

CCAMLR SCHEME OF INTERNATIONAL SCIENTIFIC OBSERVATION

2.1 In the 2004/05 season, scientific observers (international and national) were deployed on all vessels conducting longline fishing for toothfish and trawl fishing for finfish. In the longline toothfish fisheries, scientific observers participated in 31 cruises, including nine cruises in the Atlantic sector of the Convention Area (Subareas 48.3, 48.4 and 48.6), 11 cruises in the Indian Ocean sector (Divisions 58.4.1, 58.4.2, 58.4.3a, 58.4.3.b and 58.5.2) and 11 cruises in the Pacific sector (Subareas 88.1 and 88.2). In the trawl fisheries for finfish, scientific observers participated in 14 cruises, including seven cruises in the Atlantic sector of the Convention Area (Subarea 48.3) and seven cruises in the Indian Ocean sector (Division 58.5.2).

2.2 In the krill fishery in 2004/05, scientific observers (international and national) were present on eight cruises in the Atlantic sector of the Convention Area (Area 48). Data from two cruises were submitted at the time of the meeting.

2.3 Also, national scientific observers participated in two cruises on vessels fishing for toothfish with pots in the Indian Ocean sector of the Convention Area (South African EEZ in Subareas 58.6 and 58.7).

2.4 The Scientific Committee noted that WG-EMM and WG-FSA had discussed problems relating to the operation and improvement of the CCAMLR Scheme of International Scientific Observation (Annex 4, paragraphs 3.12 to 3.18, 3.29 to 3.35 and 3.44 to 3.48; Annex 5, paragraphs 11.1 to 11.3 and Appendix S).

2.5 The Scientific Committee considered and approved recommendations from WG-FSA to improve the following aspects of the CCAMLR Scheme of International Scientific Observation (Annex 5, paragraphs 11.3(i) and (iv)):

- (i) Additional operational requirements of the scheme including, in particular, additions and modifications to the *Scientific Observers Manual* logbook data recording and reporting sheets, and instructions to scientific observers and technical coordinators, should be made in respect of:
 - (a) only current versions of the cruise reports and logbook forms be used for reporting to CCAMLR (Annex 5, Appendix S, paragraph 3);
 - (b) collection of observer data in such a way as to distinguish between haul and set captures (Annex 5, Appendix O, paragraph 10);
 - (c) collection of data, at least every seven days, of streamer line characteristics including streamer line aerial extent; the height of streamer line at the stern; the length of streamer lines; and the number, spacing and length of individual branched streamers. These data should be reported on a diagram-based form to be developed by the Secretariat (Annex 5, paragraph 7.20(ii) and Appendix O, paragraph 79);
 - (d) the collection of data by observers on longline vessels of vessel setting speed, longline sink rate and streamer line aerial extent remain priority tasks for observers (Annex 5, Appendix O, paragraph 76);

- (e) where the collection of sink rate data is required according to Conservation Measure 24-02, the streamer line data should be collected at the same time as sink rate data where possible (Annex 5, Appendix O, paragraph 79);
- (f) improvement in the recording of net cleaning procedures in trawl fisheries (Annex 5, Appendix O, paragraph 205);
- (g) the fishery observer(s) assigned to the Japanese vessel *Shinsei Maru* (using the bottom-line system in 2005/06) should describe how the gear is deployed and retrieved with special attention to gear and seabird behaviour during the haul and set (Annex 5, paragraph 7.21 and Appendix S, paragraph 23);
- (h) accurate reporting of trawl fishery operations including number of tows per voyage, number of tows observed, number of incidental mortalities observed by species per tow and number of incidental mortalities reported from non-observed tows (Annex 5, Appendix S, paragraph 28);
- (i) the continued use of the definition of the status of birds 'caught' (SC-CAMLR-XXII, Annex 5, paragraphs 6.214 to 6.217);
- (j) an amendment to the krill logbook questionnaire to include a number of additional questions with diagrams of the vessel track and position of krill aggregations (Annex 4, paragraphs 3.35 to 3.53; Annex 5, Appendix S, paragraph 34);
- (k) accurate reporting of fish by-catch in all data formats (Annex 5, Appendix N, paragraph 36);
- (l) modification of the L5 catch composition form for observers to include 'number of hooks observed for fish by-catch' and the total estimated number and weight of each species retained and discarded for a set (Annex 5, paragraph 6.10);
- (m) correct completion of L11 forms including information on rajid cut-offs. The minimum requirement would be the completion of this form for at least one observation period every 48 hours (Annex 5, paragraph 6.15);
- (n) providing a report to the Secretariat on methods or strategies of fishing that minimise non-target fish by-catch (Annex 5, paragraph 6.23);
- (o) advising that vessels should cut all rajids from their lines whilst still in the water, except on the request of the observer during the observer's biological sampling period (Annex 5, paragraph 6.25);
- (p) adoption of a new 4-category scale for assessing the condition of rajids released by observers. These data should be accurately recorded for at least one observation period every 48 hours (Annex 5, paragraph 6.29);
- (q) measurements of fish that are to be tagged and released should not be considered to be part of the observer's random length-frequency sample

(i.e. if a fish is to be released as a tagged fish, then this fish should be excluded from the random sample of the catch taken by the observer) (Annex 5, Appendix T, paragraph 12);

- (r) measurements of tagged fish that are recaptured should be added to the commercial catch length frequency (where they would normally be a part of the random selection of the observed catch) and landed catch weights (Annex 5, Appendix T, paragraph 12).
- (ii) Instructions and logbooks from the *Scientific Observers Manual* should be compiled as separate electronic documents. The manual itself would then consist of a comprehensive range of observation guidelines and reference materials which would not necessarily require annual updates (Annex 4, Appendix S, paragraph 42).
- (iii) Logbooks should be recorded and submitted in electronic format and the manual should be distributed electronically.

2.6 The Scientific Committee also endorsed a recommendation by WG-FSA regarding funding to enable two members of the CCAMLR Secretariat to participate in the 2007 International Fisheries Observer Conference (Annex 5, paragraph 11.3(ii), Annex S, paragraph 13; see also paragraph 10.1(ii)).

2.7 The Scientific Committee considered the issue of compulsory deployment of CCAMLR scientific observers on all krill fishing vessels in the Convention Area, which was raised by WG-EMM and WG-FSA (Annex 4, paragraphs 3.45 and 3.55; Annex 5, paragraph 11.3(iii)).

2.8 The Scientific Committee noted that WG-EMM agreed, in principle, that there is an urgent need for CCAMLR scientific observers on all krill fishing vessels (Annex 4, paragraph 3.45) to maximise spatial and seasonal observer coverage of the fishery and to adequately understand current developments in the krill fishery, especially given the recent changes in catching and processing technology (Annex 4, paragraphs 3.45 and 3.46). However, consensus on this issue has not been reached (Annex 4, paragraphs 3.46 and 3.55).

2.9 The Scientific Committee also noted the recommendation by WG-FSA that CCAMLR scientific observers be deployed on all krill fishing vessels (Annex 5, paragraph 11.3(iii)).

2.10 The Scientific Committee noted that data from observers on board fishing vessels in the Convention Area are used:

- (i) to provide accurate catch rates used in standardising CPUE, the effect of this is most evident in the improved data following the introduction of 100% coverage of observers in the *D. eleginoides* fishery in Subarea 48.3;
- (ii) to provide length frequencies for use in determining the interaction of the fishery with the caught species, the utility of this is demonstrated in the implementation of integrated assessments for *Dissostichus* spp. in Subareas 48.3 and 88.1 that help understand the changes in the stock structure during the development of the fishery;

- (iii) to provide information on the differences between vessels which need to be estimated for use in standardising time series of CPUE as well as for inclusion of different integrated assessments;
- (iv) to provide catch and length information as above to help determine the overlap between fisheries and predators at small scales.

The Scientific Committee agreed that these purposes are important in the assessment work being undertaken to provide advice to the Commission.

2.11 Dr Shin indicated that, while seeing the scientific merits of the observer-collected data, he does not share the same view on the magnitude of improvements the observer-collected data will bring to the assessment of the krill fishery as in other fisheries. He further noted that the krill fishery is a commercial venture and there may be constraints in having the fishery provide scientific data.

2.12 Dr Holt suggested that, from the scientific point of view, there were no doubts as to the appropriateness of deploying international scientific observers on all krill fishing vessels. However, it has not been possible to resolve this question for some years due to reasons which have little to do with scientific aspects of the matter. For example, the question of protecting the confidentiality of fishery information represents an obstacle for some countries. Dr Holt suggested that this issue be referred to the Commission for consideration since it would be difficult for the Scientific Committee to eliminate these obstacles.

2.13 Dr M. Naganobu (Japan) expressed his disagreement with compulsory deployment of international scientific observers on all krill fishing vessels, for the following reasons:

- (i) Japan has signed a number of international agreements, in accordance with which foreign scientific observers already collect scientific data on Japanese vessels, and these agreements are sufficiently effective;
- (ii) compliance with the requirement of compulsory 100% international scientific observer coverage of all krill fishing vessels may have significant financial implications;
- (iii) there are problems arising from the need to respect the fishing companies' rights to protect the confidentiality of fishing information;
- (iv) currently, the total catch of krill is at a stable level. It is significantly lower than the precautionary catch and there is therefore no urgent need to increase the amount of data being collected.

2.14 Profs J. Beddington (UK) and Croxall expressed surprise at the nature and content of some of the contributions to this discussion, and noted that:

- (i) the WG-EMM report indicated that apparently all Members, except Japan, had agreed in principle that the deployment of scientific observers should be required on all krill vessels (Annex 4, paragraph 3.46); the reservation by Japan appeared solely to relate to commercial confidentiality, a matter which should be referred to the Commission for discussion;

- (ii) the WG-FSA report indicated consensus amongst all Members that observer coverage should be required on all vessels participating in the Convention Area krill fishery (Annex 5, paragraph 11.3 and Appendix S, paragraph 31);
- (iii) reservations now being expressed by Members, including by the same individuals who were present at the working group meetings, involve a combination of new objections, most of which relate to matters outside the competence of the Scientific Committee and old objections, which have been extensively debated in previous years.

2.15 However, Profs Beddington and Croxall did recognise that while there appeared to be consensus on the scientific merits of increased levels of observation on vessels fishing for krill in the Convention Area, there may be valid concerns about how this should be implemented in order best to achieve the desired scientific objectives.

2.16 To address any such concerns, the UK proposed a scientific study whereby, in the first year feasible, each vessel participating in the krill fishery in the Convention Area should have a scientific observer on board to carry out the tasks already requested or required by the Scientific Committee. For this single-year pilot study, protocols should be developed and the results analysed and evaluated by an appropriate group established by the relevant working groups of the Scientific Committee. This group would then recommend to the Scientific Committee, levels of observer coverage appropriate for each specified task and for the observer program for the krill fishery overall.

2.17 Dr V. Siegel (European Community) supported the UK proposal which could prove to be an acceptable option to speed up the process of improving scientific data collection in the krill fishery. He noted that CCAMLR should not be complacent just because the catch of krill has stabilised in recent years, as the fishery enters a new stage associated with the adoption of a new fishing technology. The Scientific Committee will therefore need to have sufficient information available to it to be able to provide appropriate management advice. He also noted that the majority of objections to the 100% coverage by CCAMLR scientific observers of the krill fishery (issues of confidentiality, finance etc.) do not fall within the Scientific Committee's terms of reference and should be considered by the Commission.

2.18 Mr L. Pshenichnov (Ukraine) noted that an acceptable option would be a requirement of conservation measures to deploy at least national scientific observers on all krill fishing vessels, provided that they would collect data in accordance with the CCAMLR Scheme of International Scientific Observation.

2.19 Dr Shin observed that a unanimous recommendation of 100% observer coverage on all krill fishing vessels was not likely, and did not see the utility of attempting to forward such a recommendation under the current circumstance. He further observed that krill catch varied little from year to year over a decade at a low level, while the catch limit has risen by four times in the major fishing ground. With regard to seal by-catch, solutions are being found, and the problem is far more tractable now. To his delegation's view, it is more pressing to ensure observer-collected data are analysed and the results are delivered in time, and it will be more useful to articulate where the more critical data needs are and to discuss the means to improve the situation. He further noted that krill fishing occurs over protracted periods and across large distances, and hence placing observers on such fishing platforms would incur a much greater challenge in logistics and cost.

2.20 Dr A. Constable (Australia) noted that it would be useful to introduce a process which would allow the CCAMLR Secretariat to accredit and coordinate scientific observers' activities on all krill fishing vessels.

2.21 The Scientific Committee agreed that deployment of international observers on all krill fishing vessels would allow collection of useful scientific information required to develop management advice for the krill fishery, based on the ecosystem approach.

2.22 At the same time, the Scientific Committee was unable to reach consensus as to the urgency of including this requirement in the CCAMLR Scheme of International Scientific Observation, as its appropriateness in terms of balance between scientific usefulness and costs was not clear to some participants.

2.23 The Scientific Committee has also found that the majority of problems which could become an obstacle to the introduction of compulsory scientific observer coverage of all fishing vessels (issues of costs, and confidentiality of data collected on board fishing vessels) do not fall within the Scientific Committee's responsibility and should be decided by the Commission.

2.24 The majority of Members of the Scientific Committee agreed to support the proposal put forward by the UK and to conduct an experiment during the first year feasible in organising the work of scientific observers on all krill fishing vessels during this season (paragraph 2.16).

2.25 The Scientific Committee considered the results of the review by WG-FSA of the *Scientific Observers Manual* and agreed with the following approaches and priorities developed by WG-FSA (Annex 5, Annex S, paragraphs 37 to 41).

2.26 Before any review of the *Scientific Observers Manual* is undertaken, the following three areas should be considered:

- (i) a review of research priorities for different fisheries, target species and by-catch species and the type of data to be collected to allow research priorities to be met;
- (ii) a review of whether existing data collection and recording protocols meet the identified data collection requirements. This phase should also include development of clear guidance on prioritisation of observer tasks where requested data collection exceeds time available to the observer at sea;
- (iii) consideration of the most appropriate structure, format and contents of the manual.

2.27 The reviews in paragraphs 2.26(i) and (ii) above should be conducted annually by WG-FSA, incorporating the recommendations and advice of WG-FSA-SAM and ad hoc WG-IMAF with respect to the Scheme of International Scientific Observation. The Scientific Committee will take these recommendations into account along with requests for priority data collection from WG-EMM (and SCIC) in deciding the final list of priorities for the observer scheme.

2.28 Changes recommended annually by the Scientific Committee and its working groups (paragraph 2.26(iii) above) should continue to be implemented as appropriate by the Secretariat following the annual review process.

2.29 Consequently, the Scientific Committee agreed that a major review of the *Scientific Observers Manual* was currently unnecessary as the mechanisms for its continual update and review are already in place and work effectively.

2.30 The Scientific Committee agreed to the following procedures for reviewing the observer logbook forms, instructions, sampling procedures and observer work priorities:

- (i) scientific observers should provide comments on the use of the logbooks and instructions to technical coordinators;
- (ii) technical coordinators should collate and forward all relevant comments and suggested changes to the Secretariat in one concise document by 1 September on an annual basis;
- (iii) the Secretariat will present a summary of all recommended changes to the working groups for consideration;
- (iv) the working groups will review the proposed changes, giving consideration to existing research priorities and data collection protocols, and prepare recommendations to the Scientific Committee as required;
- (v) the recommendations from working groups relating to observer research priorities and data collection requirements will be submitted as part of their advice to the Scientific Committee;
- (vi) the Scientific Committee will review the advice from working groups (and, as appropriate, SCIC) together with the research priorities, and task the Secretariat with updating the logbook forms and distributing these to all Members as soon as possible.

2.31 The Scientific Committee also approved the Secretariat's proposal that the manual's current format could be substantially improved if paper-based observer logbooks and instructions were removed and replaced with electronic logbooks which could easily be amended as required. The manual itself would then consist of a comprehensive range of observation guidelines and reference materials which would not necessarily require annual updates (paragraph 2.5(ii) and Annex 5, Appendix S, paragraphs 42 and 43).

Advice for the Commission

2.32 The Scientific Committee recommended that:

- (i) WG-FSA's recommendations regarding the work of CCAMLR scientific observers be noted (paragraph 2.5);
- (ii) the approaches and priorities relating to improvement of the *Scientific Observers Manual* be endorsed (paragraphs 2.25 to 2.31);

- (iii) the deployment of international scientific observers on krill fishing vessels would allow collection of useful scientific information required to develop management advice for the krill fishery, based on the ecosystem approach, be noted (paragraph 2.21);
- (iv) the remaining problems hindering the introduction of the system of compulsory deployment of scientific observers on all krill fishing vessels cannot be resolved by the Scientific Committee as they are included in the Commission's responsibilities (paragraph 2.23).

2.33 The Scientific Committee noted that most Members supported a proposal to conduct, in the first appropriate season, an experiment in the organisation of the work of CCAMLR scientific observers on all krill fishing vessels during this fishing season, in order to assess the scientific usefulness and effectiveness of the introduction of a system of compulsory deployment of scientific observers on all krill fishing vessels (paragraph 2.24).