

## CCAMLR SCHEME OF INTERNATIONAL SCIENTIFIC OBSERVATION

### Scientific Observations Conducted in the 2001/02 Fishing Season

2.1 In the 2001/02 season 24 longline cruises were conducted within the Convention Area with international and national scientific observers on board all vessels. Ten trawler cruises for finfish were conducted with international and national observers on board all vessels. Five international observers were present on four vessels fishing for krill in Subarea 48.3. One international observer was present on board a 'pot' vessel in Subarea 48.3 (SC-CAMLR-XXI/BG/14). In addition, observer reports were submitted from South African vessels fishing in FAO Statistical Areas 47 and 51.

2.2 Two logbooks and two cruise reports from the longline fishery had not been received by the Secretariat at the time of the meeting.

2.3 In March 2002 updated versions of the observer logbook forms and a cruise report format were placed on the CCAMLR website and distributed to all Members and technical coordinators (COMM CIRC 02/15). Although all logbooks had been submitted in the standard CCAMLR format, only three had been submitted in the new 2002 format (Annex 5, paragraphs 3.27 and 3.28). The Scientific Committee requested that all future submissions should be made according to the most recent data format.

2.4 Dr E. Goubanov (Ukraine) stated that in accordance with the CCAMLR Scheme of International Scientific Observation an international observer from Ukraine on board a US voyage in Area 48 submitted data from a krill fishery. An international observer from Ukraine on board a Russian vessel also submitted data from a toothfish voyage in Subarea 48.3 to the Secretariat. In addition, three national observers submitted C1 data from the krill fishery in Area 48.

2.5 In addition to information reported last year (SC-CAMLR-XX, paragraph 3.3), two observer reports had been received for the 2000/01 krill fishing season: one from a national observer on board a Japanese krill trawler and one from an international observer on board a US krill trawler. Japan also indicated that it would deploy one national observer during the 2002/03 season. For the entire history of the fishery the Secretariat had received only three observer reports from krill fishing cruises (Annex 4, paragraphs 2.59, 2.63 and 5.47; SC-CAMLR-XXI/BG/16). Since the meeting of WG-EMM-02, four additional observer reports had been received; all were from UK observers on krill fishing vessels operating near South Georgia in Subarea 48.3.

2.6 No comments had been received on the revised questionnaire on fishing strategies in the krill fishery, and the Scientific Committee agreed that in its current form the questionnaire was now suitable for general use. Completed questionnaires had been received from two Polish-flagged vessels and the Scientific Committee requested that the Secretariat synthesise the information contained in these and any subsequent submission for consideration at future meetings of WG-EMM (Annex 4, paragraphs 2.52 to 2.55; SC-CAMLR-XXI/BG/16).

2.7 Biological data had been collected by scientific observers in accordance with research priorities identified by the Scientific Committee in previous years. Background information and statistical analyses on conversion factors are presented in SC-CAMLR-XXI/BG/27.

2.8 An analysis of data provided by observers on conversion factors for *Dissostichus* spp. showed that fish length had the most influence on conversion factors (SC-CAMLR-XXI/BG/27, Figure 3.1). In the longline fishery the conversion factor increases with length. In the trawl fishery, however, there is a decline in the conversion factor in relation to size and this may have a significant effect on estimating green weights (SC-CAMLR-XXI/BG/27). The Scientific Committee was advised that a subgroup would coordinate work on this topic intersessionally (Annex 5, paragraph 3.37).

2.9 In relation to revision of the *Scientific Observers Manual* logbook data recording and reporting forms, and instructions to scientific observers, the Scientific Committee endorsed the proposals in relation to the krill fishery from WG-EMM (Annex 4, paragraphs 2.60 to 2.62) in respect of:

- (i) revision and inclusion of data forms in the manual;
- (ii) assigning priorities to some tasks (Annex 4, paragraph 2.62(i));
- (iii) revision of the colour chart used to determine physiological condition;
- (iv) development of new methodologies for sampling fish by-catch and determining product-to-catch conversion factors (Annex 4, paragraphs 2.62(iv) and (vi)); and
- (v) inclusion of the questionnaire on krill fishing strategies (Annex 4, paragraph 2.62(vi); SC-CAMLR-XXI/BG/16).

2.10 The Scientific Committee also noted that provision should be made for observers, working on krill fishing vessels, to seek assistance from the crew of the vessel on which they are working.

2.11 For fisheries other than krill, the Scientific Committee recommended that changes be made to the *Scientific Observers Manual* logbook data recording and reporting forms, and instructions to scientific observers, as appropriate, in respect of:

- (i) better recording of levels of deck lighting; and
- (ii) better reporting (including video recording) of entanglement of seabirds, including reporting on their entanglements on the five-day catch and effort reporting forms for trawl fisheries for icefish.

2.12 The Scientific Committee also recommended changes to the manual to make provision for (Annex 5, paragraphs 10.2 to 10.6 and 10.19; SC-CAMLR-XXI/BG/31):

- (i) recording both pre-sorting and post-sorting data from the crab fishery;
- (ii) sexing of all crabs measured;
- (iii) male chelae measurements;

- (iv) better collection and reporting of data on rates of hook discard in fish heads in appropriate longline fisheries;
- (v) potential changes in respect of any redefinition of the status of birds 'caught' and any new definition of what a dead seabird is;
- (vi) providing technical coordinators with the algorithm used to determine nautical twilight so that they can develop area-specific day-by-day, degree-by-degree tables; the large size of such files makes their inclusion in the observer logbook impractical; and
- (vii) collection of indicative data on the area over which streamer lines behind vessels are effective in order to help simplify Conservation Measure 29/XIX (Annex 5, paragraph 10.19).

2.13 The Scientific Committee agreed that the *Species Identification Sheets* should be updated and coordinated intersessionally by Dr Collins (Annex 5, paragraph 10.9).

2.14 The Scientific Committee noted that in respect of by-catch, such as seabirds, skates and rays, there is a need to develop a definition of what constitutes a 'catch' and also to consider how the categories 'dead' and 'alive' might be defined (Annex 5, paragraphs 10.6 and 10.22). The Scientific Committee requested advice from the Commission on such definitions.

2.15 The Scientific Committee recommended all changes to the format of the *Scientific Observers Manual* should be coordinated through the technical coordinators.

2.16 The Scientific Committee noted that there is a need to consider levels of observations appropriate for accurate determination of the number of birds caught, specifically in relation to fisheries for which closure (or reversion to night-time setting) is, in part, dependent on the number of birds killed (Annex 5, paragraph 6.177). The Scientific Committee, indicating one approach which might be considered (Annex 5, paragraph 6.178), recommended that the Commission provide guidance on this issue.

2.17 Intersessionally a subgroup on sampling catches from longlines had developed recommendations on: (i) sampling and subsampling units based on time and gear, (ii) the allocation of observer effort within longline haul and between hauls, and (iii) allocation of observer effort directed toward fishery target species versus ecological interactions.

2.18 The present objective in established longline fisheries is to sample 60 fish/day and the subgroup had suggested instead of sampling the first 60 fish in a biological sampling period, that all fish on a fixed number of hooks be sampled for biological data. This would be a gear-based sampling system. The Scientific Committee agreed that this would be a difficult task to ask of the scientific observers. An alternative suggestion was that a gear-based method be undertaken only every fifth day of a cruise. The observer should monitor the average number of hooks required to obtain 60 fish in the previous four days, and then only monitor this number of hooks. Every fish would be sampled from this time, whether the sample was greater or less than 60 fish. The Scientific Committee recommended this procedure be carried out where possible in 2002/03 and requested further information on

sampling methods from areas other than Subarea 48.3 be made available to the next meeting of WG-FSA (Annex 5, paragraphs 10.11 to 10.14).

2.19 In Annex 5, paragraph 10.15, it was noted that the subgroup had no information on which to base sampling for age of *Dissostichus* spp. and that it seemed reasonable to sample approximately every 30th fish for otoliths during each haul. The first fish to be sampled would be randomly selected from 1–30 approximating to two otoliths/day collected during a 60-day voyage. The Scientific Committee noted that sampling two otoliths/day may not account for segregation in the stock and that for this situation the design of otolith collection would need to be more stringent and that the collection of additional samples is needed in case future work is required.

2.20 The Scientific Committee agreed that the protocols on sampling fish developed for the established longline fishery in Subarea 48.3 be applied to that fishery in the coming season. For other longline fisheries, the Scientific Committee recommended that:

- (i) the principles of obtaining unbiased estimates of the characteristics of catches and the biology of species be applied in the coming season; and
- (ii) the procedures used in such application of those principles be submitted to WG-FSA for review next year.

2.21 The Scientific Committee also reminded observers that the standard measurement of length for macrourids is pre-anal length (Annex 5, paragraph 10.17).

2.22 The Scientific Committee noted the complexity of keeping track of proposals for modifications to the *Scientific Observers Manual* logbook data recording and reporting forms and instructions to scientific observers. It requested WG-EMM and WG-FSA next year to include in their reports summarised tabulations of the changes being requested with clear indications of which part of the documentation needed revision and who would be responsible for providing any necessary information to the Secretariat.

#### Advice to the Commission

2.23 The *Scientific Observers Manual* logbook data recording and reporting forms and instructions to scientific observers should be revised to give effect to the recommendations in paragraphs 2.9 to 2.12 and 2.21.

2.24 It was recommended that the *Species Identification Sheets* should be updated in time for the 2002/03 season (paragraph 2.13).

2.25 In respect of by-catch such as seabirds, skates and rays there is a need to develop a definition of what constitutes a ‘catch’ and also to consider how the categories ‘dead’ and ‘alive’ might be defined (paragraph 2.14; Annex 5, paragraphs 10.6 and 10.22).

2.26 There is a need to consider levels of observations appropriate for accurate determination of the number of birds caught, especially in relation to fisheries for which closure (or reversion to night-time setting) is, in part, dependent on the number of birds killed (paragraph 2.16; Annex 5, paragraphs 10.6 and 10.23).