

**CONSERVATION MEASURE 41-01 (2010)<sup>1,2</sup>**

**General measures for exploratory fisheries for *Dissostichus* spp. in the Convention Area in the 2010/11 season**

|         |                 |
|---------|-----------------|
| Species | toothfish       |
| Area    | various         |
| Season  | 2010/11         |
| Gear    | longline, trawl |

The Commission hereby adopts the following conservation measure:

1. This conservation measure applies to exploratory fisheries using the trawl or longline methods except for such fisheries where the Commission has given specific exemptions to the extent of those exemptions. In trawl fisheries, a haul comprises a single deployment of the trawl net. In longline fisheries, a haul comprises the setting of one or more lines in a single location.
2. Fishing should take place over as large a geographical and bathymetric range as possible to obtain the information necessary to determine fishery potential and to avoid over-concentration of catch and effort. To this end, fishing in any small-scale research unit (SSRU) shall cease when the reported catch reaches the specified catch limit<sup>3</sup> and that SSRU shall be closed to fishing for the remainder of the season.
3. In order to give effect to paragraph 2 above:
  - (i) the precise geographic position of a haul in trawl fisheries will be determined by the midpoint of the path between the start point and end point of the haul for the purposes of catch and effort reporting;
  - (ii) the precise geographic position of a haul/set in longline fisheries will be determined by the centre point of the line or lines deployed for the purposes of catch and effort reporting;
  - (iii) the vessel will be deemed to be fishing in any SSRU from the beginning of the setting process until the completion of the hauling of all lines;
  - (iv) catch and effort information for each species by SSRU shall be reported to the Executive Secretary every five days using the Five-day Catch and Effort Reporting System set out in Conservation Measure 23-01;
  - (v) the Secretariat shall notify Contracting Parties participating in these fisheries when the total catch for *Dissostichus eleginoides* and *Dissostichus mawsoni* combined in any SSRU is likely to reach the specified catch limit, and of the closure of that SSRU when that limit is reached<sup>4</sup>. No part of a trawl path may lie within a closed SSRU and no part of a longline may be set within a closed SSRU.
4. The by-catch in each exploratory fishery shall be regulated as in Conservation Measure 33-03.
5. The total number and weight of *Dissostichus eleginoides* and *Dissostichus mawsoni* discarded, including those with the 'jellymeat' condition, shall be reported.
6. Each vessel participating in the exploratory fisheries for *Dissostichus* spp. during the 2010/11 season shall have one scientific observer appointed in accordance with the

CCAMLR Scheme of International Scientific Observation, and, where possible, one additional scientific observer, on board throughout all fishing activities within the fishing season.

7. The Data Collection Plan (Annex 41-01/A), Research Plan (Annex 41-01/B) and Tagging Program (Annex 41-01/C) shall be implemented. Data collected pursuant to the Data Collection and Research Plans for the period up to 31 August 2011 shall be reported to CCAMLR by 30 September 2011 so that the data will be available to the meeting of the Working Group on Fish Stock Assessment (WG-FSA) in 2011. Such data taken after 31 August 2011 shall be reported to CCAMLR not later than three months after the closure of the fishery, but, where possible, submitted in time for the consideration of WG-FSA.
8. Members who choose not to participate in the fishery prior to the commencement of the fishery shall inform the Secretariat of changes in their plans no later than one month before the start of the fishery. If, for whatever reason, Members are unable to participate in the fishery, they shall inform the Secretariat no later than one week after finding that they cannot participate. The Secretariat will inform all Contracting Parties immediately after such notification is received.

<sup>1</sup> Except for waters adjacent to the Kerguelen and Crozet Islands

<sup>2</sup> Except for waters adjacent to the Prince Edward Islands

<sup>3</sup> Unless otherwise specified, the catch limit for *Dissostichus* spp. shall be 100 tonnes in any SSRU except in respect of Statistical Subarea 88.2.

<sup>4</sup> The closure of fisheries is governed by Conservation Measure 31-02.

ANNEX 41-01/A

### **DATA COLLECTION PLAN FOR EXPLORATORY FISHERIES**

1. All vessels will comply with the Five-day Catch and Effort Reporting System (Conservation Measure 23-01) and Monthly Fine-scale Catch, Effort and Biological Data Reporting Systems (Conservation Measures 23-04 and 23-05).
2. All data required by the CCAMLR *Scientific Observers Manual* for finfish fisheries will be collected. These include:
  - (i) position, date and depth at the start and end of every haul;
  - (ii) haul-by-haul catch and catch per effort by species;
  - (iii) haul-by-haul length frequency of common species;
  - (iv) sex and gonad state of common species;
  - (v) diet and stomach fullness;
  - (vi) scales and/or otoliths for age determination;
  - (vii) number and mass by species of by-catch of fish and other organisms;
  - (viii) observation on occurrence and incidental mortality of seabirds and mammals in relation to fishing operations.

3. Data specific to longline fisheries will be collected. These include:

- (i) position and sea depth at each end of every line in a haul;
- (ii) setting, soak and hauling times;
- (iii) number and species of fish lost at surface;
- (iv) number of hooks set;
- (v) bait type;
- (vi) baiting success (%);
- (vii) hook type.

ANNEX 41-01/B

### **RESEARCH PLAN FOR EXPLORATORY FISHERIES**

1. Activities under this Research Plan shall not be exempted from any conservation measure in force.
2. This plan applies to all small-scale research units (SSRUs) as defined in Table 1 and Figure 1.
3. Except when fishing in Statistical Subareas 88.1 and 88.2 (see paragraph 5), any vessel undertaking prospecting or commercial fishing in any SSRU must undertake the following research activities:
  - (i) On first entry into an SSRU, the first 10 hauls, whether by trawl or longline, shall be designated 'research hauls' and must satisfy the criteria set out in paragraph 4. Research hauls shall be carried out on, or close to, positions provided by the CCAMLR Secretariat<sup>1</sup>, based on a stratified random design in prescribed areas within that SSRU.
  - (ii) On completion of 10 research hauls the vessel may continue to fish within the SSRU.
4. To be designated as a research haul:
  - (i) each research haul must be separated by not less than 5 n miles from any other research haul, distance to be measured from the geographical midpoint of each research haul;
  - (ii) each haul shall comprise: for longlines, at least 3 500 hooks and no more than 5 000 hooks; this may comprise a number of separate lines set in the same location; for trawls, at least 30 minutes effective fishing time as defined in the *Draft Manual for Bottom Trawl Surveys in the Convention Area* (SC-CAMLR-XI, Annex 5, Appendix H, Attachment E, paragraph 4);
  - (iii) each haul of a longline shall have a soak time of not less than six hours, measured from the time of completion of the setting process to the beginning of the hauling process.

5. In the exploratory fisheries in Statistical Subareas 88.1 and 88.2, all data specified in the Data Collection Plan (Annex 41-01/A) of this conservation measure shall be collected for every haul; all fish of each *Dissostichus* species in a haul (up to a maximum of 35 fish) are to be measured and randomly sampled for biological studies (paragraphs 2(iv) to (vi) of Annex 41-01/A).
6. In all other exploratory fisheries, all data specified in the Data Collection Plan (Annex 41-01/A) of this conservation measure shall be collected for every research haul; in particular, all fish in a research haul up to 100 fish are to be measured and at least 30 fish sampled for biological studies (paragraphs 2(iv) to (vi) of Annex 41-01/A). Where more than 100 fish are caught, a method for randomly subsampling the fish should be applied.

<sup>1</sup> The Secretariat will generate a list of random stations for each vessel participating in exploratory fisheries. These lists will be provided to notifying Members prior to the start of the fishing season (SC-CAMLR-XXVII, paragraphs 4.113 and 4.114).

Table 1: Description of small-scale research units (SSRUs) (see also Figure 1).

| Region  | SSRU | Boundary Line   |
|---------|------|---|
| 48.6    | A    | From 50°S 20°W, due east to 1°30'E, due south to 60°S, due west to 20°W, due north to 50°S.   |
|         | B    | From 60°S 20°W, due east to 10°W, due south to coast, westward along coast to 20°W, due north to 60°S.  |
|         | C    | From 60°S 10°W, due east to 0° longitude, due south to coast, westward along coast to 10°W, due north to 60°S.  |
|         | D    | From 60°S 0° longitude, due east to 10°E, due south to coast, westward along coast to 0° longitude, due north to 60°S.                                    |
|         | E    | From 60°S 10°E, due east to 20°E, due south to coast, westward along coast to 10°E, due north to 60°S.  |
|         | F    | From 60°S 20°E, due east to 30°E, due south to coast, westward along coast to 20°E, due north to 60°S.  |
|         | G    | From 50°S 1°30'E, due east to 30°E, due south to 60°S, due west to 1°30'E, due north to 50°S.   |
| 58.4.1  | A    | From 55°S 86°E, due east to 150°E, due south to 60°S, due west to 86°E, due north to 55°S.  |
|         | B    | From 60°S 86°E, due east to 90°E, due south to coast, westward along coast to 80°E, due north to 64°S, due east to 86°E, due north to 60°S.               |
|         | C    | From 60°S 90°E, due east to 100°E, due south to coast, westward along coast to 90°E, due north to 60°S.   |
|         | D    | From 60°S 100°E, due east to 110°E, due south to coast, westward along coast to 100°E, due north to 60°S.   |
|         | E    | From 60°S 110°E, due east to 120°E, due south to coast, westward along coast to 110°E, due north to 60°S.   |
|         | F    | From 60°S 120°E, due east to 130°E, due south to coast, westward along coast to 120°E, due north to 60°S.   |
|         | G    | From 60°S 130°E, due east to 140°E, due south to coast, westward along coast to 130°E, due north to 60°S.   |
|         | H    | From 60°S 140°E, due east to 150°E, due south to coast, westward along coast to 140°E, due north to 60°S.   |
| 58.4.2  | A    | From 62°S 30°E, due east to 40°E, due south to coast, westward along coast to 30°E, due north to 62°S.  |
|         | B    | From 62°S 40°E, due east to 50°E, due south to coast, westward along coast to 40°E, due north to 62°S.  |
|         | C    | From 62°S 50°E, due east to 60°E, due south to coast, westward along coast to 50°E, due north to 62°S.  |
|         | D    | From 62°S 60°E, due east to 70°E, due south to coast, westward along coast to 60°E, due north to 62°S.  |
|         | E    | From 62°S 70°E, due east to 73°10'E, due south to 64°S, due east to 80°E, due south to coast, westward along coast to 70°E, due north to 62°S.            |
| 58.4.3a | A    | Whole division, from 56°S 60°E, due east to 73°10'E, due south to 62°S, due west to 60°E, due north to 56°S.  |
| 58.4.3b | A    | From 56°S 73°10'E, due east to 79°E, south to 59°S, due west to 73°10'E, due north to 56°S.   |
|         | B    | From 60°S 73°10'E, due east to 86°E, south to 64°S, due west to 73°10'E, due north to 60°S.   |
|         | C    | From 59°S 73°10'E, due east to 79°E, south to 60°S, due west to 73°10'E, due north to 59°S.   |
|         | D    | From 59°S 79°E, due east to 86°E, south to 60°S, due west to 79°E, due north to 59°S.   |
|         | E    | From 56°S 79°E, due east to 80°E, due north to 55°S, due east to 86°E, south to 59°S, due west to 79°E, due north to 56°S.                                |
| 58.4.4  | A    | From 51°S 40°E, due east to 42°E, due south to 54°S, due west to 40°E, due north to 51°S.   |
|         | B    | From 51°S 42°E, due east to 46°E, due south to 54°S, due west to 42°E, due north to 51°S.   |
|         | C    | From 51°S 46°E, due east to 50°E, due south to 54°S, due west to 46°E, due north to 51°S.   |
|         | D    | Whole division excluding SSRUs A, B, C, and with outer boundary from 50°S 30°E, due east to 60°E, due south to 62°S, due west to 30°E, due north to 50°S. |

continued

Table 1 (continued)

| Region | SSRU | Boundary Line  |
|--------|------|--|
| 58.6   | A    | From 45°S 40°E, due east to 44°E, due south to 48°S, due west to 40°E, due north to 45°S.  |
|        | B    | From 45°S 44°E, due east to 48°E, due south to 48°S, due west to 44°E, due north to 45°S.  |
|        | C    | From 45°S 48°E, due east to 51°E, due south to 48°S, due west to 48°E, due north to 45°S.  |
|        | D    | From 45°S 51°E, due east to 54°E, due south to 48°S, due west to 51°E, due north to 45°S.  |
| 58.7   | A    | From 45°S 37°E, due east to 40°E, due south to 48°S, due west to 37°E, due north to 45°S.  |
| 88.1   | A    | From 60°S 150°E, due east to 170°E, due south to 65°S, due west to 150°E, due north to 60°S.   |
|        | B    | From 60°S 170°E, due east to 179°E, due south to 66°40'S, due west to 170°E, due north to 60°S.  |
|        | C    | From 60°S 179°E, due east to 170°W, due south to 70°S, due west to 178°W, due north to 66°40'S, due west to 179°E, due north to 60°S.          |
|        | D    | From 65°S 150°E, due east to 160°E, due south to coast, westward along coast to 150°E, due north to 65°S.                                      |
|        | E    | From 65°S 160°E, due east to 170°E, due south to 68°30'S, due west to 160°E, due north to 65°S.  |
|        | F    | From 68°30'S 160°E, due east to 170°E, due south to coast, westward along coast to 160°E, due north to 68°30'S.                                |
|        | G    | From 66°40'S 170°E, due east to 178°W, due south to 70°S, due west to 178°50'E, due south to 70°50'S, due west to 170°E, due north to 66°40'S. |
|        | H    | From 70°50'S 170°E, due east to 178°50'E, due south to 73°S, due west to coast, northward along coast to 170°E, due north to 70°50'S.          |
|        | I    | From 70°S 178°50'E, due east to 170°W, due south to 73°S, due west to 178°50'E, due north to 70°S.   |
|        | J    | From 73°S at coast near 170°E, due east to 178°50'E, due south to 80°S, due west to 170°E, northward along coast to 73°S.                      |
|        | K    | From 73°S 178°50'E, due east to 170°W, due south to 76°S, due west to 178°50'E, due north to 73°S.   |
|        | L    | From 76°S 178°50'E, due east to 170°W, due south to 80°S, due west to 178°50'E, due north to 76°S.   |
|        | M    | From 73°S at coast near 169°30'E, due east to 170°E, due south to 80°S, due west to coast, northward along coast to 73°S.                      |
| 88.2   | A    | From 60°S 170°W, due east to 160°W, due south to coast, westward along coast to 170°W, due north to 60°S.                                      |
|        | B    | From 60°S 160°W, due east to 150°W, due south to coast, westward along coast to 160°W, due north to 60°S.                                      |
|        | C    | From 60°S 150°W, due east to 140°W, due south to coast, westward along coast to 150°W, due north to 60°S.                                      |
|        | D    | From 60°S 140°W, due east to 130°W, due south to coast, westward along coast to 140°W, due north to 60°S.                                      |
|        | E    | From 60°S 130°W, due east to 120°W, due south to coast, westward along coast to 130°W, due north to 60°S.                                      |
|        | F    | From 60°S 120°W, due east to 110°W, due south to coast, westward along coast to 120°W, due north to 60°S.                                      |
|        | G    | From 60°S 110°W, due east to 105°W, due south to coast, westward along coast to 110°W, due north to 60°S.                                      |
| 88.3   | A    | From 60°S 105°W, due east to 95°W, due south to coast, westward along coast to 105°W, due north to 60°S.                                       |
|        | B    | From 60°S 95°W, due east to 85°W, due south to coast, westward along coast to 95°W, due north to 60°S.   |
|        | C    | From 60°S 85°W, due east to 75°W, due south to coast, westward along coast to 85°W, due north to 60°S.   |
|        | D    | From 60°S 75°W, due east to 70°W, due south to coast, westward along coast to 75°W, due north to 60°S.   |

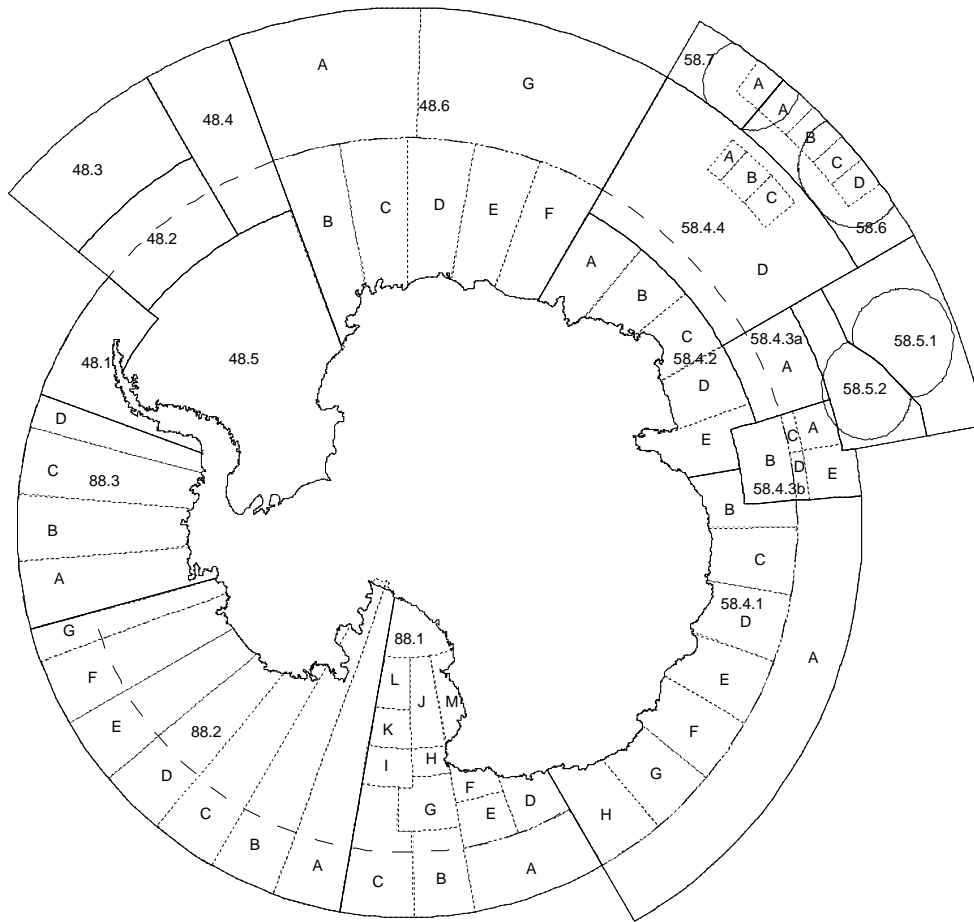


Figure 1: Small-scale research units for new and exploratory fisheries. The boundaries of these units are listed in Table 1. EEZ boundaries for Australia, France and South Africa are marked in order to address notifications for new and exploratory fisheries in waters adjacent to these zones. Dashed line – approximate delineation between *Dissostichus eginoides* and *Dissostichus mawsoni*.

ANNEX 41-01/C

### **TAGGING PROGRAM FOR *DISSOSTICHUS* SPP. AND SKATES IN EXPLORATORY FISHERIES**

1. The responsibility for ensuring tagging, tag recovery and correct reporting shall lie with the Flag State of the fishing vessel. The fishing vessel shall cooperate with the CCAMLR scientific observer in undertaking the tagging program.
2. This program shall apply in each exploratory longline fishery, and any vessel that participates in more than one exploratory fishery shall apply the following in each exploratory fishery in which that vessel fishes:
  - (i) Each longline vessel shall tag and release *Dissostichus* spp., continuously while fishing, at a rate specified in the conservation measure for that fishery according to the CCAMLR Tagging Protocol<sup>1</sup>.

- (ii) The program shall target toothfish of all sizes in order to meet the tagging requirement, only toothfish that are in good condition shall be tagged and the availability of these fish shall be reported by the observer. The length frequency of tagged toothfish shall reflect the length frequency of the catch of each species of *Dissostichus*<sup>2</sup>. Each vessel catching more than 2 tonnes of *Dissostichus* spp. in a fishery shall achieve a minimum tag overlap statistic of 50% in 2010/11 and of 60% from 2011/12 onward<sup>3</sup>. All released toothfish must be double-tagged and releases should cover as broad a geographical area as possible. In regions where both species occur, the tagging rate shall be in proportion to the species and lengths of each *Dissostichus* spp. present in the catches.
  - (iii) Members wishing to tag skates are advised to follow the protocols developed during the Year-of-the-Skate.
  - (iv) All toothfish and skate tags for use in exploratory fisheries shall be sourced from the Secretariat.
  - (v) All toothfish shall be examined for the presence of tags. All skates shall be brought on board or alongside the hauler to be checked for tags and for their condition to be assessed. Recaptured tagged fish (i.e. fish caught that have a previously inserted tag) shall not be re-released, even if at liberty for only a short period.
  - (vi) Recaptured tagged toothfish should be biologically sampled (length, weight, sex, gonad stage) and an electronic time-stamped photograph taken of the tag together with recovered otoliths, detailing the number and colour of the tag.
  - (vii) Recaptured tagged skates should be biologically sampled (length, weight, sex, gonad stage), two electronic time-stamped photographs should be taken, one of the whole skate with tag attached, and one close-up of the tag detailing the number and colour of the tag.
3. Toothfish that are tagged and released shall not be counted against the catch limits.
  4. All relevant tag data and any data recording tag recaptures shall be reported electronically in the CCAMLR format<sup>1</sup> to the Executive Secretary (i) by the vessel every month along with its monthly fine-scale catch and effort (C2) data, and (ii) by the observer as part of the data reporting requirements for observer data<sup>1</sup>.
  5. All relevant tag data, any data recording tag recaptures, and specimens (tags and otoliths) from recaptures shall also be reported electronically in the CCAMLR format<sup>1</sup> to the relevant regional tag data repository as detailed in the CCAMLR Tagging Protocol (available at [www.ccamlr.org/pu/e/sc/tag/intro.htm](http://www.ccamlr.org/pu/e/sc/tag/intro.htm)).

<sup>1</sup> In accordance with the CCAMLR Tagging Protocol for exploratory fisheries which is available from the Secretariat and included in the scientific observer logbook forms.

<sup>2</sup> Vessels may implement this requirement by tagging fish at an appropriate rate per number of fish brought alongside the hauler. See the CCAMLR Tagging Protocol for further guidance.



<sup>3</sup> The tag overlap statistic ( $\theta$ ) shall be calculated as follows:

$$\theta = \left( 1 - \frac{\sum_{i=1}^n |P_t - P_c|}{2} \right) \times 100$$

where  $P_t$  is the proportion of all fish tagged in length bin  $i$ ,  $P_c$  is the proportion of all fish caught (i.e. the sum of all fish caught and either landed or tagged and released), for 10 cm length bins.