission also congratulated the convener and participants of the B_0 Workshop for providing an estimate of B_0 in such a timely fashion.

4.16 The Commission endorsed the recommendation of the Scientific Committee that the potential yield for krill in Area 48 be revised to 4.0 million tonnes. This revision was based on the derivation of a new krill biomass estimate and associated coefficient of variation (CV) for Area 48 based on the results of the CCAMLR-2000 Survey (SC-CAMLR-XIX, paragraphs 5.4 and 5.5).

4.17 Further, the Commission endorsed the subdivision of the potential yield in Area 48 based on the proportion of survey transects in each subarea. The estimated potential yield was 1.008 million tonnes in Subarea 48.1, 1.104 million tonnes in Subarea 48.2, 1.056 million tonnes in Subarea 48.3 and 0.832 million tonnes in Subarea 48.4 (SC-CAMLR-XIX, paragraph 5.9). The Commission also considered the use of trigger levels; the discussion is reported in section 10.

4.18 The Commission noted that the biomass of krill in Division 58.4.1 had also been revised. It endorsed the recommendation of the Scientific Committee that the potential yield for krill in Division 58.4.1 be revised to 0.44 million tonnes (SC-CAMLR-XIX, paragraphs 5.5 and 5.6).

4.19 The Commission reiterated its request for information on conversion factors (CFs), the economics of the fishery and the breakdown of catches by product type (CCAMLR-XVIII, paragraph 4.11). Information on krill fishing strategies, including that contained in a questionnaire which will be recirculated by the Secretariat, is also required (SC-CAMLR-XIX, paragraph 3.6). The Commission urged Members involved in these fisheries to submit this information. It was agreed that market information was sought for a general understanding of the economic factors underpinning the fisheries, and that proprietary information was not required.

Finfish Resources

34.20 The Commission noted the developments in age determination, genetic techniques for stock

and species discrimination, and reproductive investigations on *Dissostichus* spp. (SC-CAMLR-XIX, paragraphs 5.29 to 5.32). Developments in assessment methods for *Dissostichus* spp. and *C. gunnari* were also noted (SC-CAMLR-XIX, paragraph 5.35).

4.21 The Commission endorsed the Scientific Committee's recommendation to hold a Workshop on Assessment Methods for Icefish (SC-CAMLR-XIX, paragraph 5.92). This workshop would be held immediately prior to the 2001 meeting of WG-FSA, subject to the final review of information available by 1 August 2001 (SC-CAMLR-XIX, Annex 5, paragraph 10.4).

Ecosystem Monitoring and Management

4.22 The Commission noted developments in the assessment of the Antarctic marine ecosystem (SC-CAMLR-XIX, section 6), including: monitoring of key environmental variables; further development of composite standard indices to underpin ecosystem analysis; the development of questions to focus the work of WG-EMM in relation to ecosystem assessments; and the development of a conceptual framework for considering the development of management procedures (SC-CAMLR-XIX, Figure 1).

4.23 The Commission also noted major elements of future work including: the development of a plan for future work by WG-EMM, including requirements for future meetings (SC-CAMLR-XIX, paragraphs 13.4 to 13.6); and examination of the feasibility of conducting a survey of land-based marine predators (SC-CAMLR-XIX, paragraphs 6.24 to 6.26).

Research Exemption

4.24 The Commission noted that the Scientific Committee had reviewed the research exemption defined in Conservation Measure 64/XII. This review was made in light of Conservation Measure 182/XVII and further experimental pot fishing for *D. eleginoides* planned by the UK in Subarea 48.3 (SC-CAMLR-XIX, section 8). Further experimental pot fishing was required to reduce the by-catch of juvenile crabs (*Paralomis* spp.) and demonstrate commercial viability of the method for catching *D. eleginoides*.

4.25 In addition, the Commission noted that the development of mitigating measures for crabs and other by-catch was a suitable research activity under Conservation Measure 64/XII. However, the demonstration of commercial viability was not a research activity within the remit of that conservation measure.

4.26 The Commission noted that the 50 tonnes catch limit for *Dissostichus* spp. for scientific research activities defined in Conservation Measure 64/XII, and the 10 tonne catch limit for *Dissostichus* spp. in exploratory fisheries under Conservation Measure 182/XVIII, were inconsistent in their application to *Dissostichus* spp.

4.27 The Commission agreed that Conservation Measure 64/XII should be amended so that a 10 tonne catch limit applies to the taking of *Dissostichus* spp. by longline, trawl and any other type of

gear, including pots. The total aggregate catch limit for finfish should remain at 50 tonnes. Further, research plans for research vessel activity involving catches of *Dissostichus* spp. exceeding 10 tonnes should be subject to a full review by WG-FSA and the Scientific Committee (SC-CAMLR-XIX, paragraph 8.8).

CCAMLR Data Management

4.28 The Commission noted the ever-increasing number of tasks allocated by the Scientific Committee and its Working Groups to the Data Management group of the Secretariat (SC-CAMLR-XIX, section 10). In spite of increasing efficiencies in data management, the increased amount of work continued to place increasing demands on the Secretariat's resources.

4.29 The Commission also noted that a major unbudgeted task of the Secretariat during 1999/2000 was the implementation of the new CDS. This work had impacted on data management, computing facilities and the level of support at the meetings of the Scientific Committee and its working groups.

4.30 In particular, the Commission noted that the level of hardware and software support provided by the Secretariat at the meeting of WG-FSA was inadequate. As a result, it had not been possible for the Working Group to complete all planned analyses within the time available at the meeting. This led to inefficiencies in the work of WG-FSA, and created tension which was both unnecessary and counter-productive (SC-CAMLR-XIX, Annex 5, paragraph 10.14).

4.31 The Commission noted that CEP had requested information on the Secretariat's experience with data management (SC-CAMLR-XIX, paragraph 10.12). The Commission endorsed the recommendation that the Secretariat submit a paper on this topic at CEP-IV.

Publications

4.32 The Commission noted that the seventh volume of *CCAMLR Science*, published prior to CCAMLR-XIX, would be the first volume to be included in the *Science Citation Index*. This was a major development for the journal and reflects on the high scientific standing achieved by *CCAMLR Science*.

4.33 The Commission noted that the following documents were also published during 2000:

- *CCAMLR Scientific Abstracts*;
- *Statistical Bulletin*, Volume 12 (1990–1999); and
- Revisions of *Scientific Observers Manual* and *CCAMLR Inspectors Manual*.

4.34 The Commission endorsed the Scientific Committee's recommendation that the synopsis of the electronic book *Understanding CCAMLR's Approach to Management* should proceed as planned (SC-CAMLR-XIX, paragraph 12.3).

Activities of the Scientific Committee during the 2000/01 Intersessional Period

4.35 The Commission endorsed the following activities of the Scientific Committee planned for the 2000/01 intersessional period:

- (i) second CCAMLR-2000 Survey analysis workshop (May–June 2001, UK);
- (ii) meeting of WG-EMM (early July 2001, Sweden);
- (iii) Workshop on Assessment Methods for Icefish (3 to 5 October 2001, Australia); and
- (iv) meeting of WG-FSA, including ad hoc WG-IMALF (8 to 18 October 2001, Australia).

4.36 The Commission also noted that the Scientific Committee had explored options for commemorating the Twentieth Meeting of CCAMLR in 2001. These options included:

- dedicating part of the 2001 edition of *CCAMLR Science* to papers accepted for the journal on the results of the CCAMLR-2000 Survey (e.g. an introductory page followed by selected papers on the CCAMLR-2000 Survey);
- hosting a commemorative dinner during CCAMLR-XX, with invited special guests who had made significant contributions to the work of CCAMLR;
- casting a commemorative badge and T-shirt, the designs of which could be determined by holding a competition; and
- issuing a commemorative postal stamp.

Scientific Committee Budget

4.37 The Commission noted the budget of the Scientific Committee for 2001, and the forecast budget for 2002 (SC-CAMLR-XIX, section 14). The following points were noted:

- (i) It was vital that meetings of WG-EMM continue to be held in locations outside Australia, and that these meetings should be supported by four Secretariat staff.
- (ii) A three-day Workshop on Assessment Methods for Icefish should take place immediately prior to the 2001 meeting of WG-FSA; subject to a final decision by the Convener of WG-FSA, the Chair of the Scientific Committee and the Data Manager.
- (iii) Secretarial support by the Secretariat, and the participation of the Data Manager, was not required at the second CCAMLR-2000 Survey analysis workshop; however, a report on the workshop would be produced and this would involve the Secretariat.

4.38 The Commission also noted other necessary expenditures for 2001, including:

- (i) participation by the Chair of the Scientific Committee in the 2001 meeting of CEP;
- (ii) additional data processing arising from the likely submissions of observer data from krill fisheries;
- (iii) participation of the Data Manager in the 2001 meeting of CWP;
- (iv) staff support for the analysis of data from the CDS and the evaluation of IUU fishing;
- (v) development of computing facilities to enable the archiving of data from the CCAMLR-2000 Survey;
- (vi) development of computing facilities in support of the analyses of WG-FSA; and
- (vii) development of internet facilities to improve the electronic dissemination of working group papers.

Chair of the Scientific Committee

4.39 The Commission congratulated Dr R. Holt (USA) on his appointment as Chair of the Scientific Committee during 2001 and 2002. The Commission thanked the outgoing Chair Dr Miller. The Commission was extremely grateful to Dr Miller for his high level of leadership and dedicated work over his four years in the chair.