

MANAGEMENT UNDER CONDITIONS OF UNCERTAINTY ABOUT STOCK SIZE AND SUSTAINABLE YIELD

7.1 One of the areas that the Commission had indicated last year that the Scientific Committee should focus on under this agenda item was the interrelationship between the different stages of development of fisheries (CCAMLR-XVI, paragraphs 10.1 to 10.3). This topic had been discussed by the Scientific Committee last year (SC-CAMLR-XVI, paragraphs 5.150 to 5.152 and 7.1 to 7.5), and it was considered further at this meeting by WG-FSA (Annex 5, paragraphs 3.88 to 3.95), with discussions focusing in part around CCAMLR-XVII/18.

7.2 In relation to fisheries that had lapsed for reasons not related to conservation concerns, and for which a stock assessment had been conducted previously by the Scientific Committee, WG-FSA had noted that an unresolved issue was the currency of the previous assessment (i.e. for how long did the assessment remain valid). This issue needs to be considered further by the Scientific Committee (paragraph 5.26; Annex 5, paragraphs 3.89 to 3.91).

7.3 The submission by the European Community of a discussion paper on a unified regulatory framework for CCAMLR based on stages of fishery development (CCAMLR-XVII/18) was widely welcomed by the Scientific Committee. This was viewed as an important initiative, and the Scientific Committee endorsed the need to develop such a framework. The Scientific Committee also agreed that the development of such a framework will take some time, and that Conservation Measures 31/X and 65/XII should remain in force until a replacement scheme is adopted.

7.4 In addition to the above points relating to the recommencement of closed or lapsed fisheries, discussion of this paper centred around scientific criteria for transitions between the other categories of fisheries. Of particular importance was the transition from a developing to an established fishery. From a scientific point of view, this should only occur when the Scientific Committee has been able to conduct a stock assessment confirming that the fishery is sustainable according to the decision rules set by the Commission. This was the intent of the Conservation Measure 65/XII in relation to exploratory fisheries, particularly in respect of the need to continue to classify a fishery as exploratory until such time as sufficient information as set out in paragraph 1(ii) of the conservation measure is available. The Scientific Committee agreed that it is important that any new framework should retain this requirement. The opinion was expressed that this would be more consistent with the application of a precautionary approach, especially since the proposed framework made it possible to transfer directly to established fishery status immediately following notification.

7.5 The prominence given in the discussion paper to the need for prior notification was strongly endorsed by the Scientific Committee.

7.6 When estimating yield levels for new and exploratory fisheries for *D. eleginoides*, once again in the absence of direct estimates of recruitment for a particular area, it has been necessary in a number of cases to extrapolate recruitment and stock discreteness levels from those estimated in different areas (SC-CAMLR-XVI, paragraph 7.9). This procedure introduces an additional degree of uncertainty to estimated yields that can only be eliminated when research surveys have been conducted to estimate recruitment or biomass in each area for which yields are to be calculated (paragraph 9.28).

7.7 The development of a long-term management strategy for *C. gunnari* remains a high-priority item of future work for the Scientific Committee. However, at this meeting a number of urgent topics relating to the assessment of *D. eleginoides* were identified (Annex 5, paragraph 9.11). These were felt by the Scientific Committee to be of higher immediate priority than the conducting of the planned Workshop on *C. gunnari* (Annex 5, paragraphs 9.7 to 9.10), which it therefore recommended be postponed until after 1999.

7.8 Last year, the Scientific Committee had discussed the possible need for a change to the boundary between Subareas 58.6 and 58.7. In its discussion on stock boundaries this year, WG-FSA had concluded it would be preferable if *Dissostichus* spp. stocks were managed using geographical units that normally were smaller than the statistical areas currently used (Annex 5, paragraphs 3.151 to 3.154). Annex 5, Figure 1 illustrates such management units. If this approach is taken, the need to change the boundary between Subareas 58.6 and 58.7 is removed (paragraphs 5.37 to 5.39).

7.9 The Scientific Committee recognised that it did not have good knowledge of the levels of by-catch in many parts of the Convention Area or of its potential effects on stocks of the by-catch species. It noted, however, that a number of the by-catch species, especially elasmobranchs, were known to be particularly vulnerable to overfishing. This issue is discussed in paragraphs 5.127 to 5.130. For these and other potentially vulnerable species, much of the data are still being collected. In such circumstances, it is important that by-catch regulations be balanced. On the one hand, they should aim to ensure that the catches of by-catch species are not sufficiently large as to threaten the sustainability of stocks of those species. However, on the other hand they should not be so restrictive as to encourage dumping of the by-catch species, with a consequent loss of valuable information. Prof. Moreno also noted that for elasmobranchs, there was an urgent need for better taxonomic keys to enable more accurate recording of by-catch data at the species level (Annex 5, paragraph 9.3).

7.10 Given the proposed changes to by-catch provisions recommended by the Scientific Committee this year (paragraph 5.115), it was agreed that WG-FSA should be asked to consider the effectiveness of by-catch regulations at its next meeting in the light of observer information collected during the year. WG-FSA should also be asked to consider appropriate ways in which by-catches on longlines can be quantified.

7.11 A new source of uncertainty in assessments and management of *Dissostichus* spp. identified at this meeting was in the conversion factors used to estimate green weight from processed catch weight. This is discussed in paragraph 3.6.