

NEW AND EXPLORATORY FISHERIES

New and exploratory fisheries in 2007/08

12.1 In 2007 the Commission agreed to seven exploratory longline fisheries for *Dissostichus* spp. (Conservation Measures 41-04, 41-05, 41-06, 41-07, 41-09, 41-10 and 41-11). These exploratory fisheries were conducted in 2007/08 in Subareas 88.1 and 88.2 and Divisions 58.4.1, 58.4.2, 58.4.3a and 58.4.3b; fishing did not occur in Subarea 48.6. The total reported catch of *Dissostichus* spp. in these exploratory fisheries was 3 455 tonnes (SC-CAMLR-XXVII, Annex 5, Table 6).

Notifications for new and exploratory fisheries in 2008/09

12.2 Twelve Members submitted paid notifications for exploratory longline fisheries for *Dissostichus* spp. in 2008/09 in Subareas 48.6, 88.1 and 88.2 and Divisions 58.4.1, 58.4.2, 58.4.3a and 58.4.3b, for an exploratory trawl fishery for *Euphausia superba* in Subarea 48.6, and for new pot fisheries for crab in Subareas 48.2 and 48.4 (SC-CAMLR-XXVII, Annex 5, Table 7).

Exploratory fisheries for *Dissostichus* spp.

Progress towards assessments

12.3 The Commission noted that the Scientific Committee had made further progress towards developing methods to assess exploratory fisheries, with a focus on: (i) data requirements for assessing exploratory fisheries, and (ii) research designs in exploratory toothfish fisheries. The Commission also noted the importance of understanding stock structure, productivity and abundance, as well as the Scientific Committee's advice that estimation of stock abundance in many of the exploratory fisheries remains a key problem (SC-CAMLR-XXVII, paragraphs 4.107 to 4.162).

12.4 The Scientific Committee had made further progress on:

- (i) revision of the requirements to conduct research hauls in the exploratory fisheries in Subareas 48.6 and 58.4 (SC-CAMLR-XXVII, paragraphs 4.110 to 4.114);
- (ii) development of preliminary assessments of *Dissostichus* spp. for the open SSRUs in Divisions 58.4.1 and 58.4.2 and preliminary estimation of yields for those open SSRUs (SC-CAMLR-XXVII, paragraph 4.115);
- (iii) revision of the precautionary catch limits for *Macrourus* spp. in Subarea 88.1 (SC-CAMLR-XXVII, paragraph 4.162);
- (iv) review of the three-year fishing experiment in Subareas 88.1 and 88.2 (SC-CAMLR-XXVII, paragraph 4.155);

- (v) consideration of new approaches to assessing and modelling the Ross Sea fishery being developed by New Zealand and Russia; these approaches had been referred to WG-SAM for review and evaluation (SC-CAMLR-XXVII, paragraph 4.159).

12.5 The Commission noted that most Scientific Committee Members agreed that considerable progress had been made on the stock assessment for *D. mawsoni* in Subareas 88.1 and 88.2 as a result of the three-year fishing experiment (SC-CAMLR-XXVII, paragraph 4.156).

12.6 The Commission also noted that some Members of the Scientific Committee had expressed the opinion that the three-year experiment of toothfish tagging in the Ross Sea had been unsuccessful, as it did not result in significant improvement of toothfish stock assessment in those subareas. They also pointed out several sources of substantial uncertainty in the stock assessments of toothfish in the Ross Sea based on tag-returns (SC-CAMLR-XXVII, paragraph 4.157).

12.7 The Commission noted that the Scientific Committee had outlined the relative merits of different views on harvest strategies and research programs for toothfish in the Ross Sea while agreeing that these should be evaluated using simulations. It recommended that such work be submitted to WG-SAM for review of the simulation and assessment methodologies before submitting the outcomes to WG-FSA for consideration.

12.8 The Commission urged all Members to contribute to this process, including the submission of papers addressing the alternative views outlined in paragraphs 12.5 and 12.6 to the 2009 meetings of WG-SAM and WG-FSA.

12.9 The Commission endorsed the Scientific Committee's advice to:

- (i) revise the requirements for research hauls in the exploratory fisheries in Subareas 48.6 and 58.4 (paragraph 12.4(i));
- (ii) increase the tagging rate of *Dissostichus* spp. to three fish per tonne of green weight caught in the exploratory fishery in Subarea 48.6 (SC-CAMLR-XXVII, paragraph 4.120);
- (iii) maintain the current tagging rate of *Dissostichus* spp. of three fish per tonne of green weight caught in the exploratory fisheries in Subarea 58.4 (SC-CAMLR-XXVII, paragraphs 4.124, 4.131, 4.138 and 4.144).

12.10 The Commission noted that:

- (i) in Subarea 48.6 – no fishing for *Dissostichus* spp. had occurred so far this season and the Scientific Committee had not provided any new advice on catch limits in this fishery (SC-CAMLR-XXVII, paragraphs 4.118 to 4.121);
- (ii) in Division 58.4.1 – a preliminary assessment of *Dissostichus* spp. had been carried out, and the resulting median estimates of yield for open SSRUs provided the best scientific advice on yields for this fishery; however, the Scientific Committee was unable to provide consensus advice on catch limits for this division (SC-CAMLR-XXVII, paragraph 4.126);

- (iii) in Division 58.4.2 – a preliminary assessment of *Dissostichus* spp. had been carried out, and the resulting median estimates of yield for open SSRUs provided the best scientific advice on yields for this fishery; however the Scientific Committee was unable to provide consensus advice on catch limits for this division (SC-CAMLR-XXVII, paragraph 4.133);
- (iv) in Division 58.4.3a – a preliminary assessment of *Dissostichus* spp. had been carried out, and this had indicated that the current level of catch was not sustainable; the Scientific Committee advised that the catch level be reduced to 86 to 113 tonnes of *Dissostichus* spp. in this division (SC-CAMLR-XXVII, paragraph 4.140);
- (v) in Division 58.4.3b – a random longline survey of BANZARE Bank had recorded very low catch rates of *Dissostichus* spp., consistent with toothfish being depleted in the surveyed area; however, the Scientific Committee was unable to provide consensus advice on the stock status of *Dissostichus* spp. across the entire division (SC-CAMLR-XXVII, paragraphs 4.145 and 4.148).

12.11 The Commission noted that the Scientific Committee had agreed that research conducted in Division 58.4.3b had indicated the following (SC-CAMLR-XXVII, paragraph 4.146):

- (i) Based on fishing information until last year, the fisheries across BANZARE Bank show that the preferred fishing grounds were depleted in the Southern Area, and this had resulted in the closure of the Southern Area in 2007 (SSRU B; CCAMLR-XXVI, paragraph 13.62).
- (ii) Based on the survey and fisheries across BANZARE Bank, there are very few fish apart from those in the preferred fishing grounds.
- (iii) The fish found in the preferred fishing grounds are large and likely spawning, there are no small fish and fish are male dominated (79%).
- (iv) In the survey, the fish are large and mostly male.
- (v) Spawning fish in East Antarctica have only been found on BANZARE Bank.

12.12 The Commission also noted that only two of the three preferred fishing grounds in Division 58.4.3b were covered by the random survey conducted in 2008 (SC-CAMLR-XXVII, paragraph 4.147).

12.13 The Commission agreed to revise the research and tagging requirements in the exploratory fishery for *Dissostichus* spp. in Subarea 48.6 (paragraph 12.9).

12.14 The Commission noted that some Scientific Committee Members had expressed the opinion that, *inter alia* (SC-CAMLR-XXVII, paragraphs 4.116, 4.127 and 4.134):

- (i) estimates of biomass in Divisions 58.4.1 and 58.4.2 related only to the open SSRUs and that the current network of open and closed SSRUs in these divisions made it difficult to assess the entire stock;

- (ii) tagging of toothfish resulted in inadequately low tag-recaptures in Divisions 58.4.1 and 58.4.2;
- (iii) the assumption that CPUE is proportional to toothfish density is incorrect for a longline fishery, and that this leads to increased uncertainty of the analysis;
- (iv) catchability of longlines generally, and longlining of toothfish in particular, is unknown, and should not be used to estimate biomass;
- (v) catches of 1–4-year-old fish in Division 58.4.2 taken in bottom trawls indicate that recruitment and biomass of fish in this division is higher than the estimates derived from longline catches.

12.15 The Commission noted that most Scientific Committee Members had agreed, *inter alia*, that (SC-CAMLR-XXVII, paragraphs 4.117, 4.126 and 4.133):

- (i) toothfish in Divisions 58.4.1 and 58.4.2 may come from the same stock, including fish on BANZARE Bank, and that although the analyses do not suggest that the stock in Divisions 58.4.1 and 58.4.2 is depleted in open areas compared to closed areas, they do indicate that the region-wide population may be much less than in Subareas 88.1 and 88.2;
- (ii) strategies to concentrate effort, such as networks of open and closed SSRUs, to collect data to assist with assessments remain the best strategies for developing these fisheries;
- (iii) the preliminary assessments of *Dissostichus* spp. in Divisions 58.4.1, 58.4.2 and 58.4.3b provided the best scientific advice on yields for these fisheries.

12.16 The Commission noted that the Scientific Committee had referred the issue of potential bias caused by open and closed SSRUs to WG-SAM (SC-CAMLR-XXVII, paragraphs 4.127 and 4.134).

12.17 The Commission urged all Members to contribute to this process, including the submission of papers to the 2009 meeting of WG-SAM addressing the alternative views outlined in paragraphs 12.4 and 12.5.

12.18 Some Members reiterated the concerns expressed in the Scientific Committee (paragraphs 12.6 and 12.14), including the need for a consistent approach to fishing and the development of research fishing activities. Some Members also noted that extensive sea-ice cover in Subarea 58.4 in 2007/08 had limited the amount of fishing.

12.19 Most Members endorsed the Scientific Committee's advice (paragraphs 12.5 and 12.14).

12.20 In addition, some Members expressed concern at the state of the *Dissostichus* spp. stock in Division 58.4.3b, and recommended that the whole division be closed to fishing.

12.21 ASOC expressed its concern about this debate, and the questioning of the scientific advice provided to the Commission. It saw that the breakdown of trust between some Members of the Commission and the recommendations provided by the Scientific Committee

has the serious potential of not only making it difficult for the Commission to fulfil its obligation for conservation and rational use of marine resources, but also to weakening the global reputation of CCAMLR as a body whose decisions are driven by the best scientific advice available.

12.22 Argentina recalled that the CCAMLR objectives do not contemplate the sustainable use of resources but rather their conservation including rational use. It also stated its concerns, indicating that to increase catch limits would not constitute rational use of the resource, in light of the risks it would represent for this fishery in relation to the economic benefits that could be obtained in just one fishing season.

12.23 The Commission thanked all Members involved in the development of assessment methods in Subarea 58.4. Catch limits in the forthcoming season are addressed in section 13.

12.24 The Commission endorsed the Scientific Committee's advice on the exploratory fisheries in Subareas 88.1 and 88.2 for 2008/09 (SC-CAMLR-XXVII, paragraph 4.160) and agreed to:

- (i) establish a new SSRU in the region to the west of 170°E in the western Ross Sea including Terra Nova Bay and McMurdo Sound (SSRU 881M; SC-CAMLR-XXVII, Figure 2);
- (ii) close SSMU 881M to fishing because of its importance as a corridor for sub-adult toothfish moving between the shelf and the northern area to spawn;
- (iii) retain the current amalgamation of SSRU catch limits, and in addition amalgamate the catch limits for SSRUs 881J (east of 170°E) and 881L;
- (iv) re-adjust proportional catch limits in these revised SSRUs based on revised seabed areas and new CPUE (SC-CAMLR-XXVII, paragraph 4.161);
- (v) new catch limits for *Macrourus* spp. in Subarea 88.1 (SC-CAMLR-XXVII, paragraph 4.162).
- (vi) continue with biennial assessments of *D. mawsoni* in the two subareas.

Exploratory fishery for *E. superba*

12.25 The Commission noted the extensive work of the Scientific Committee and WG-EMM in developing a hierarchical approach for research and data collection plans applicable to exploratory krill fisheries (SC-CAMLR-XXVII, paragraphs 4.163 to 4.185). It endorsed the Scientific Committee's advice on this matter.

12.26 The Commission agreed that data collection plans for case-specific selection by Members and their flagged vessels should include (SC-CAMLR-XXVII, paragraph 4.164 and Figure 3):

- (i) 'standardised systematic/random research trawls by fishing vessels'
- (ii) 'standardised systematic acoustic transects by fishing vessels'

- (iii) 'predator monitoring'
- (iv) 'research survey from scientific vessel'.

12.27 The Commission noted that the Scientific Committee had agreed that SG-ASAM should, as a matter of priority, advise on protocols for the collection and analysis of acoustic data from commercial fishing vessels (SC-CAMLR-XXVII, paragraph 4.166).

12.28 With respect to the plans in paragraphs 12.26(i) and (ii), the Commission agreed that, within a fishing season, vessels participating in exploratory krill fisheries should first conduct normal exploratory fishing operations and then conduct additional research requirements. Vessels would conduct normal exploratory fishing operations until they voluntarily decide to stop fishing for the season or until the catch limit for the exploratory fishery is reached. Vessels must then complete all required research operations within that fishing season (SC-CAMLR-XXVII, paragraph 4.168).

12.29 For the purpose of these plans, the Commission agreed that (SC-CAMLR-XXVII, paragraph 4.169):

- (i) exploratory units are defined as areas of 1° latitude by 1° longitude size, and the vertices of these units shall occur at integer points of latitude and longitude;
- (ii) 'fishing' is defined as any time that fishing gear, conventional trawls, pumped codends and continuous pumping gear are in the water;
- (iii) a research haul is defined as a randomly located, oblique haul made with a research net to a depth of 200 m with a duration of 0.5 h. A set of research hauls is defined as three research hauls separated by a minimum of 10 n miles;
- (iv) an acoustic transect is defined as a randomly located, continuous path travelled at constant speed of 10 knots or less and in a constant direction. The minimum distance between start and end points is 30 n miles, and a set of acoustic transects is defined as two transects separated by at least 10 n miles.

12.30 The Commission also agreed that, during normal exploratory fishing operations, vessels may choose to fish in any exploratory unit. Nevertheless, to facilitate future comparisons between data collected during normal exploratory fishing operations and research operations, the Commission agreed that vessels would be required to conduct one set of acoustic transects or one set of research hauls in each exploratory unit visited during normal fishing operations (SC-CAMLR-XXVII, paragraphs 4.170 to 4.174).

12.31 With respect to the fishery-independent data collection plans (plans (iii) and (iv) in SC-CAMLR-XXVII, paragraph 4.164), the Commission agreed that (SC-CAMLR-XXVII, paragraph 4.175):

- (i) predator monitoring efforts should, as far as possible, follow CEMP Standard Methods and be conducted for a period of time sufficient both to cover the entire breeding period of land-based predators and to cover the duration of any exploratory fishing that occurs during their breeding season;
- (ii) the conduct of a survey from a research vessel should follow all data collection and analysis protocols specified for the CCAMLR-2000 Survey.

12.32 The Commission endorsed the Scientific Committee's advice on data collection and reporting during the course of exploratory krill fisheries, including normal and research fishing operations (SC-CAMLR-XXVII, paragraphs 4.176 to 4.183). In addition, the Commission recognised that in providing Members and their flagged vessels the flexibility to select among research and data collection plans under the four plans outlined above, vessels would be required to collect detailed information on the configuration of every commercial trawl used during a fishing trip.

12.33 The Commission endorsed the Scientific Committee's advice on precautionary catch limits for exploratory krill fisheries (SC-CAMLR-XXVII, paragraph 4.184) and agreed that:

- (i) the annual catch limit for each exploratory krill fishery be set at 15 000 tonnes;
- (ii) that no more than 75% of this catch limit should be taken from areas within 60 n miles of known breeding colonies of land-based krill-dependent predators.

12.34 The Commission also noted the advice of the Scientific Committee on the deployment of observers in exploratory krill fisheries. This matter was discussed further in sections 11 and 13.

12.35 The details of data collection plans, and the limits for the exploratory krill fishery in Subarea 48.6 during 2008/09 were considered further in section 13.

12.36 The Commission noted that research and data collection plans agreed for the 2008/09 fishing season are provisional and should be reviewed at the 2009 meetings of WG-EMM and the Scientific Committee.

New fisheries for crab¹

12.37 The Commission noted that the Scientific Committee had used the approach taken by the experimental harvest regime for the fishery for crab in Subarea 48.3 to develop its advice for the notified new fisheries in Subareas 48.2 and 48.4 (SC-CAMLR-XXVII, paragraphs 4.101 to 4.103). The Scientific Committee had agreed to apply all elements of Conservation Measures 52-01 and 52-02 to the conservation measures developed for Subareas 48.2 and 48.4 with the exception of the following modifications:

- (i) two scientific observers should be present, including at least one international scientific observer;
- (ii) the 2008/09 season should be defined as the period from 1 December 2008 to 30 November 2009, or until the catch limit is reached, whichever is sooner.

12.38 The Commission endorsed this approach, and agreed to the following precautionary catch limits for crab:

- (i) 250 tonnes in Subarea 48.2 (SC-CAMLR-XXVII, paragraph 4.105)
- (ii) 10 tonnes in Subarea 48.4 (SC-CAMLR-XXVII, paragraph 4.106).

¹ The Commission agreed that the notifications for new fisheries for crab in 2008/09 should be considered as exploratory fisheries (paragraph 13.61).

12.39 The Commission recalled that the taking of finfish, other than for scientific research purposes, is prohibited in Subarea 48.2 (Conservation Measure 32-03) (paragraphs 13.3 and 13.62).

Proposal to combine conservation measures for new and exploratory fisheries

12.40 The Commission noted the proposal to combine conservation measures for new and exploratory fisheries (CCAMLR-XXVII/33) as well as the Scientific Committee's discussion on this matter (SC-CAMLR-XXVII, paragraphs 4.186 and 4.192; see also paragraph 13.9).