

## MANAGEMENT UNDER UNCERTAINTY

10.1 The Commission noted the work in progress of the Scientific Committee on matters related to management under uncertainty (SC-CAMLR-XVIII, section 7).

### Management of *Dissostichus* spp.

10.2 In respect to the management of *Dissostichus* spp., new information on growth and natural mortality had been presented to WG-FSA. However, there was still considerable scope for improving these estimates. For example, further information on mortality might arise from analysis of tagging experiments. Such studies may also provide information on migrations of these species to and from spawning and feeding grounds.

### Assessment of Catch Limits in Mixed-gear Fisheries

10.3 The Commission noted the early progress made in setting catch limits which satisfy CCAMLR's decision rules in determining an appropriate combined catch for trawl and longline fisheries within the same assessment area. The interim measure proposed by the Scientific Committee (SC-CAMLR-XVIII, paragraph 7.6) was endorsed.

### General By-catch Provisions

10.4 Progress was also made with the development of a general by-catch measure. The Commission noted the paucity of information on the abundance of by-catch species, and especially those of the families Rajidae and Macrouridae caught in longline fisheries. The Commission endorsed the following general points aimed at reducing by-catch in new and exploratory fisheries (both longline and trawl) within the Convention Area (SC-CAMLR-XVIII, paragraphs 7.8 to 7.9):

- (i) the maximum by-catch rate of macrourids was set at 18% by mass of the *Dissostichus* spp. catch per fine-scale rectangle;
- (ii) the maximum by-catch rate of rajids was set at 10 to 15% by mass of the *Dissostichus* spp. catch per fine-scale rectangle;
- (iii) when a by-catch proportion is exceeded, the vessel must move a minimum distance of 5 n miles from the fishing location (in longlining the fishing location is defined as the mid-point between the setting location and the hauling location); and
- (iv) the level trigger below which it would not be necessary to move from a fishing location once the by-catch proportion was exceeded was set at 100 kg (total catch).

10.5 The Commission noted that it was essential that data collection requirements, commensurate with those for target species, be specified in conservation measures for new and exploratory fisheries. It was also noted that some Members had begun collecting data on the abundance of by-catch in new and exploratory fisheries.

### Scientific Basis of a Regulatory Framework

10.6 The Commission noted the progress made in defining a regulatory framework for the development of CCAMLR fisheries (SC-CAMLR-XVIII, paragraphs 7.11 to 7.23). The Chairman of the Scientific Committee had formed a small ad hoc task group during the intersessional period to work on the regulatory framework, and the findings had been discussed by WG-FSA and the Scientific Committee.

10.7 It was noted that the development of a unified regulatory framework is an iterative process which may take some time to complete, and requires consideration of:

- (i) steps in the development of a fishery;
- (ii) procedures to guide the development of a fishery; and
- (iii) designation of the status of the different levels of the fishery.

10.8 The Commission noted that steps in the development of a fishery would include:

- (i) definition of the entry level requirements for undeveloped fisheries, irrespective of whether they might currently be classified as 'new' or 'exploratory';
- (ii) a notification procedure which contains a clear statement of the harvest strategy;
- (iii) research and data collection plans as well as the development of precautionary harvest strategies at scales of individual vessels and areas; and
- (iv) consideration of the currency of assessments with respect to situations where fishing had lapsed and was likely to be resumed.

10.9 The procedure to guide the development of a fishery would include:

- (i) determination of the status of individual stocks; and
- (ii) estimation of yield using models based on decision rules (e.g. krill yield model, generalised yield model).

10.10 The Commission recognised the importance of setting precautionary harvest strategies during the early stages of the development of fisheries, and conducting research to assess the status of stocks, determine catch limits and evaluate harvest strategies.

10.11 The Commission endorsed the priorities for future work set out by the Scientific Committee (SC-CAMLR-XVIII, paragraphs 7.21 and 7.22) aimed at:

- (i) refining the fishery development framework from SC-CAMLR-XVIII/BG/25;
- (ii) identifying data requirements from both commercial operations and research surveys;
- (iii) developing robust procedures for assessment; and
- (iv) determining the status of individual fisheries.

10.12 The Commission agreed that these activities should be addressed by the ad hoc task group in time for a draft document to be considered at the meetings of the Scientific Committee and its working groups in 2000.

10.13 Chile associated itself with the European Community in supporting the idea of a conceptual basis of a regulatory framework for all stages and procedures to govern the development of a fishery. In praising the work of the task group which had addressed this matter (SC-CAMLR-XVIII/BG/25), Chile made three remarks: (i) although priority had to be awarded to new and exploratory fisheries, the exercise should encompass the total cycle of a fishery; (ii) transition from one stage to another required refinement; and (iii) a stronger scientific component, including research and data collection as well as precautionary approaches should be incorporated in every stage of the fishery, not forgetting the advice of the Chairman of the Scientific Committee that CCAMLR should avoid another crisis such as the depletion of *N. rossii*.

10.14 The Commission endorsed the recommendation of the Scientific Committee that the advance notification scheme set out in Conservation Measure 65/XII should be applied to all

notifications of new and exploratory fisheries for *Dissostichus* spp. because the high level of IUU fishing for these species in many parts of the Convention Area had rendered it unrealistic that such fisheries be regarded as 'new' (SC-CAMLR-XVIII, paragraph 7.23).