

ASSESSMENTS AND MANAGEMENT ADVICE

New and exploratory fisheries in 2004/05 and notifications for 2005/06

New and exploratory fisheries in 2004/05

5.1 Last year the Commission agreed to seven exploratory longline fisheries for *Dissostichus* spp. in the 2004/05 season (Conservation Measures 41-04, 41-05, 41-06, 41-07, 41-09, 41-10 and 41-11). Activities in these fisheries are summarised in Table 5.1. There were no new fisheries notified for 2004/05. Catches of *Dissostichus* spp. in excess of 100 tonnes were reported in the exploratory fisheries in Divisions 58.4.1 (480 tonnes), 58.4.2 (127 tonnes), 58.4.3a (110 tonnes) and 58.4.3b (295 tonnes), and Subareas 88.1 (3 079 tonnes) and 88.2 (412 tonnes).

5.2 The exploratory fishery in Subarea 48.6 was undertaken by two Members with a total catch of 49 tonnes of *Dissostichus* spp. taken against a total catch limit of 900 tonnes (455 tonnes north of 60°S and 455 tonnes south of 60°S).

5.3 The exploratory fishery in Division 58.4.1 was undertaken by four Members with a total catch of 480 tonnes of *Dissostichus* spp. against a catch limit of 600 tonnes.

5.4 The exploratory fishery in Division 58.4.2 was undertaken by four Members with a total catch of 127 tonnes of *Dissostichus* spp. against a catch limit of 780 tonnes.

5.5 The exploratory fishery in Division 58.4.3a was undertaken for the first time. Three Members fished with a total catch of 110 tonnes of *Dissostichus* spp. against a catch limit of 250 tonnes. Some fishing took place outside the prescribed season, but this was in accordance with the conservation measures in force.

5.6 The exploratory fishery in Division 58.4.3b was undertaken by three Members with a total catch of 295 tonnes of *Dissostichus* spp. against a catch limit of 300 tonnes. Fishing took place outside the prescribed season, but this was in accordance with the conservation measures in force, and the fishery was closed on 14 February 2005. The closure was triggered by the catch of *Dissostichus* spp. (total catch was 98% of the catch limit).

5.7 The exploratory fishery in Subarea 88.1 was undertaken by six Members with a total catch of 3 079 tonnes of *Dissostichus* spp. taken against a catch limit of 3 250 tonnes. The fishery was closed on 27 March 2005 (see CCAMLR-XXIV/BG/13, Table 2). During the course of fishing, the following SSRUs were closed:

- SSRU B closed 31 December, triggered by the catch of *Dissostichus* spp. (total catch 70 tonnes; 87% of the catch limit);
- SSRU C closed 20 December, triggered by the catch of *Dissostichus* spp. (total catch 429 tonnes; 192% of the catch limit);
- SSRU E closed 20 March, triggered by the catch of *Dissostichus* spp. (total catch 59 tonnes; 104% of the catch limit);
- SSRU G closed 27 March, triggered by the catch of *Macrourus* spp. (total catch 16 tonnes; 78% of the catch limit);

- SSRU H closed 13 January, triggered by the catch of *Dissostichus* spp. (total catch 773 tonnes; 98% of the catch limit);
- SSRU I closed 27 January, triggered by the catch of *Macrourus* spp. (total catch 160 tonnes; 129% of the catch limit);
- SSRU J closed 2 March, triggered by the catch of *Macrourus* spp. (total catch 46 tonnes; 92% of the catch limit);
- SSRU K closed 7 February, triggered by the catch of *Macrourus* spp. (total catch 201 tonnes; 168% of the catch limit);
- SSRU L closed 12 March, triggered by the catch of *Dissostichus* spp. (total catch 169 tonnes; 94% of the catch limit).

5.8 The Working Group noted that the catch limit for *Dissostichus* spp. was exceeded by 92% (206 tonnes) in SSRU C in Subarea 88.1. This over-run illustrates the difficulty in forecasting closures when a number of vessels fish in an area where catch rates are high relative to the catch limits. The fishing events which resulted in the over-run in SSRU C are summarised in CCAMLR-XXIV/BG/13.

5.9 Another contributing factor to the over-run in SSRU C arose because that SSRU straddles the International Date Line. At the time of the closure in SSRU C, the Secretariat had inadvertently omitted to specify the closure date and time in relation to GMT. The closure was intended to be 20 December 2400 h local time GMT +12; some vessels had fished to the west of longitude 180 and interpreted the closure as 2400 h GMT -12. The Working Group noted that the Secretariat now includes the GMT time zone in all closure notices.

5.10 Catch limits were over-run on four other occasions in SSRUs in Subarea 88.1 (two catch limits for *Dissostichus* spp. and two catch limits for *Macrourus* spp.). Key factors in these over-runs included rapid changes in fishing effort and/or catches, and the late submission of catch and effort reports.

5.11 Despite these overruns, the Working Group noted that the total catch of *Dissostichus* spp. in Subarea 88.1 was only 95% of the overall catch limit. Given the 5-day reporting period and the relatively small size of SSRU catch limits, the Working Group agreed that both under-runs and over-runs of SSRU catch limits are inevitable. Provided these more or less balance over the season within subareas or divisions, and provided there is no trend for a preponderance of over-runs over time, these do not pose a conservation threat to the stocks.

5.12 The exploratory fishery in Subarea 88.2 was undertaken by three Members with a total catch of 412 tonnes of *Dissostichus* spp. (110% of the catch limit of 375 tonnes). The fishery was closed on 5 February.

5.13 Unstandardised CPUE data for *Dissostichus* spp. taken in exploratory longline fisheries in 1997–2005 are summarised in Table 5.3.

5.14 Under Conservation Measure 41-01 all vessels operating in exploratory fisheries are required to carry out a research plan which includes completing a minimum number of research sets on entering an SSRU. The Working Group analysed the performance of each

vessel using an extract of the fine-scale C2 data and the output from a new routine developed by the Secretariat (paragraph 3.4; see also WG-FSA-05/6 and SC-CAMLR-XXIII, Annex 5, paragraph 5.23).

5.15 The Working Group welcomed the results from some vessels which exceeded their required quota of research sets. However there were a number of instances where vessels failed to complete any research sets. There were also cases where a vessel conducted some research sets but failed to complete the required quota even though more commercial sets were completed.

5.16 The Working Group noted that the aim of requiring research sets with substantial biological sampling in new and exploratory fisheries was to obtain an understanding of the distribution and abundance of target and by-catch species on as wide a geographical scale as possible at an early stage of the fisheries' development. For most exploratory fisheries, this requirement is still relevant and should remain. The Working Group agreed, however, that for Subareas 88.1 and 88.2 the required geographical spread of fishing has already been achieved. Under these circumstances, the Working Group agreed that a more effective scheme for collecting biological samples from fisheries in those subareas would be to obtain random samples from catches on all sets carried out.

5.17 The Working Group recommended that to further this objective, the requirement to carry out specific research sets as defined in Annex 41-01/B of Conservation Measure 41-01 within Subareas 88.1 and 88.2 be removed.

5.18 The Working Group further recommended that there be a requirement that all fish of each *Dissostichus* spp. in a haul (up to 35 fish) be measured and randomly sampled for biological studies (cf. paragraphs 2(iv) to 2(vi) of Annex 41-01/A) from all lines hauled within Subareas 88.1 and 88.2, as proposed and justified in WG-FSA-05/49.

5.19 The Working Group also considered that the introduction of more structured research plans for exploratory fisheries may lead to a more effective and efficient collection of research data. It therefore recommended that development of such plans should be considered during the intersessional period for implementation next year.

5.20 An additional requirement specified in Conservation Measure 41-01 is that each longline vessel fishing in exploratory fisheries for *Dissostichus* spp. is required to tag and release *Dissostichus* spp. at the rate of one toothfish per tonne of green-weight catch throughout the season. All vessels fishing reported tagging *Dissostichus* spp. in exploratory fisheries with a total of 4 858 *Dissostichus* spp. tagged in 2004/05. However, some vessels did not fulfil the requirements of Conservation Measure 41-01. The Working Group noted its concern that the tagging requirements, as specified in Conservation Measure 41-01, were not being met by all vessels. It reiterated the importance for Members to conduct tagging and to submit data in accordance with Conservation Measure 41-01 (see also Appendix T).

5.21 Analysis of tag-recapture data requires an ability to link accurately the observer data and C2 catch data. For the historical data held by the Secretariat, this is not always possible because of a lack of a unique identifier for each longline set used consistently in both observer and catch datasets. The Working Group recommended that vessels be asked to record a unique identifier on the C2 data forms for every set made and that observers ensure that this identifier is also recorded on their data forms.

New and exploratory fisheries in 2005/06

5.22 Notifications for exploratory fisheries in 2005/06 are summarised in Table 5.2. Twelve Members submitted paid notifications for exploratory longline fisheries for *Dissostichus* spp. in Subareas 48.6, 88.1 and 88.2 and Divisions 58.4.1, 58.4.2, 58.4.3a and 58.4.3b. Two Members submitted notifications after the deadline of 24 July 2005, however all payments were received by the deadline of 24 August 2005. There were no notifications for new fisheries, and no notifications were received for fisheries in closed areas.

5.23 The Working Group agreed that it would not attempt to determine whether all the notifications for new and exploratory fisheries satisfied the requirements of the relevant Conservation Measures 21-02 (paragraph 4), 21-02 (paragraph 5) and 21-02 (paragraph 7); this, it believed, should be done by SCIC.

5.24 There were a large number of notifications for fishing in Subareas 88.1 (9 notifications and 21 vessels) and 88.2 (8 notifications and 17 vessels), and Divisions 58.4.1, 58.4.2, 58.4.3a and 58.4.3b (4–6 Members and 6–11 vessels). The Working Group recalled its advice from last year (SC-CAMLR-XXIII, Annex 5, paragraph 5.42). Depending on the size of the precautionary catch limits, this implies that if all vessels operated simultaneously, the available catch per vessel could be lower than that required for economic viability, especially for those vessels operating in high latitudes where fishing imposes considerable operational difficulties.

5.25 The Working Group noted that individual vessels may have notified for more than one subarea or division to increase operational flexibility and to provide access in the case of areas closed or constricted by factors such as heavy sea-ice.

5.26 In this context, the Working Group recommended that in cases where a vessel is notified for a number of subareas or divisions, the notification should include an indicative fishing plan including projected timings for fishing in different areas.

5.27 The Working Group noted that it is likely that, once again, there will be additional administrative problems in determining closure dates for fishing in SSRUs when many vessels are fishing simultaneously in a subarea or division (CCAMLR-XXIV/BG/13).

5.28 Given the importance of tag–recapture data to assessments, the Working Group recommended that Members be urged to continue to emphasise to their vessels the need to look out for recaptured tagged fish and to submit tag–recapture data to the Secretariat in a timely manner.

5.29 Issues related to the allocation of catch limits amongst SSRUs in Subareas 88.1 and 88.2 are discussed in Appendix F.

Progress towards assessments of new and exploratory fisheries

5.30 The Working Group agreed that substantial progress had again been made this year in assessing stocks of *Dissostichus* spp. in Subareas 88.1 and 88.2 (see Appendix F) to develop management advice.

5.31 For the other areas and divisions in which exploratory fisheries are conducted, the Working Group was unable to develop management advice based on assessments of yield and is therefore unable to provide any new advice on catch limits for these fisheries.

5.32 Given the large number of notifications for the 2005/06 fishing year, the Working Group reiterated the urgent need to develop a means for estimating abundance and providing assessments of stock status in exploratory fisheries other than Subareas 88.1 and 88.2.

Management advice for new and exploratory fisheries

5.33 Except for Subareas 88.1 and 88.2, the Working Group reiterated the necessity for Members fishing in exploratory fisheries to ensure that the required research sets are completed (Conservation Measure 41-01) and submitted to the Secretariat in a timely manner and accurate format. In addition, *Dissostichus* spp. should be tagged and data submitted in accordance with Conservation Measure 41-01.

5.34 The Working Group reiterated the importance for Members to conduct tagging and to submit data as part of the Research and Data Collection Plan (Conservation Measure 41-01). Members should also be urged to emphasise to their vessels the need to look out for tagged fish and submit tag–recapture data to the Secretariat in a timely manner.

5.35 In order to facilitate analysis of tag–recapture data, the Working Group recommended that vessels be asked to record a unique identifier on their C2 forms for every set made and that observers ensure that this identifier is also recorded on their data forms.

5.36 The Working Group did not attempt to determine whether all the notifications for new and exploratory fisheries satisfied the requirements of Conservation Measures 21-02 (paragraph 4), 21-02 (paragraph 5) and 21-02 (paragraph 7).

5.37 There has been a large number of notifications for Subareas 88.1 (9 notifications and 21 vessels) and 88.2 (8 notifications and 17 vessels), and Divisions 58.4.1, 58.4.2, 58.4.3a and 58.4.3b (4–6 Members and 6–11 vessels). The Working Group recalled its advice from last year (SC-CAMLR-XXIII, Annex 5, paragraphs 5.96 and 5.97). Depending on the size of the precautionary catch limits, this implies that if all vessels operated simultaneously, the available catch per vessel could be lower than that required for economic viability, especially for those vessels operating in high latitudes where fishing imposes considerable operational difficulties.

5.38 The Working Group recommended that in cases where a vessel is notified for exploratory fisheries in a number of subareas or divisions, the notification should include an indicative fishing plan including projected timings for fishing in different areas.

5.39 With the exception of Subareas 88.1 and 88.2, the Working Group was unable to provide any new advice on catch limits for *Dissostichus* spp. or any by-catch species in any of the exploratory fisheries.

5.40 For the other areas and divisions in which exploratory fisheries are conducted, the Working Group reiterated the urgent need to develop a means for estimating abundance and providing assessments of stock status for all exploratory fisheries. In this context, it noted

that with the continuing tagging programs in a number of areas, in the next year or two it may be possible to obtain mark–recapture estimates of abundance provided that sufficient tags are deployed each year.