

## SCIENTIFIC RESEARCH EXEMPTION

9.1 The Scientific Committee considered information from WG-FSA and WG-EMM regarding research undertaken during the 2009/10 season and research notified for the 2010/11 season. Notifications of future scientific research activities received by the Secretariat are listed in Annex 8, paragraphs 11.8 and 11.10.

9.2 Five notifications were received in accordance with CM 24-01; two under paragraph 2 from Germany for krill research and multidisciplinary research, and three under paragraph 3 from Japan, Republic of Korea and Russia, all for toothfish.

### Research fishing using commercial vessels

#### Ob and Lena Banks Division 58.4.4

9.3 Research fishing by a Japanese-flagged longliner on Ob and Lena Banks (Divisions 58.4.4a and 58.4.4b) in 2007/08 and 2009/10 was reported in Annex 8, paragraphs 5.112 and 5.113. Other relevant information from this fishery is contained in Annex 8, Appendix L (the Fishery Report for Ob and Lena Banks).

9.4 A proposal to continue this research in a revised format was reviewed by WG-SAM (Annex 4, paragraphs 3.23 to 3.25) and the proposal was further revised and reviewed by WG-FSA (Annex 8, paragraph 5.114).

9.5 The Scientific Committee noted the desirable attributes of a survey series such as this to collect data needed for an assessment listed in Annex 8, paragraph 5.115.

9.6 An alternative method of estimating a precautionary research survey catch was used by WG-FSA (Annex 8, paragraph 5.116). The estimated  $B_0$  value and the current stock biomass were calculated using this method for two stock status scenarios and alternate biological and selectivity parameters arising from WG-FSA-10/48.

- (i) Scenario 1 used the estimated total catch history (legal and IUU) and assumed the biomass in 2010 to be 20% of  $B_0$ . An estimate  $B_0$  was then calculated at 7 900 tonnes. Using the relationship in Figure 3 of WG-FSA-10/42, representing a precautionary research catch, 0.62% of  $B_0$  is 49 tonnes.
- (ii) Scenario 2 used the same catch history and assumed the status at the end of the bulk of IUU fishing (in 2002) was 20% of  $B_0$ .  $B_0$  was then back-calculated to be 9 200 tonnes. This scenario then assumes some recovery through a forward projection, estimating the biomass in 2010 to be 33% of  $B_0$ . A precautionary catch limit (as for scenario 1) is then 1.05% of  $B_0$ , or 97 tonnes.

The Scientific Committee agreed that these two scenarios provided a basis for setting a limit on the catch that could be taken during the survey.

9.7 The Scientific Committee noted several important assumptions that were made when developing these scenarios, and also several other recommendations to improve the design and maximise the value of the information resulting from the survey (Annex 8, paragraphs 5.117 and 5.118).

9.8 The Scientific Committee noted the importance of developing a better understanding of differences in the mortality of tagged fish between those caught on longlines and those caught on trotlines. Japan has previously undertaken fishing trials to investigate this issue and further trials are planned during the coming year.

9.9 The Scientific Committee requested that data from all fishing trials designed to investigate this issue be compiled by the Secretariat and provided to WG-SAM for analysis, consistent with the guidelines for data-poor exploratory fisheries (Annex 8, paragraphs 5.1 to 5.12).

#### Management advice

9.10 The Scientific Committee agreed that the results of the analysis performed by WG-FSA (paragraph 9.6 above) provided a basis for setting a limit on the catch that could be taken during the research fishing to be carried out in 2010/11 by the Japanese-flagged vessel in Division 58.4.4. No advice was provided in relation to which catch limit would be most appropriate. It requested that any results and analyses from this research be presented to WG-FSA for further consideration of appropriate research following the 2010/11 season, taking into account any recommendations by WG-SAM (Annex 4, paragraphs 3.23 to 3.25).

#### Subareas 88.2 and 88.3

9.11 The Scientific Committee noted the deliberations of WG-FSA with respect to research proposals by the Republic of Korea and Russia to undertake research fishing in closed areas in Subarea 88.3, as well as SSRUs 882A and 883A–C (Annex 8, paragraphs 5.119 to 5.126).

9.12 In the notification from the Republic of Korea, two Korean-flagged vessels were proposed to conduct research in the closed SSRUs 883A–C, undertaking 190 hauls catching up to a total of 190 tonnes and collecting data on the size, catch rates and diet of toothfish, fish by-catch and VMEs, as well as tagging toothfish at a rate of five per tonne (Annex 8, paragraph 5.119).

9.13 Russia proposed to conduct research fishing in closed SSRUs 882A and 883A–C, using a single longline vessel. It proposed to conduct 10 hauls and take up to 10 tonnes of toothfish in SSRU 882A, and to conduct 20 hauls and take up to 65 tonnes of toothfish in Subarea 88.3. The proposed research would collect data on size, age, diet, reproduction and genetics of toothfish, as well as on fish and benthic invertebrate by-catch, tag toothfish at a rate of three per tonne, and tag skates (Annex 8, paragraph 5.119),

9.14 The Scientific Committee recalled its previous advice for evaluating CCAMLR-sponsored research (SC-CAMLR-XXVII, paragraphs 8.9 to 8.11), previous research efforts

that have been conducted in Subarea 88.3, and issues relating to similar research fishing activities that have been conducted in other parts of the Convention Area, in terms of their ability to provide information that can be used for a stock assessment.

9.15 The Scientific Committee noted several points from the report of WG-FSA in relation to the Working Group's review of these proposals for research on commercial fishing vessels:

- (i) previous surveys by Chilean and New Zealand vessels have indicated that the toothfish population in this area was dominated by juvenile fish <100 cm in length (Annex 8, paragraph 5.121);
- (ii) during the Chilean survey, catch rates were very low, with 302 kg of toothfish caught from over 50 000 hooks set, indicating the density of toothfish across the area is very low, across a depth range of 600–2 550 m (Annex 8, paragraph 5.121);
- (iii) the best way to develop an assessment in data-poor areas is to carry out a tagging program (SC-CAMLR-XXVIII, Annex 6, paragraph 2.34);
- (iv) Subarea 88.3 is very large; any tagging program would be most successful if the tagging was initially concentrated in a small area; fishing in a smaller area would require a smaller catch allocation (Annex 8, paragraph 5.122);
- (v) toothfish caught on trotlines may have lower survivorship when tagged and released compared to those caught on longlines if they receive multiple hook wounds (Annex 8, paragraph 5.124);
- (vi) experiments to determine post-capture mortality rates from trotlines could be pursued in open areas where such vessels already operate (Annex 8, paragraph 5.124).

9.16 The Scientific Committee noted the conclusion of WG-FSA that the research proposed was unlikely to lead to an assessment for these areas (Annex 8, paragraph 5.126) and that additional data of a biological nature would arise from such research fishing. The Scientific Committee agreed that future proposals for research to develop assessments in the closed areas of SSRU 882A and Subarea 88.3 would benefit from consideration of the generalised approach to conducting research for data-poor exploratory fisheries (Annex 8, paragraphs 5.1 to 5.12).

9.17 Dr Bizikov agreed that research fishing from a single commercial vessel could not lead to an assessment within one year, but would certainly contribute data for a future assessment within the framework of a research program lasting several years. The notification for research fishing in SSRUs 882A and 883A–C submitted by Russia represents a first step in its three-year research program. He pointed out that exploratory fishing for toothfish in Divisions 58.4.1 and 58.4.2 has been carried out for 10 years and still has not resulted in such an assessment (paragraph 3.128). However, that has not resulted in those exploratory fisheries being disapproved. Referring to Annex 8, paragraph 5.121, he remarked that dominance by juvenile toothfish <100 cm in SSRUs 883A–C indicates that this area represents a part of some larger distribution of a single toothfish population, and as such represents a particular interest for investigation of this stock. The proposal from Russia

specified a research catch of no more than 10 tonnes from 10 lines in SSRU 882A and no more than 65 tonnes from 20 lines in SSRUs 883A–C, which will result in the collection of data on the size, age, diet, reproduction and genetics of toothfish.

9.18 Dr Bizikov pointed out that Russia submitted its notification to conduct research in SSRUs 882A and 883A–C in full accordance with CM 24-01, and that WG-FSA had not reached a negative conclusion regarding Russia’s proposal. He noted that Russia is open to further consultations with the Scientific Committee and its working groups on how to modify its national research program and incorporate the recommendation and advice from the Scientific Committee. However, the necessity for such consultations does not constitute grounds for rejecting or postponing Russia’s proposal. In this context, he urged the Scientific Committee to endorse Russia’s proposal, noting that failure to do so would set a bad precedent for the conduct of national research programs within CCAMLR.

9.19 Dr K. Seok (Republic of Korea) recommended that despite the low catch rates from previous surveys, the area should be surveyed again to collect up-to-date information on the current status of the toothfish stock in Subarea 88.3 because the previous New Zealand survey was conducted under unfavourable conditions. The Republic of Korea wished to make a scientific contribution to CCAMLR through the conduct of this research fishing plan.

9.20 Dr Pshenichnov noted that in many cases commercial vessels conducting research fishing were the only source of scientific data for assessing fish stocks in areas covered by exploratory fisheries and that such activity should be encouraged.

9.21 The Scientific Committee recalled the procedures followed in respect of the development of successful proposals for research fishing carried out by commercial vessels, citing the examples of the research fishing on Ob and Lena Banks (Division 58.4.4) and the South Sandwich Islands (Subarea 48.4). The proposal to continue research fishing on Ob and Lena Banks had been submitted by Japan to this year’s meeting of WG-SAM, revised to address comments received and reviewed again by WG-FSA (paragraphs 9.3 to 9.10).

9.22 The Scientific Committee encouraged the Republic of Korea and Russia to continue to develop their proposed research programs, taking into account the generalised approach to conducting research for data-poor exploratory fisheries (Annex 8, paragraphs 5.1 to 5.12).

#### Management advice

9.23 The Scientific Committee recommended that clearer advice be developed with respect to the submission of proposals for research fishing from commercial fishing vessels in closed areas and areas with zero catch limit. Submission of such proposals only in accordance with CM 24-01 does not provide sufficient opportunity for review. Ideally, these proposals should be submitted in time for review by WG-SAM to enable their revision as necessary, taking account of the general principles and requirements for CCAMLR-sponsored research (SC-CAMLR-XXVII, paragraphs 8.9 to 8.11), in time for further review by WG-FSA and the Scientific Committee. This would enable research to be advanced as quickly as possible within a single year (Annex 8, paragraphs 5.1 to 5.12).

## Research surveys

9.24 The Scientific Committee also noted that the UK and Australia will be conducting research surveys in 2011 in Subarea 48.3 and Division 58.5.2 respectively. Notifications for these surveys would be submitted in accordance with CM 24-01 in due course.

### Reporting of small catches taken during scientific research

9.25 Currently CM 24-01 requires small catches taken during research surveys (e.g. small catches of krill in zooplankton nets) to be reported using the CCAMLR within-season five-day reporting system (CM 24-01, paragraphs 2(b) and 4(a)) (Annex 6, paragraph 6.13). The Scientific Committee agreed that reporting of such small catches under the within-season reporting provisions was not the intention of this measure.

### Management advice

9.26 The Scientific Committee recommended that CM 24-01 be modified so as to exempt small catches taken during scientific research from the within-season reporting requirements. This could be achieved through the following change to CM 24-01:

2. Application to Members taking **greater than 1 tonne and** less than 50 tonnes of finfish in a season, including no more than the amounts specified for finfish taxa in Annex 24-01/B and less than 0.1% of a given catch limit for non-fish taxa indicated in Annex 24-01/B.

## Use of gillnets for sampling in scientific research in waters deeper than 100 m

9.27 Drs Barrera-Oro and M. Vacchi (Italy) noted that small gillnets are used routinely from coastal research vessels based at Antarctic research stations for fish sampling for scientific research purposes in waters deeper than 100 m. While the use of gillnets for scientific research purposes is permitted under CM 22-04 (paragraph 1), when they are to be used in waters deeper than 100 m, paragraph 3 of that measure requires research proposals to be notified in advance to the Scientific Committee and be approved by the Commission before the research can commence. This represents a practical impediment for those research programs that regularly operate this gear in waters deeper than 100 m for sampling small amounts of fish.

### Management advice

9.28 The Scientific Committee recommended that the routine use of small gillnets in multi-year scientific research programs should not require annual approval by the Commission, irrespective of the depth of deployment. This could be achieved by modifying CM 22-04 so

as to distinguish between the small nets used for scientific purposes and the large commercial nets used in the IUU fishery. The Scientific Committee recommended the following changes to CM 22-04:

2. The use of gillnets for scientific research ~~in waters shallower than 100 metres~~ shall be permitted subject to the requirements of Conservation Measure 24-01.
3. ~~Proposals for the use of gillnets for scientific research in waters deeper than 100 metres shall be notified in advance to the Scientific Committee and be approved by the Commission before such research can commence.~~
43. Any vessel seeking to transit the Convention Area carrying gillnets **with a total cumulative area measuring greater than 100 m<sup>2</sup>** must give advance notice of its intent, including the expected dates of its passage through the Convention Area, to the Secretariat. Any vessel in possession of gillnets **with a total cumulative area measuring greater than 100 m<sup>2</sup>** within the Convention Area which has not given such advance notice shall be in breach of this conservation measure.