Report by the SC-CAMLR Observer to CEP

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The 40th Meeting of the Scientific Committee of the Commission for the Conservation of Antarctic Marine Living Resources (SC-CAMLR) was held online from 11 to 15 October 2021. The full report of the meeting, including the SC-CAMLR Representatives from each Member and Observer to SC-CAMLR-40, is available from the CCAMLR website:

https://www.ccamlr.org/en/sc-camlr-40

The Chair of the Scientific Committee, Dr D. Welsford, noted the challenging year of virtual meetings of the Scientific Committee and its working groups, a but also the great progress made in some key topic areas, especially in progressing the krill management approach and the record-breaking amount of engagement and participation that the virtual format has enabled.

Reports of the current information on CCAMLR fisheries are available at https://www.ccamlr.org/en/publications/fishery-reports

SC-CAMLR capacity building

At its October 2021 meeting the Scientific Committee further developed its science capacity by agreeing new terms of reference for the General Science Capacity Fund, supporting research on CCAMLR Ecosystem Monitoring Program (CEMP) indicator species, monitoring sites, by expanding the CEMP camera network. In addition, CCAMLR coordinated its Scholarship opportunity with SCAR, COMNAP, and IAATO to improve awareness of these opportunities for Antarctic researchers.

Strategic planning

At its October 2021 meeting the Scientific Committee agreed to hold a special two-session informal symposium in February 2022 to review and develop a five-year strategic plan. The symposium comprised more than 120 participants focussed on two aspects of strategic planning:

1 Identification and scheduling of focussed work topics, and

2. identification of cross-cutting themes that would improve the overall functionality and efficiency of the Scientific Committee’s processes in the longer-term.

A draft convener’s report has been tabled to the SC-CAMLR working groups with the intent that the recommendations and strategic plan will be further refined by Members and agreed at SC-CAMLR- 41 in October 2022.

The remainder of this report focuses on the five issues of common interest to the CEP and SC-CAMLR as identified in the first joint CEP/SC-CAMLR workshop:

a. Climate change and the Antarctic marine environment

b. Biodiversity and non-native species in the Antarctic marine environment

c. Antarctic species requiring special protection

d. Spatial marine management and protected areas

e. Ecosystem and environmental monitoring

a. Climate change and the Antarctic marine environment

The Scientific Committee integrates the effects of climate change into its discussions during many agenda items as a cross-cutting theme, although discussions in 2021 were limited by the time constraints of the online meeting format.

The SC noted the designation in June 2021 of the newly exposed area adjacent to Pine Island Glacier as a Stage 1 Special Area for Scientific Study under Conservation Measure 24-04 and encouraged research to understand how the ecosystem in that area may change given the 22% reduction in the area of the glacier compared to 2017.

The CCAMLR scholarship awarded to Zephyr Sylvester for 2021 will have a focus on the impacts of climate change on krill ecology through potential impacts to phytoplankton and zooplankton composition and distribution in the Southern Ocean.

The Southern Ocean Observing System (SOOS) was discussed as a mechanism to support the design and implementation of ecosystem and climate change monitoring to complement CEMP and SCAR monitoring systems.

b. Biodiversity and non-native species in the Antarctic marine environment

The Scientific Committee considered a range of issues pertaining to biodiversity within the spatial marine management and protected areas agenda item. The CEP remains the lead body on the issue of non-native species.

c. Antarctic species requiring special protection

The Scientific Committee encouraged further contributions by Members to the Specially Protected Species Action Plan for emperor penguins developed by the CEP.

The Scientific Committee discussed the selection process to nominate Important Marine Mammal Areas (IMMAs) through an international collaboration including scientists from SCAR, IUCN and the French Biodiversity Agency (OFB). The IMMAs were determined using a set of criteria supported by data on critical aspects of marine mammal (seals and cetaceans) biology, ecology and population structure and are designed to inform policy makers about processes influenced by management.

d. Spatial marine management and protected areas

The Scientific Committee discussed progress with the Domain 1 MPA proposal (Antarctic Peninsula), the Weddell Sea Phase 1 and 2 proposals, and monitoring activities within the Ross Sea region MPA. Proponents of the Weddell Sea MPA proposals summarised the progress made in synthesis of knowledge for these areas and invited collaborators to an international workshop to be held 14-16 June 2022 to further progress the phase 2 proposal.

In the Ross Sea region, the Scientific Committee discussed monitoring mechanisms for emperor penguins in support of the Ross Sea region MPA Research and Monitoring Plan and encouraged Members to coordinate their activities on this subject.

e. Ecosystem and environmental monitoring

The total annual catch of krill in 2021 was lower than the 2020 catch, but was similar to the highest historical catches in the early 1990’s. The Scientific Committee welcomed significant progress in developing a risk-based management framework for the krill fishery. This included the development of a modelling approach to estimate appropriate exploitation rates for krill, progress in developing spatial distribution layers for krill-dependent predators, progress in modelling recruitment of krill, and progress in analytical techniques for acoustic data for estimation of krill biomass.

Anticipating additional progress and scientific advice in the short term for Subarea 48.1, the Scientific Committee recommended a rollover of CM 51-07 for one year to provide time to consolidate the revision of the krill management approach in Subarea 48.1, with additional time expected to provide advice on other subareas. Furthermore, the Scientific Committee developed a detailed work plan to progress the krill management strategy through consideration of its working groups.

The Scientific Committee noted that monitoring of the effects of the bottom longline toothfish fishery in the Ross Sea on bycatch species has been progressed through studies of stock structure and biology of grenadiers and skates, including abundance estimation through surveys for grenadiers and a tagging programme for skates. An updated data collection plan for fisheries data collection to support the Ross Sea region MPA Research and Monitoring Plan will be developed through a CCAMLR workshop in 2022.

Three humpback whales and 16 seals were recorded as bycatch in the krill fishery in 2022 and the Scientific Committee reconvened the Incidental Mortality Associated with Fishing (IMAF) working group to consider causes and mitigation approaches to minimise mortalities of marine mammals. IMAF will also consider issues associated with flying bird mortalities resulting from warp or net monitoring cable strikes or from longline interactions. The Scientific Committee will also work with experts from the International Whaling Commission (IWC) and the Agreement on the Conservation of Albatrosses and Petrels (ACAP) to further understand and address these issues.