MANAGEMENT UNDER CONDITIONS OF UNCERTAINTY
ABOUT STOCK SIZE AND SUSTAINABLE YIELD

WG-FSA

7.1 The Scientific Committee took note of the fishery plans which had been updated by the Secretariat. It noted the fishery-related research needs and emphasised the need for necessary changes to the data collection and research plans in order to meet the requirements under Conservation Measure 21-02 (Annex 5, paragraphs 5.299 and 5.300).

7.2 The Scientific Committee noted the desire of SCIC to develop a comprehensive assessment of compliance (CAC) of fishing vessels with conservation measures. It welcomed this initiative to establish a more transparent process of assessment of data obtained from fisheries in as consistent, accurate and verifiable a manner as possible. This should result in a more rigorous assessment of compliance with relevant conservation measures than is currently feasible. An important source of such data is from scientific observers, both through logbooks and observer reports. It was emphasised that these tasks should not compromise observers' other tasks nor their status and role on the vessel.

7.3 The Scientific Committee observed that CCAMLR-XXII/52 proposed one potential method and approach for such comprehensive compliance assessments. It noted that this proposal had been reviewed by WG-FSA (Annex 5, paragraphs 5.302 to 5.306) and WG-IMAF (Annex 5, paragraphs 6.58 to 6.65). It endorsed the main comments from these groups, specifically:

(i) the importance of ensuring that conservation measures are constructed to be as amenable as possible to objective quantitative monitoring;

(ii) concern that the proposed approach might result in reducing the standard of compliance. Acceptance of less than 100% compliance with measures would effectively provide a disincentive to fishers to make efforts to achieve the prescribed standards. Many relevant conservation measures (or elements thereof) are only minimum standards and vessels should strive to exceed these standards not just to prevent compliance failure, but also to achieve the best standards of conservation and management;

(iii) one of the objectives of a compliance score should be to encourage vessels to improve their performance; it would be useful to provide additional incentives for vessels undertaking research;

(iv) the difficulty, with presently available information, of commenting on priorities and weighting for compliance issues because advice in conservation measures is often best presented as a package rather than as alternative weighted priorities. In addition, combining different conservation measures to derive a total score would be inappropriate where these are designed to address different conservation and management objectives;

(v) concern that if a threshold total compliance score was less than 100%, this could result in fishers trading off between conservation measures with different weightings to achieve the threshold score. In addition, the method proposed

does not address the problem of distinguishing between non-compliant vessels that fail by a small amount and those failing by a large margin.

7.4 The Scientific Committee endorsed the view that the implications of a review of methods of assessing compliance were much more extensive than simply developing a new approach. Any new system would require a comprehensive evaluation of the contents of all conservation measures, of the instructions to observers and inspectors, of the nature, scope and content of the reporting mechanisms and of the details of the data validation, analysis and assessment protocols.

7.5 The Scientific Committee encouraged the Commission to ensure that discussions of the development of assessment procedures for compliance with conservation measures are based on continuing dialogue between SCIC and the Scientific Committee and its working groups.

7.6 Reported catch of *Dissostichus* spp. and estimated catch from IUU fishing in subareas and divisions in the Convention Area, and catch reported in the CDS in areas outside the Convention Area in the 2001/02 and 2002/03 seasons are provided in Annex 5, Table 3.2. The Scientific Committee noted the need to use standard terms surrounding fishing within and outside the CCAMLR Convention Area, and requested the Commission to provide advice on the use of the term 'IUU fishing'.

7.7 It was confirmed that one Spanish vessel fished in Area 51 outside the EEZs and outside the CCAMLR Convention Area and had a scientific observer on board. Catch rates were very variable and *D. eleginoides* were taken. Data were not processed and will be provided next year.

7.8 Catches in Area 47 reported through CDS increased substantially from 655 tonnes to 2 852 tonnes with respect to the previous season (Annex 5, Table 3.2). Catches in FAO Area 41 had declined from 4 472 tonnes in 2001/02 to 1 934 tonnes in 2002/03. In Area 51 catches declined from 10 620 tonnes in 2001/02 to 3 648 tonnes in 2002/03, and in Area 57 from 3 803 tonnes to 858 tonnes. The extent to which this decline had occurred remained debatable. Some Members felt that reported catches had declined substantially. Others were of the opinion that the extent to which catches had decreased remained unclear as catches derived from CDS information were still incomplete with respect to the 2002/03 season.

7.9 CDS data were unlikely to provide all the information needed to estimate the level of IUU catches. The Scientific Committee drew the attention of JAG to the additional use of trade data. The Scientific Committee reiterated, however, that IUU catches are by far too high and would lead to a substantial reduction of the fishery resources in the near future (Annex 5, paragraphs 5.307 to 5.312).

7.10 The Scientific Committee noted that Russian scientists had offered to provide detailed bathymetric data from Area 51 which would allow a better estimate of seabed area to be made (SC-CAMLR-XXI, paragraph 4.36; CCAMLR-XXI, paragraph 8.7). Unfortunately these data were not submitted in time to be considered by the Working Group, but could be analysed in time for next year's meeting. Pending such a review, it was agreed that the best evidence available on seabed areas in the region remains the estimates provided by the Secretariat in SC-CAMLR-XXI, Annex 5, Table 5.32.

7.11 Dr Constable drew the attention of the Scientific Committee to its discussion last year on the effects of IUU fishing on toothfish stocks (SC-CAMLR-XXI, paragraphs 4.32 to 4.41). In particular, the Scientific Committee had considered these effects on the legal catch limits given different rates of IUU catch (SC-CAMLR-XXI, Figure 4). He noted that the Scientific Committee was not in a position to comment at that time on which trajectory the legal catch limit was on, but that more information was now available on the status of stocks in the Indian Ocean and the possible trajectory for the legal catch limits in the near future. On the basis of the report of WG-FSA, the following points could be noted this year for *D. eleginoides* in the Indian Ocean:

(i) *D. eleginoides* in the Indian Ocean is likely to be a metapopulation with exchange of individuals between shelf areas across the Indian Ocean from east to west and larval transport from west to east (Annex 5, paragraphs 5.143, 7.6 and 7.7);

(ii) as such, *D. eleginoides* would be a straddling stock across the boundary of the CCAMLR Convention Area;

(iii) although the exchange between areas has not yet been quantified, the current assessment procedure for estimating yield for *D. eleginoides* will remain satisfactory provided that all removals of fish from cohorts can be appropriately accounted for (Annex 5, paragraph 5.143);

(iv) no catches should occur in areas for which no understanding of biomass is available;

(v) the decline of local populations of *D. eleginoides* is evident from the analysis of CPUE data for Subareas 58.6 and 58.7 and Division 58.5.1 (Annex 5, Figures 5.10, 5.11 and 5.16 to 5.18);

(vi) these declines indicate a significant reduction in biomass of toothfish in these areas, particularly given that the decline of the mean weights of fish in the catches show the fisheries now concentrate on juvenile fish;

(vii) these results indicate that IUU fishing is having a devastating effect on *D. eleginoides* in the Indian Ocean and on the short-term future of the legal fisheries in some of the CCAMLR subareas and divisions;

(viii) movement of the IUU fleet into other parts of the CCAMLR Convention Area, including the Atlantic Ocean and the high latitudes, could result in depletion of stocks in those areas in the short term, if IUU catch rates continue at the level reported for the Indian Ocean.

7.12 Prof. Duhamel and Ms T. Akkers (South Africa) reinforced these views given their experience in Division 58.5.1 and Subarea 58.6 and in Subareas 58.6 and 58.7 respectively.

7.13 The Scientific Committee endorsed these views and reiterated its previous statements that the current levels of IUU fishing are unsustainable (SC-CAMLR-XXI, paragraph 4.35).

7.14 During the adoption of the report, the Delegations of Russia and Ukraine expressed their opinion regarding paragraphs 7.11(i) and (ii) that:

(i) there is insufficient scientific evidence of existence of a metapopulation of toothfish in the Indian Ocean Sector of the Antarctic (Annex 5, paragraphs 7.6 to 7.8); this issue requires further research on population structure throughout the range of the species;

(ii) the term 'straddling stock' has a specific legal meaning and its use has legal implications. Therefore, the use of the term 'straddling stock' in the text of the Scientific Committee report is not acceptable.

WG-EMM

7.15 The Scientific Committee endorsed WG-EMM's request for notification of vessels fishing for krill. This is further discussed under the krill section of this report (paragraphs 4.6 to 4.9).