

**SCIENTIFIC COMMITTEE FOR THE CONSERVATION
OF ANTARCTIC MARINE LIVING RESOURCES**

**REPORT OF THE FIRST INTERSESSIONAL MEETING
OF THE SCIENTIFIC COMMITTEE**

BREMERHAVEN, GERMANY
11–13 JULY 2013

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Chair of the Scientific Committee
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Abstract

This document presents the adopted report of the First Intersessional Meeting of the Scientific Committee for the Conservation of Antarctic Marine Living Resources held in Bremerhaven, Germany, from 11 to 13 July 2013. The meeting, which convened immediately prior to the Second Special Meeting of the Commission, provided scientific advice on the joint New Zealand and United States of America Marine Protected Area (MPA) proposal for the Ross Sea Region and the joint Australia, France and European Union MPA proposal for the East Antarctic. The meeting reviewed science already considered by the Scientific Committee, and additional available science to formulate advice to assist the Commission's deliberations on the proposals, in accordance with the relevant aspects of Conservation Measure 91-04.

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**REPORT OF THE FIRST INTERSESSIONAL MEETING
OF THE SCIENTIFIC COMMITTEE**
(Bremerhaven, Germany, 11 to 13 July 2013)

OPENING OF MEETING

1.1 The First Intersessional Meeting of the Scientific Committee for the Conservation of Antarctic Marine Living Resources was held from 11 to 13 July 2013 at Bremerhaven, Germany. The meeting was chaired by Dr C. Jones (USA).

1.2 The Chair welcomed to the meeting representatives from Argentina, Australia, Brazil, Chile, People's Republic of China, European Union, France, Germany, Italy, Japan, Republic of Korea, Namibia, New Zealand, Norway, Poland, Russian Federation, South Africa, Spain, Sweden, Ukraine, United Kingdom of Great Britain and Northern Ireland, United States of America and Uruguay.

1.3 The Chair also welcomed to the meeting Observers from ASOC and IUCN.

1.4 Prof. K. Lochte, Director of the Alfred Wegener Institute (AWI), Helmholtz Centre for Polar and Marine Research, welcomed participants to Bremerhaven and wished participants a productive meeting. Her address is given in Annex 1. On behalf of the Scientific Committee, the Chair thanked Prof. Lochte and the staff of the AWI for the excellent support provided in preparation for this meeting and to the two CCAMLR working group meetings that had preceded this meeting of the Scientific Committee.

1.5 The List of Participants is given in Annex 2. The List of Documents considered during the meeting is given in Annex 3.

1.6 The report of the Scientific Committee was prepared by Drs J. Arata (Chile), C. Darby (UK), D. Ramm, K. Reid (Secretariat), Mr R. Scott (UK), Dr S. Thanassekos and Mr A. Wright (Secretariat).

Adoption of agenda

1.7 The Scientific Committee adopted the agenda appended at Annex 4.

1.8 The Chair noted the terms of reference for the Special Meeting of the Commission and the Intersessional Meeting of the Scientific Committee to continue the Commission's work in relation to marine protected areas (MPAs) (CCAMLR-XXXI, paragraph 7.105):

'Noting the common desire of Members to achieve progress on proposals for CCAMLR MPAs, the Commission agreed to convene a Special Meeting of the Commission to be tentatively held at Bremerhaven with the provisional dates of 15 to 16 July 2013, which will be preceded by a meeting of the Scientific Committee with the provisional dates of 11 to 13 July 2013 for the following purposes:

- (i) the Special Meeting of the Commission will consider MPA issues and make decisions, if possible, on the joint New Zealand and USA MPA proposal on the Ross Sea region and the joint Australia, France and EU MPA proposal on the East Antarctic
- (ii) the meeting of the Scientific Committee will review and advise the Commission on the science already considered by the Scientific Committee and any additional available science relevant to assist the Commission's deliberations on the proposals, in accordance with CM 91-04.'

1.9 The Chair encouraged Members to avoid policy matters, which are the purview of the Commission, and to focus their discussions on scientific aspects pertaining to the proposal for a Ross Sea Region MPA and the proposal for the East Antarctic Representative System of MPAs (EARSMPA) and the data layers that underlie the specific objectives of the proposals. In doing this, he encouraged Members to reflect on the elements of Conservation Measure (CM) 91-04 in relation to the role of the Scientific Committee and Article IX of the CAMLR Convention.

MARINE PROTECTED AREAS

2.1 The papers submitted to the intersessional meeting provided information on:

- (i) the joint New Zealand and USA MPA proposal on the Ross Sea region (SC-CAMLR-IM-I/08, IM-I/09, IM-I/BG/02 and IM-I/BG/03 Rev. 1)
- (ii) the joint Australia, France and EU MPA proposal on the East Antarctic (SC-CAMLR-IM-I/10 Rev. 1 and IM-I/BG/01)
- (iii) additional aspects and alternative perspectives on these proposals (SC-CAMLR-IM-I/03 to IM-I/07).

These papers were discussed in the following sections with the following process to review the science:

- (i) presentations on the proposals were made and scientific issues with the proposals were discussed
- (ii) the science relating to the different aspects and the different areas of the proposals was then discussed.

Joint New Zealand and USA MPA proposal on the Ross Sea Region

2.2 Dr G. Watters (USA) summarised the science supporting the joint New Zealand and USA proposal for establishing an MPA in the Ross Sea Region (SC-CAMLR-IM-I/08). The proposed MPA comprised three zones: a General Protection Zone, a Special Research Zone

and a Spawning Protection Zone. The proposal addressed 10 specific objectives which are categorised into ‘protection objectives’ and ‘science objectives’ (numbered consistently with the paper):

Protection objectives –

- (i) to conserve ecological structure and function throughout the Ross Sea region at all levels of biological organisation, by protecting habitats that are important to native mammals, birds, fishes and invertebrates
- (iv) to protect a representative portion of benthic and pelagic marine environments
- (v) to protect large-scale ecosystem processes responsible for the productivity and functional integrity of the ecosystem
- (vi) to protect core distributions of trophically dominant pelagic prey species
- (vii) to protect core foraging areas for land-based predators or those that may experience direct trophic competition from fisheries
- (viii) to protect coastal locations of particular ecological importance
- (ix) to protect areas of importance in the life cycle of Antarctic toothfish (*Dissostichus mawsoni*)
- (x) to protect known rare or vulnerable benthic habitats.

Science objectives –

- (ii) to provide a reference area in which fishing is limited, to better gauge the ecosystem effects of climate change and fishing, and to provide other opportunities for better understanding the Antarctic marine ecosystem
- (iii) to promote research and other scientific activities (including monitoring) focused on marine living resources.

The size of the proposed MPA was determined by these objectives and the spatial distribution of priority features or ecosystem processes associated with each objective, including the extent and interannual variability of sea-ice and the spatial distribution of catch and effort in the exploratory fishery for toothfish in the Ross Sea. Trade-offs were associated with the displacement of recent fishing effort from small areas near Cape Adare and the Ross Ice Shelf and some, but not all, recent fishing effort away from the Special Research Zone.

2.3 Dr B. Sharp (New Zealand) presented an analysis of potential threats from fishing to the objectives of the proposed MPA (SC-CAMLR-IM-I/09). The MPA objectives were grouped into three categories (representativeness, mitigating ecosystem threats and scientific reference areas), and organised geographically into four ecologically defined regions, as follows: (i) the continental shelf; (ii) the continental slope; (iii) the Balleny Islands and proximity; and (iv) the northern region and seamounts. The analysis identified threats to specific objectives, the ecological mechanisms by which threats are likely to occur and

scientific evidence supporting the nature and extent of the threats. The proposed MPA would reduce the threats from fishing by displacing fishing effort away from areas where ecosystem risks are highest, and allow improved ecosystem protection, improved science and improved sustainable management of the exploratory toothfish fishery.

2.4 The Scientific Committee considered the threat analysis provided by New Zealand and the USA and regarded it as an important contribution to the MPA design in identifying the management objectives, and would be helpful in the discussion on these MPA issues.

2.5 Mr L. Yang (China) made the following points on the paper: (i) overfishing, not fishing itself, constitute a threat to the ecosystem; (ii) some elements were not taken into consideration in the paper, such as the excellent management of the CCAMLR system in mitigating negative impact of fisheries, function of data contribution of the fishing vessels, rational use, and resilient capacity of the robust ecosystem in this region.

2.6 The Scientific Committee noted that catch limits are set consistent with CCAMLR decision rules to ensure that the effects of fishing are not detrimental at the scale of the target stock, but threat-based MPA objectives were designed to prevent localised effects of fishing in particular locations where the risk of ecosystem effects of fishing may be higher, and displace fishing effort into other locations where fish are available for harvest but ecosystem threats are lower.

2.7 The Scientific Committee thanked the proponents for the thoroughness of the proposal, and noted that the proposal was developed in accordance with CM 91-04 and was consistent with CCAMLR-XXXI, paragraph 7.105.

2.8 The Scientific Committee noted the following points in relation to the proposed MPA:

- (i) The boundaries of the proposed MPA were determined by the proposed objectives for the MPA and the spatial extent of the priority features or ecosystem processes associated with each objective.
- (ii) The resulting Ross Sea Region proposal was only weakly driven by representativeness objectives with respect to bioregions, because most bioregions overlap in space with other threat-based or scientific objectives for which higher levels of protection were sought.
- (iii) The proposed average catch limit of 290 tonnes of toothfish in the Special Research Zone per fishing season (1 450 tonnes for fixed periods of five fishing seasons) was determined by balancing the objectives of providing sufficient contrast with the fully developed fishing area on Mawson and Iselin Banks, and maintaining sufficient fishing effort to tag and recapture toothfish to maintain the continuity of the integrity of the toothfish tagging program.
- (iv) The spawning behaviour of *D. mawsoni* in the Ross Sea is not well understood and two potential scenarios for toothfish spawning were considered. The authors of SC-CAMLR-IM-I/08 contended that protection to the spawning grounds of toothfish will be afforded under each of these scenarios. Further scientific work is required to confirm the spatial distribution of important spawning areas (SC-CAMLR-XXXII, Annex 4, paragraph 4.12).

- (v) The proposed MPA affords protection to sub-adult *D. mawsoni* in the southern Ross Sea shelf area, and enhances the value of a sub-adult toothfish monitoring annual survey already in place (WG-SAM-13/32 and 13/33).
- (vi) In developing and presenting the proposal, different fishing effort characterisations were used to reflect different aspects of the effects of the proposed MPA on the toothfish fishery. For example, summarising recent effort (2009–2013) was useful to estimate potential operational disruption arising from fishing effort displacement, whereas CPUE over the entire history of the fishery is a better approximation of relative fish distribution and abundance. The complete time series from the fishery may provide more information on the interannual variability in the spatial distribution of fishing effort in response to sea-ice; however, the distribution of historic effort also reflects the development of the open and closed system of SSRUs in the region.
- (vii) Approximately 23% of the historical catch by the fishery (1999–2013) would be displaced by the proposed MPA. However, the MPA proposal also indicated that fishing would be allowed in several areas that are currently closed, such that the relevant conservation measures and catch limits would need to be revised to redistribute catches within areas outside the MPA, on advice from WG-FSA and the Scientific Committee. Accordingly, the open and closed system of small-scale research units (SSRUs) would need to be revised.
- (viii) Spatial modelling scenarios (WG-SAM-13/35 and 13/36) will be used to investigate the impact of spatial concentration of the fishery relative to fish distribution both inside and outside the proposed MPA, including as a result of redistribution of effort displaced by the proposed MPA.
- (ix) The proposed MPA seeks to eliminate potential ecosystem risks associated with localised prey depletion arising from toothfish fishing in core foraging areas for toothfish predators on the Ross Sea shelf, i.e. Weddell seals and Type C killer whales.
- (x) While depredation has not been reported from the exploratory longline fishery in the Ross Sea, the potential for learned depredation behaviour of Type C killer whales was a matter of concern and the proposed MPA sought, inter alia, to minimise potential interaction between Type C killer whales and fishing vessels.
- (xi) Potential future fishing for krill and silverfish, particularly within the core foraging distributions of spatially constrained top predators, may be expected to have ecosystem consequences and a proactive approach is proposed to mitigate this potential threat.
- (xii) The boundaries of the proposed MPA take account of interannual variability in sea-ice and its effects on the spatial distributions of Antarctic marine living resources in the Ross Sea region.
- (xiii) The proposal was developed through dialogue and agreement between one Member that fishes in the Ross Sea region, and another that does not, with useful intersessional input from other Members.

2.9 Dr X. Zhao (China) suggested that all kinds of foreseeable potential threats that the ecosystem attributes are facing, not only those from fishing, be included in the threat analysis.

2.10 Dr Zhao stated he is in agreement in that an ecosystem approach should be applied in formulating the proposals; however, he was not sure about the appropriateness to include whales and seals as protection targets, as they are conserved by other existing conventions. He suggested the Scientific Committee seek legal guidance from the Commission on this issue, as the Scientific Committee is meant to work within its competence only.

2.11 Prof. B. Fernholm (Sweden) made the following statement:

‘I understand there are two competing hypotheses as to where toothfish spawning occurs, “seamounts” or “more widely”. Since we do have to take decisions given this and other uncertainties, I am comfortable to understand that the proposed MPA will give reasonable protection of the spawning areas whichever hypothesis will eventually prevail.

Since we know that seamounts globally are important spawning areas for deep-sea fish species and also tend to harbour endemic biodiversity, I find it essential to have the MPA protection in place before these seamounts may eventually be protected using the CCAMLR tools for protection of VMEs.

This reference to VMEs raises the question of the protection of the Antarctic biodiversity in general and for those that think CCAMLR is about fish and fishing and not biodiversity I would like to remind us what our Convention says:

“Article I.2: Antarctic marine living resources means the populations of finfish, molluscs, crustaceans and all other species of living organisms”.

Article II makes this even more clear by mentioning “ecological relationships” as well as “minimisation of the risk of changes in the marine ecosystem”.’

2.12 Dr A. Petrov (Russia) presented SC-CAMLR-IM-I/03 that introduced the results of an analysis of the long-standing fishery in Subarea 88.1 which showed that the proposed boundaries of MPA are set mechanically and do not take into account the real ice conditions in the region of historical toothfish fishery. Moreover, in case of the establishment of the boundaries of the proposed MPA in the Ross Sea, Dr Petrov stated that the areas which are rationally used by the fleet of CCAMLR Members are inaccessible, which contradicts CM 91-04, and that the marine areas which are proposed to be reserved for fishery and research are often covered by ice, and others have a depth that is not suitable for fishery, i.e. >2 000 m.

2.13 Thus, Dr Petrov considered it unacceptable to close and set boundaries by MPA of areas that are being rationally used, which are under collective use by Members, and transfer them into the marine areas which are unacceptable for fishery. The authors of SC-CAMLR-IM-I/03 considered the boundaries of the proposed MPA as ungrounded, set mechanically and disregarding the relief of the seabed and ice conditions. The authors of SC-CAMLR-IM-I/03 did not support this kind of boundaries of MPA, which are not scientifically grounded.

2.14 Dr Petrov urged the Scientific Committee to address the scientific basis on which the boundaries of the proposed MPA are grounded. Also, he brought to the attention of the

Members of the Scientific Committee that the artificially provoked situation would negatively influence the toothfish population, thus disregarding the provisions of Article II of the Convention.

2.15 Scientific Committee Representatives from Russia, Ukraine and Japan expressed concern that establishment of the MPA as proposed will cause concentration of the fishing fleet within limited areas which will negatively impact the toothfish population. As a consequence, this will contradict Article II of the Convention.

2.16 The Scientific Committee underlined the necessity to consider the Ross Sea ecosystem in its entirety. It is important to consider all components of the ecosystem, including important species, such as Antarctic silverfish (*Pleuragramma antarcticum*), as changes in the abundance of such species may be expected to have effects on the food-web structure (WG-EMM-12/52).

2.17 The Scientific Committee agreed that the operational impacts of variable sea-ice on fisheries were a legitimate concern. The Scientific Committee noted that the analyses underlying the MPA proposal had taken into account interannual variability in sea-ice, and that the proposed displacement of fishing effort would require a revision of catch limits and the SSRU system (paragraphs 2.5vi and 2.5vii), but there was no consensus regarding whether the level of likely disruption associated with the proposed boundaries was acceptable.

2.18 Dr Sharp clarified that it was explicit in the Ross Sea Region MPA proposal that areas outside the MPA, including those with current zero catch limits, would be opened upon establishment of the MPA at which time the catch limit would need to be spatially redistributed across areas outside the MPA on advice from WG-FSA and the Scientific Committee.

2.19 The authors of SC-CAMLR-IM-I/03 expressed concern that MPAs would lead to areas in which data collection was reduced, noting that data collection has already been reduced to low levels in areas with closed SSRUs.

2.20 The authors of SC-CAMLR-IM-I/08 and IM-I/09 noted that the implications of the establishment of the MPA for ongoing data collection from fishing vessels was considered in the design of the Ross Sea Region MPA, for example, via ongoing toothfish fishing with increased tagging rates within the proposed Special Research Zone.

2.21 The Scientific Committee agreed that fishing vessels serve as important platforms for scientific data collection.

2.22 Dr V. Bizikov (Russia) noted that currently there are no regulations for using fishing vessels for research and monitoring purposes within an MPA, and in the current form CM 24-01 cannot be applicable to MPAs.

2.23 The Scientific Committee noted that research could occur anywhere in the MPA with the approval of the Commission under CM 24-01, that scientific monitoring of sub-adult toothfish was already occurring inside the proposed MPA by this mechanism, and that the draft research and monitoring plan for the MPA (SC-CAMLR-IM-I/BG/03 Rev. 1) describes a wide range of further research priorities, including those that would likely be conducted from fishing vessels.

2.24 The Scientific Committee agreed that research to evaluate and monitor MPAs would focus not only on harvested resources but on the entire ecosystem, and that fishery-independent research was of high importance. An important point is that the MPA system design can be used as scientific reference areas for ecosystem change due to climate change, especially to disentangle this from other human impacts, which would be very difficult by other means. Research programs will be fundamental for evaluating the MPAs designed in terms of their efficiency to conserve biodiversity, ecosystem functioning and also on their impact on fisheries, allowing design adaption of the MPA system if proven necessary.

2.25 Dr Petrov introduced a proposal to open areas of special scientific interest in the Ross Sea region (SC-CAMLR-IM-I/05 Rev. 1). Six SSRUs (881A, 881D, 881E, 881F, 882A and B) have had a 0-tonne allocation of the catch limit for more than eight years, and one (SSRU M) for more than five years, meaning that little new scientific and fishery data, as well as information on dependant and fishery-related species, have been forthcoming in recent years. The proposal was to declare these SSRUs areas of high scientific interest and allow for harvest of toothfish in these areas in accordance with CM 21-02.

2.26 Dr Petrov made the following statement to recommend that ‘the Scientific Committee address the issue of the time aspect of data on which the proposed MPAs are based. To our mind, these data are obsolete and have an eight-year term. That is why we advise the Scientific Committee to address the issue of the opening of all closed for today regions in the Ross Sea and in the East Antarctic which were incorporated and not incorporated in the MPAs, to declare them the areas of enhanced scientific interest and, in accordance with CM 21-01, to conduct research and monitoring there, in the course of which the real boundaries of the protected areas would be set (if such are present for specific moment).’

2.27 Dr L. Pshenichnov (Ukraine) believed that it was not necessary to establish the proposed MPA to afford special protection to the Ross Sea region and conduct research. CCAMLR already has a comprehensive framework for affording spatial protection and for conducting scientific research. He also stated that ‘the approach of the fishing efforts concentrated within the small-scale units is inadmissible for the principles of the sustainable fisheries.’

2.28 The Scientific Committee noted that research fishing in the closed SSRUs was permitted under CM 24-01, and that research fishing had occurred in SSRU 882A.

2.29 Chile, China, Japan, Republic of Korea, Norway and Russia noted that the Ross Sea region has a healthy population of *D. mawsoni*, a well-managed fishery and healthy predator populations; accordingly, these Members questioned why the proposed MPA is so large and why some specific regions seem disproportionate to the level of threat in this ecosystem. These Members stated that:

- ‘(i) They agree that the best available science is on the table.
- (ii) The proponents have made available a good basis for considering the establishment of an MPA.
- (iii) Area A (Figure 1) contains several conservation objectives properly supported by scientific information and thus warrant protection.

- (iv) The continuum of CPUE of toothfish along the slope from the open fishing area B, into C and ending in D should be exploited in the research and monitoring plan allowing a certain amount of experimental fishing in D. This gradient of exploitation would facilitate studies of environmental impact on distribution and abundance.
- (v) Catch limits in C should be based on scientific information. This catch figure could, e.g. be based on a proportion of the annual stock assessment figures and thus be adjusted according to the state of the stock.
- (vi) Although a representative area of the offshore and seamount is required, the offshore areas (F, G and H) are unnecessarily large and in general have a weaker scientific basis. A representative area of G could be included, while H and the size of F were questioned.'

2.30 The Scientific Committee agreed to consider the scientific merit of each regional component associated with the proposed MPA. In doing so, the Scientific Committee recognised that the proposal had been developed as an integrated whole, and individual regional components may not, by themselves, meet the overall objectives or reflect the balance of interests that the proponents attempted to achieve in the whole proposal. Figure 1 was used as the basis for discussions, and another figure showing the spatial distribution of toothfish CPUE (1999–2013) was also available to facilitate discussion.

2.31 The Scientific Committee agreed on the following points:

- (i) the science related to the objectives in the Ross Sea shelf and Balleny Islands (component A) represented the best available science and the designation of that component was appropriate
- (ii) the toothfish catch limit in the Special Research Zone (component C) should be set at some level proportionate to the catch limit for the Ross Sea region, to achieve the following:
 - (a) to maintain the integrity and continuity of the toothfish tagging program
 - (b) to ensure contrasting local exploitation rates between components B and C, based on a scientific rationale
- (iii) the level of protection afforded to the pelagic component in the eastern Ross Sea persistent pack-ice area (component E) was appropriate to protect crabeater seals and emperor penguins
- (iv) a prescribed research fishing could be conducted along the southeastern continental slope (component D), provided that the science supports the objectives in this area
- (v) different levels of catch in each of the three components along the continental slope (component B – continental slope outside the MPA, component C – Special Research Zone and component D – southeastern continental slope) can support the science objective for these components

- (vi) Scott Seamount (component F) was included on the basis of its benthic values, and hence it was felt that the size of the protected area should be reviewed to match its dimension
- (vii) additional scientific research (SC-CAMLR-XXXII, Annex 4, paragraph 4.13) and spatially explicit modelling is required to better understand movements and spatial patterns of toothfish populations in the northern seamounts (components G and H).

2.32 The Scientific Committee agreed that there was insufficient evidence to support the spawning protection objective for the northern seamounts (components G and H) as there was a paucity of scientific information on toothfish spawning in that region. The Scientific Committee agreed that the acquisition of sufficient evidence to understand toothfish spawning was a priority.

2.33 The Scientific Committee agreed that seamounts are an important deep-sea habitat for biodiversity and some representative protection is required. There was agreement that the seamounts are ecologically important and fragile ecosystems and these areas should be afforded protection.

2.34 Dr E. Barrera-Oro (Argentina) referred to the history of the commercial fishery in the different Antarctic areas and the management of the resources made by CCAMLR. He presented a comparison between the Atlantic (48) and Indian (58) areas where CCAMLR started the implementation of conservation measures when the damage to the ecosystem had already been done. The latter led to several fish populations being close to collapse due to the effect of the commercial fishery in the 1970s and the early 1980s. CCAMLR was not in force then and the implementation of conservation measures started in 1984 with the aim to allow recovery of the fish resources in those areas. On the contrary, the Ross Sea has been industrially exploited since the second half of the 1980s, when CCAMLR was already in force. At that time, the Ross Sea was considered pristine, but this is not the case anymore since the ecosystem has been exploited over more than two decades. Hence, it is a great opportunity for CCAMLR to preserve the balance of the ecosystems of the Ross Sea and East Antarctic by protecting these ecosystems as a whole, and not only the target species, through the establishment of MPAs, so as to avoid the ecosystem disruptions that occurred in Areas 48 and 58 in the past.

2.35 Dr R. Werner (ASOC) stated the following:

‘ASOC presented the document CCAMLR-SM-II/BG/04: Antarctic Ocean Legacy: Securing Enduring Protection for the Ross Sea Region.

In 2012, the Antarctic Ocean Alliance and ASOC proposed the creation of a marine reserve of strict protection for the region of the Ross Sea, comprising an area of 3.6 million km². The Ross Sea ecosystem is recognised as the least impacted large marine ecosystem left on Earth. The Ross Sea is one of the last open-ocean, continental shelf ecosystems in which the food web has not been subjected to serious or permanent change as a result of human activities. The region offers unprecedented opportunities for science to help us understand how a large-scale fully functioning ecosystem works, as well as providing a unique global reference zone for studying how it is influenced by climate change and ocean acidification.

ASOC and the Antarctic Ocean Alliance highlighted the importance of providing the appropriate protection to all the areas included in the joint proposal of the US and New Zealand. Also, these organisations expressed their full support to the proposal by the EU, Australia and France for the creation of a network of marine protected areas in this region. Both proposals represent a good starting point and they could be strengthened over the years.’

Joint Australia, France and EU MPA proposal on the East Antarctic

2.36 Dr A. Constable (Australia) summarised the scientific background to the joint Australia, France and EU proposal for an EARSMPA (SC-CAMLR-IM-I/10 Rev. 1), highlighting that the body of work has been reviewed in WG-EMM since 2010, the Workshop on MPAs, and the Scientific Committee in 2010 and 2011. The proposed EARSMPA will contribute to achieving the objectives of Article II, and is designed to:

- (i) efficiently achieve general and specific conservation objectives for the East Antarctic area marine living resources
- (ii) enable the acquisition of knowledge on the status and trends in the Southern Ocean ecosystem in different areas of the East Antarctic in order to achieve sustained conservation of the marine ecosystem
- (iii) facilitate correct attribution of the cause of changes to harvested, dependent or related species, whether that be by harvesting, environmental change or some other factor, in order that the Commission may respond correctly and in a timely manner to observed changes.

2.37 The number, location and size of MPAs within the EARSMPA were determined based on consideration of:

- (i) benthic and pelagic habitats in each biogeographic province and subprovince
- (ii) importance of nursery and/or spawning grounds
- (iii) scientific reference areas designed to allow distinction between environmental change and the effects of fishing
- (iv) boundaries which encompass the range of habitats and are easy to manage and navigate, of sufficient size and location to be adequate to sustain biodiversity in the long term, and accommodate the requirements of reference areas
- (v) impacts on catch rates of toothfish and krill fisheries which would be small, noting that sustainable catch limits would be assessed at the scale of the East Antarctic region.

The proposed EARSMPA comprised three benthic MPAs (Gunnerus, Enderby, Wilkes) and four benthic/pelagic MPAs (MacRobertson, Prydz, Drygalski, D’Urville Sea–Mertz).

2.38 Prof. P. Koubbi (France) outlined the priority elements of a research and monitoring plan for the proposed EARSMPA (SC-CAMLR-IM-I/BG/01). The research and monitoring plan would be developed through international, multidisciplinary collaboration to bring together current scientific knowledge, ongoing and future collaborations, including established international initiatives, and management expertise. Scientific initiatives currently under way in the region form the foundation for the research and monitoring plan and Members were invited to participate in all aspects of the research and monitoring activities.

2.39 The Scientific Committee thanked the proponents for the thoroughness of the proposal, and noted that the proposal was developed in accordance with CM 91-04 and was consistent with CCAMLR-XXXI, paragraph 7.105.

2.40 The Scientific Committee noted the following points which were made during the discussions:

- (i) The proposed EARSMPA (Figure 2) is designed for multiple use and includes a management system where activities may be undertaken when they are consistent with the objectives of the MPAs. This may include research fishing or the development of fisheries.
- (ii) The proposed EARSMPA aims to maintain the long-term viability and integrity of biodiversity, even in the face of uncertainty about environmental change and the impact of fisheries. Approved activities in the EARSMPA may include research and exploratory fishing.
- (iii) The proposed EARSMPA identifies areas of high conservation values and provides reference areas to evaluate the effects of fishing and climate change.
- (iv) The sizes of the proposed pelagic MPAs, MacRobertson, Drygalski and D'Urville Sea–Mertz were generally determined by encompassing the ecosystems from the sea-ice zone to the permanent oceanic zone, which includes the southern boundary of the ACC and/or the northern boundary of areas of productivity along with the summer foraging range of Adélie penguins from reference colonies during the critical period in the austral summer. These foraging ranges are amongst the largest observed in Antarctic waters and may extend up to 400 km from the colonies. The low productivity in the region results in long-distance foraging for predators such as penguins. The foraging area to the north of Prydz Bay remains outside MPAs to enable access to fisheries. The effects of fishing on food webs can be compared to the adjacent reference areas using this design.
- (v) The proposed Gunnerus MPA is designed primarily to incorporate the Gunnerus Ridge and adjacent seamount habitats. This MPA also extends eastward to conserve elements of the continental shelf. Similarly, proposed MPAs with pelagic elements extend to the coast to conserve associated coastal elements.
- (vi) The proposed Prydz Bay MPA is likely to be an important nursery area for krill and toothfish; however, this MPA did not include the Prydz Bay gyre which was considered to be an important oceanographic feature.

- (vii) The current system of SSRUs and toothfish catch limits in the East Antarctic was established as a tool to assess and manage toothfish stocks and associated exploratory fisheries. MPAs in the proposed EARSMPA include SSRUs which are either open or closed to fishing, and some displacement of fishing activities is envisaged. The system of open and closed SSRUs will require review in light of the proposed displacement of effort in the fishery.
- (viii) Historic aggregated data from the krill fishery had been included in the review. The proposal also took account of historic information on krill which is available in the Krillbase database.
- (ix) The relatively high historic levels of catch in certain areas in the East Antarctic indicate that even a low productivity area may have sustainable fishery resources. However, it was noted that the biomass available was lower than that recorded in other regions around Antarctica.
- (x) The pelagic bioregionalisation used to define biological features has been validated through surveys and analysis of data from a number of databases supplied by SCAR, CCAMLR, CPR and satellite imagery. Validation data collected by Australia, France and Japan had shown that the pelagic zone is not homogeneous but separated into a shelf zone and an offshore zone, each with characteristic species assemblages.
- (xi) The proposed benthic MPAs are determined on the basis of abiotic variables, with the regionalisation validated by benthic data available in SCAR MarBIN and through benthic surveys by Australia and France. The benthic/pelagic MPAs included a biological rationale.

2.41 The Scientific Committee noted the following point:

- (i) The EARSMPA is a multiple-use proposal which accepts having research activities and fishing activities in the same general areas in which conservation and scientific objectives are to be achieved. The proposal seeks to ensure that the fisheries are not unnecessarily impeded while meeting the conservation and scientific objectives. The assessment undertaken focused on the effects of the MPAs and variable sea-ice on catch rates. It used all available haul-by-haul data for toothfish from 2003 to 2010 and showed that catch rates are unlikely to be affected. A review of the distribution and density of krill was undertaken and indicated that catch rates of krill are unlikely to be affected either. This included reviews of historical data considered since the submission of the proposal in 2012.

2.42 Dr Petrov stated that the fishery information upon which the network of MPAs in the East Antarctic is based is eight years old, since fishing activity in Division 58.4.1 began in 2004, in Division 58.4.2 in 2002; and in 2005 a decision was taken to close part of the SSRU, it turns out that data are available for various areas of this sector that were obtained for one year only. The authors of SC-CAMLR-IM-I/05 Rev. 1 consider that such information cannot be reliable and it is essential that new data be obtained, and therefore, propose to open new

fisheries in line with CM 21-01, paragraph 1(iii), in all closed areas, as well as in the Ross Sea region. The collection of fisheries data and information on dependant and related species will be conducted in accordance with CM 21-02.

2.43 Dr Petrov suggested that the Scientific Committee consider the temporal aspect of data upon which the proposed MPAs are based. In his view, these eight-year old data from the closed SSRUs are obsolete. The authors of SC-CAMLR-IM-I/05 Rev. 1 therefore recommend that the Scientific Committee consider opening all currently closed areas in the East Antarctic, whether included in the MPAs or not, declare them areas of high scientific interest and, in line with CM 21-01, conduct in these areas research and monitoring during which appropriate boundaries of protected areas (if such will exist at that stage) will be established (SC-CAMLR-IM-I/05 Rev. 1).

2.44 Dr S. Kasatkina (Russia) discussed the available data on the hypothesis regarding a possible resumption of a krill fishery in Divisions 58.4.1 and 58.4.2 in the next few years. She noted that historical data from Japanese and Ukrainian krill fisheries (1975–1995) indicated that there was no potential for the development of a large-scale krill fishery in Divisions 58.4.1 and 58.4.2. In any event, no attempt has been made to resume krill fishing in the East Antarctic for the last 20 years. She also noted that there is a lack of scientific data to support the hypothesis regarding a possible resumption, and that the possibility of the development of a krill fishery in Divisions 58.4.1 and 58.4.2 in the near future is tenuous.

2.45 Dr Kasatkina urged the Scientific Committee to consider the scientific basis, underlying the hypothesis about the development of the krill fishery in Divisions 58.4.1 and 58.4.2 in the near future and its impact on the krill resources. According to the Russian experts' assessments, this statement, which is one of the grounds for the establishment of an MPA in the East Antarctic, is not scientifically sound, first of all taking into account the lack of this information, as: (i) data about the state and space–time dynamics of the distribution of krill; (ii) data about the meaning of fishery in East Antarctic for the development of krill, including answers to questions like: do the conditions exist in Divisions 58.4.1 and 58.4.2 for the formation of krill fishing grounds? What is the space–time stability of the existence of these fishing grounds and which fishable biomass may be concentrated here, first of all in comparison to traditional fishing grounds in Area 48, where the whole modern krill fishery takes place.

2.46 Dr Kasatkina drew to the attention of the Scientific Committee that the establishment of MPAs requires an estimation and description of the current state of krill biomass and should not be based on scientific and fishery data that was received more than 20 years ago.

2.47 Dr Pshenichnov believed that the living resources stock of the East Antarctic is significantly high. The fisheries within this area are being naturally restricted by the existing hard sea-ice conditions. The existing CCAMLR framework already allows fulfilment of the comprehensive scientific research in this area. Dr Pshenichnov thinks there is a lack of scientific data for the MPA establishing for the both areas. The research data of Soviet and Ukrainian scientists have not been considered for the scientific justification of the MPAs establishment. He was also sure the MPAs establishment within huge-scale areas of the East Antarctic and the Ross Sea will not facilitate the completion of the main CAMLR objectives.

2.48 Dr Zhao questioned the scientific justification for the protection of krill in the Prydz Bay area as:

- (i) krill is the most common and abundant species in the Convention Area
- (ii) the region is covered by ice most of the year
- (iii) there has been no krill fishery in the entire East Antarctic region for many years, and the scale of historical krill fishery in this region was small and considered to be not viable.

2.49 Dr Zhao stated that the sort of data and analyses provided by Russian colleagues can be quite helpful to formulate the threat analysis that is lacking in the proposal.

2.50 Dr Constable, Prof. Koubbi and Dr V. Siegel (EU) indicated that the proposal considers the issue of current and future threats and noted that it is a multiple-use proposal that can harmonise fisheries, conservation and scientific objectives in these MPAs in a precautionary way. As the EARSMPA is not comprised of no-take MPAs, then a threat analysis was not required.

2.51 Dr Bizikov presented SC-CAMLR-IM-I/04 Rev. 1 and IM-I/06 Rev. 2 on the establishment of MPAs in the Convention Area. He noted that current level of scientific knowledge about the East Antarctic does not allow to provide the reliable estimations of the quantity and biomass of major components of marine ecosystems of this region: krill, toothfish and silverfish. He noted that most scientific data relating to the Antarctic ecosystem come from the fishery, however, fishery and ecosystem research in the East Antarctic are artificially hampered by the establishment of a system of closed SSRUs. Taking into account the huge size of the MPA proposed in the East Antarctic, it is unclear by who and how the proposed MPAs would be studied. In the absence of an established mechanism of international cooperation in international researches and surveys, including the system of data exchange and accumulation, the establishment of large-scale MPAs may lead the development of vast blank areas in the East Antarctic lacking scientific and fishery data.

2.52 Dr Bizikov pointed out that the establishment of the MPA in the South Orkney Islands area in 2009 did not promote scientific research in that area, and the report on scientific monitoring in that MPA presented by the UK in 2013 (WG-EMM-13/10) was not approved by WG-EMM. At the same time, the fisheries research conducted by Russia outside the South Orkney Islands MPA in 2010 were successful and resulted in publication of the '*Field Identification Guide for the Antarctic Crustaceans*'. The results of this research were approved by the Scientific Committee in 2012. Now the CCAMLR community has an effective system of scientific management of areas of special scientific interests through fishery research, while MPA as an institution has no such management system. In this regard, Dr Bizikov noted that the establishment of large-scale MPAs at present will not be consistent with the aims and principles of CCAMLR. He noted that some MPAs in CCAMLR are currently established within the areas under national control. Management of marine living resources in most such areas have substantial negative consequences and lead to depletion of major fish stocks in those areas. Such areas may serve as a negative example of MPA practice.

2.53 Dr P. Trathan (UK) reminded the Scientific Committee that the designation of the South Orkney Islands southern shelf MPA (CM 91-03) was the first MPA that CCAMLR had established. He emphasised that the agreement of research and monitoring plans was an important issue and that it depended upon a shared understanding of what was required under the general framework for the establishment of CCAMLR MPAs (CM 91-04). Further, that WG-EMM-13/10 was presented to WG-EMM to initiate a dialogue so that a shared vision might be developed for the South Orkney Islands MPA research and monitoring plan. Dr Trathan added that WG-EMM had recommended that the development of the research and monitoring plan should be continued through the use of a CCAMLR discussion group (groups.ccamlr.org) to help further that shared understanding.

2.54 A number of issues were raised in SC-CAMLR-IM-I/04 Rev. 1 and IM-I/06 Rev. 2 that were not relevant to the terms of reference set out by the Commission for this Special Meeting of the Scientific Committee (see CCAMLR-XXXI, paragraph 7.105). The discussion of these issues was not relevant to the deliberations of the science underpinning the Ross Sea and the East Antarctic proposals, as set out in SC-CAMLR-IM-I/08, IM-I/09 and IM-I/10 Rev. 1. Some of the issues could be taken up at the appropriate Scientific Committee working groups. There was no further discussion of SC-CAMLR-IM-I/04 Rev. 1 and IM-I/06 Rev. 2 by the Scientific Committee.

2.55 The Scientific Committee agreed that the science related to objectives in the EARSMPA represented the best available science.

2.56 The Scientific Committee noted the proposed research and monitoring plan had goals that covered a large area, and that its success would depend on multilateral and international collaborations and Members collaborating in this work.

2.57 The Scientific Committee noted that the current activities that are occurring and are being planned in the region will assist in the development of the research and monitoring plan for proposed MPAs. With regard to the development of the research and monitoring plan, it was noted that a more detailed description of the geographical and scientific overlap between those international programs and that of the MPA proposal in the East Antarctic would help to understand the research and monitoring plan better.

2.58 The Scientific Committee agreed that participation in the formulation and implementation of the research and monitoring plan was open to all Members, and that the development of a detailed plan will require further consideration by the Scientific Committee and the Commission.

2.59 A number of Members (e.g. Australia, France and Germany) have established science programs which may contribute to the proposed research and monitoring plan, and further contributions may be provided through international initiatives (e.g. CEMP, ICED, SOOS) and collaborations (e.g. SCAR, COMNAP).

2.60 The Scientific Committee Representatives from Japan, Russia and Ukraine noted that in the absence of surveillance, fisheries and/or inspection activities in the vast area, the establishment of MPAs may increase IUU activities in the proposed EARSMPA. The Scientific Committee noted that further consideration of the potential threat of increased IUU fishing activities in the proposed EARSMPA was referred to the Commission.

2.61 The Scientific Committee Representatives from China, Japan, Norway and Russia noted a paucity of time-series data for the region relevant to the quantitative assessment of some important fish and krill stocks. Such quantitative analyses would enhance our understanding of processes which may impact conservation objectives. These Members were also concerned about the feasibility of research and monitoring in such a vast area.

2.62 The Scientific Committee noted that the proposal for the EARSMPA was designed as a system for conservation, science and multiple use in order to achieve objectives that may not be addressed by individual components of the system when considered in isolation. The Scientific Committee also noted that the quantity of available scientific data was not homogeneous across the planning domain and this was noted in the consideration of the proposed MPAs. There were more data layers available for the D'Urville Sea–Mertz, MacRobertson and Prydz MPAs; the breadth and volume of science in these areas arose in part from available logistic support from bases in those regions.

2.63 An important point is that the MPA system design includes some areas that can be used as scientific reference for ecosystem change due to climate change, especially to disentangle this from other human impacts, which would be very difficult by other means. Research programs will be fundamental for evaluating the MPA designs in terms of their efficiency to conserve biodiversity, ecosystem functioning and also on their impact on fisheries, allowing design adaptation of the MPAs system, if proven necessary.

2.64 The Scientific Committee Representatives from Australia, the EU, France, Germany, Italy, New Zealand, Norway, Spain, Sweden, UK and the USA recognised the oceanographic and ecological importance of the Drygalski region in relation to its linkage with the Kerguelen Plateau and the Antarctic Continent with regard to predator species and mesopelagic fish in particular.

2.65 There were differing opinions regarding the suitability of the boundaries of the pelagic/benthic MPAs. Additionally, there were various opinions regarding the overall number of MPAs necessary within this envisaged system to reach CCAMLR conservation objectives for this region.

2.66 The Scientific Committee also recognised that one of the objectives of the design of the EARSMPA proposal was to include areas representative of the biogeography of the region. The Scientific Committee noted that some Members thought that the science that would be facilitated by the EARSMPA would be important in distinguishing the effects of fishing from those of climate change.

Generic issues

2.67 The Scientific Committee briefly discussed the practical application of the concept of 'representative habitats' included in CM 91-04. Currently, there is no explicit shared understanding of this term and the Scientific Committee sought guidance from the Commission on the extent of 'representativeness' to be used in the MPA process.

2.68 Dr Constable noted that the EARSMPA was developed on the basis of ecological criteria that are described in the documentation of the proposals, and that the MPA boundaries

were proposed based on those ecological criteria. Reviews on these proposals against their objectives, including representativeness, have occurred in the Scientific Committee, WG-EMM and the MPA Workshop in 2011.

2.69 Dr Zhao noted that there are several issues (e.g. the level of protection to be afforded to achieve different protection objectives, the general level of protection sought for the Convention Area or the use of existing measures for achieving similar goals) that may be of policy in nature but have important scientific implications in the MPA planning process, and that adequate interaction between the Scientific Committee and the Commission is of vital importance.

2.70 ASOC presented CCAMLR-SM-II/BG/06 and made the following statement:

‘In its essence, the precautionary principle requires taking action in the form of protective conservation and management actions to reduce the risk of serious and/or irreversible harm before negative consequences become apparent. Pursuing establishment of marine protected areas (MPAs) and marine reserves (MRs) by CCAMLR is thoroughly consistent with the precautionary principle as embodied in CCAMLR (Article II; Article IX.2(g)). Around the world, MRs and MPAs are increasingly seen as valuable tools to ensure the long-term health of ocean ecosystems. All CCAMLR Members have committed to precaution through agreement to Principle 15 of the 1992 Rio Declaration and establishing representative networks of MPAs around the planet by 2012.

CCAMLR has previously agreed to meet the WSSD goal and designate a system of MPAs around Antarctica. By designating the proposed East Antarctic and Ross Sea MPAs, CCAMLR Members will show that they are delivering on commitments they have made.

ASOC urges CCAMLR to start delivering on their existing commitments by adopting both the Ross Sea and East Antarctic proposals.’

2.71 ASOC presented CCAMLR-SM-II/BG/07 and made the following statement:

‘The challenges presented by climate change and ocean acidification demand scientific collaboration and cooperation which have always been at the heart of the Antarctic Treaty System’s efforts to understand and protect the Antarctic and Southern Ocean region. CCAMLR’s designation of marine protected areas (MPAs) and marine reserves (MRs) in the Southern Ocean will be essential tools for conducting large-scale pioneering scientific research into the impacts of climate change and ocean acidification and enable the differentiation of those impacts from natural variability and local human activity.

MRs and MPAs will not stop the impacts of climate change or ocean acidification, yet the removal of other stressors will increase species’ and ecosystems’ resilience and the capacity to adapt to changes.

The designation of the East Antarctic and Ross Sea marine protected areas is an important step to meet CCAMLR’s requirement to take into account the effects of

environmental change (Article II) helping increase ecosystem and species resilience and providing scientists unprecedented opportunities for ground-breaking discoveries.’

OTHER BUSINESS

3.1 The Chair of the Scientific Committee drew the attention of the Scientific Committee to the SC-CAMLR-XXXI report, paragraphs 7.3 to 7.6, which endorsed a comprehensive review of CCAMLR’s Scheme of International Scientific Observation. The Chair requested all Members to complete the standing survey sent by the Secretariat before the deadline of 31 July 2013.

ADOPTION OF REPORT OF THE INTERSESSIONAL MEETING

4.1 Dr S. Marensi (Argentina), Prof. Koubbi and Dr Bizikov advised the Scientific Committee that their position is that, in all official meetings of the Antarctic Treaty System, all deliberations must be conducted in the four official languages of the Antarctic Treaty System. However, recognising the important work that was before the Scientific Committee, their delegations agreed to be flexible and conduct the final part of report adoption in English only, but noted that this should be considered as an exception and not a change in normal practice.

4.2 The report of the meeting was adopted.

4.3 The Delegation of Russia reserved its position concerning the aims and boundaries of MPAs in the Ross Sea which it has stated in working documents SC-CAMLR-IM-I/03, IM-I/05 Rev. 1 and IM-I/06 Rev. 2 (submitted to the Scientific Committee) and reflected in the statements of Russian representatives to the Scientific Committee.

CLOSE OF THE MEETING

5.1 Dr Jones thanked all participants for their contributions and involvement in the meeting, and thanked them for their patience and perseverance in addressing the challenging issues before the Scientific Committee. On behalf of the Scientific Committee he expressed appreciation to the host country, Germany, for the excellent facilities, support and hospitality provided to delegates at this meeting.

5.2 Dr Watters, on behalf of the Scientific Committee, thanked Dr Jones for his expertise and guidance during this particularly difficult meeting.

5.3 The meeting was closed.

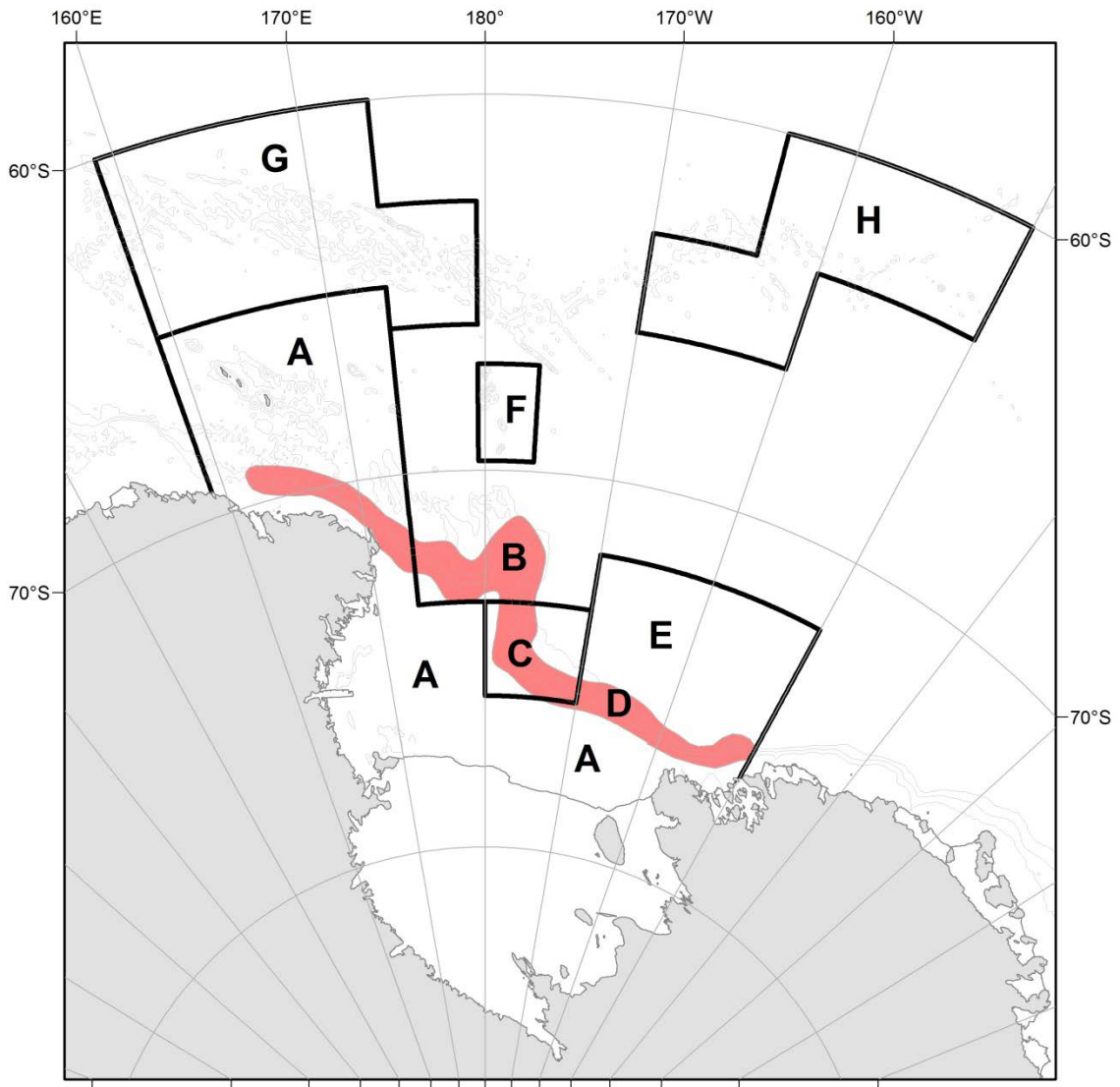


Figure 1: Regional components associated with the proposed MPA in the Ross Sea region: A – Ross Sea shelf and Balleny Islands; B – continental slope outside the MPA; C – Special Research Zone; D – southeastern continental slope; E – eastern Ross Sea persistent pack-ice area; F – Scott Seamount; G – northwest seamounts; H – northeast seamounts. The red area illustrates the approximate location of the continental slope.

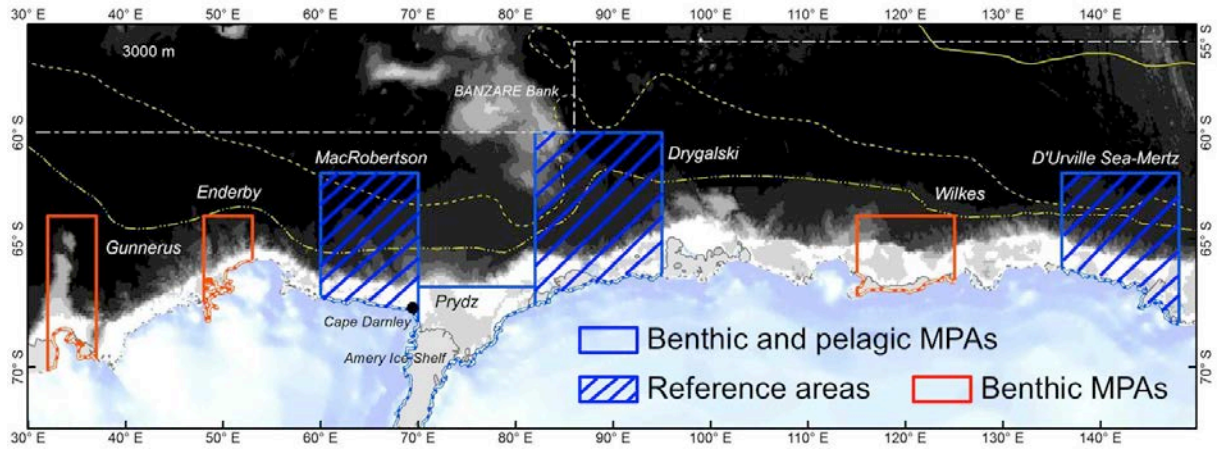


Figure 2: Location of proposed MPAs within the EARSMPA.

**Opening address by Prof. Karin Lochte, Director of the
Alfred Wegener Institute, Helmholtz Centre
for Polar and Marine Research**

**OPENING ADDRESS BY PROF. KARIN LOCHTE, DIRECTOR OF THE
ALFRED WEGENER INSTITUTE, HELMHOLTZ CENTRE
FOR POLAR AND MARINE RESEARCH**

‘Dear Mr Chair, Distinguished Delegates, Ladies and Gentlemen,

As Director of the Alfred Wegener Institute (AWI) for Polar and Marine Research, it is a great honour for me to open the First Intersessional Meeting of the CCAMLR Scientific Committee and to welcome you in Bremerhaven on behalf of the German Federal Ministry of Food, Agriculture and Consumer Protection. It is very nice to see that so many of you have found your way to Bremerhaven at the estuary of the river Weser.

You have assembled here for a single task:

“to provide scientific advice on the Joint New Zealand and USA MPA proposal in the Ross Sea Region and the Joint Australia, France and EU MPA proposal in East Antarctica. You will review science already considered by the Scientific Committee and any additional available science to formulate advice to assist the Commission’s deliberations on the proposals next Monday and Tuesday.”

To an outsider, this might seem a straightforward task – but I know how difficult your work is. Decision-makers, such as the CCAMLR Commissioners, ask for and need scientific advice. I strongly believe that it is one of our duties as scientists to assist and guide policy and societal processes with the results of our research. However, policy-makers would like to have clear advice from science with no uncertainties – and by nature science cannot deliver a single truth. We have to live with, and incorporate, the uncertainties in our planning. In most cases, especially when dealing with areas and environments so large, remote and complex as the Antarctic, we simply do not have enough information and understanding to answer the questions we are being asked in a “yes/no” or “black and white” fashion. Even for issues where we have research results, measurements, remote sensing and modelling data, the analyses and interpretation come with considerable error bars. It is these uncertainties, which open the door for different views, opinions and interpretations within the scientific community and even more so in political or public circles.

So, what can we do? We are able to outline to policy- and decision-makers various scenarios and options: How vulnerable or robust is a certain system and how will it most likely react or change, when a certain trigger level is reached or breached? What would be the knock-on effects at the local, regional or even global scale? We can point out, what the most likely effects will be if a certain activity or action is allowed to take place, or if no such action is being taken. In other words we can indicate the trajectories of change.

I understand that CCAMLR is a conservation organisation, and yes, this “conservation” includes the rational use of marine living resources. This entails different interests, but the protection and preservation of these resources and of the Antarctic ecosystems should be at the heart of us all. So, base your discussions and exchange on the best available science and do not let other considerations influence you.

I recognise some familiar faces from the working group meetings, WG-SAM and WG-EMM, which were held at the AWI and the German Shipping and Maritime Museum over the last two and a half weeks. So, some of you are already familiar with Bremerhaven and what it has

to offer. For those of you who have just arrived, let me give you a little bit of information. Bremerhaven is a small city with just about 120 000 inhabitants and it is part of the Federal State of Bremen, Germany's smallest state. Like the name suggests, "Bremer Harbour" has a deep tradition and connection with the sea and maritime history. The land some 45 kilometres north of Bremen, where Bremerhaven was built, was purchased by the city of Bremen in 1827, when it became obvious that the river Weser was too shallow for bigger ships to sail all the way to Bremen. Bremen's wealth was based on the Hanse Merchant Association, a very rich association of nearly 300 trade and merchant cities in Germany and northern Europe, which influenced and shaped the economic, political and societal development of Europe and beyond for more than 500 years until the end of the 18th century. The famous symbol or landmark of the "Hanse" was the "Kogge", a characteristically shaped wooden ship used for maritime trade. You can see the remains of a 650-year-old Kogge at the German shipping museum next door. The Hanse does not exist anymore, but Bremen is still called "Hansestadt Bremen" and this is represented by the "H" at the beginning of the car number plates registered in Bremen and Bremerhaven.

The sea has made Bremen rich, and the shipyards and fishing industry, especially here in Bremerhaven, flourished. Between the 1960s to the mid-1980s, Bremerhaven was the largest fishing harbour in continental Europe. But already in the late 1970s, economic changes were on the horizon. Shipyards found it difficult to compete with international competitors, and many of them closed or specialised to ship conversions and special builds. The depletion of North Atlantic fish stocks meant a decline in the fish market. It was time for Bremerhaven to diversify its industrial and economic portfolio. First came the development of the container harbour north of here. With nearly 5 kilometres of pier, it is the largest coherent container terminal in the world. In recent years, the manufacture of offshore wind energy installations took off and now is becoming increasingly important.

Apart from these changes in industry, Bremerhaven became also a city of science and research. The Alfred Wegener Institute was established here in 1980. In the 1980/81 season, the permanent German research station "Georg von Neumayer" was built in the northeastern corner of the Weddell Sea and Germany became a Consultative Member of the Antarctic Treaty. A year later our research ice breaker *Polarstern* was put into commission. In the wake of Germany's reunification, an AWI Research Unit was opened in Potsdam near Berlin in 1992. In 1996, the "Biologische Anstalt Helgoland" with the coastal research facilities on the islands of Helgoland and Sylt became part of the AWI. In summary, from humble beginnings 30 years ago, the AWI has grown today to one of the 18 national research centres in Germany, which are combined under the roof of the Helmholtz Association. AWI has an annual budget of over 112 Million Euro and more than 1 000 employees, including over 500 scientists engaged in polar and marine research. It is a prominent task of the AWI to coordinate and support all German activities in the Arctic and Antarctic and provide logistic support and no-cost access to the German polar stations and the ships. Through our first class research we have achieved international recognition in many parts of the world.

I sincerely hope that over the next three days, your meeting will be both successful and pleasurable. I hope that the re-examination of the MPA proposals for the Ross Sea and East Antarctica will be successful and that you reach consensus about the science which underpins these proposals. I also hope that you have time to explore the nice parts of Bremerhaven and enjoy a bit the summer weather.

Thank you very much.'

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List of Documents

LIST OF DOCUMENTS

- SC-CAMLR-IM-I/01 Provisional Agenda for the First Intersessional Meeting of the Scientific Committee for the Conservation of Antarctic Marine Living Resources
(Bremerhaven, Germany, 11 to 13 July 2013)
- SC-CAMLR-IM-I/02 Provisional Annotated Agenda for the First Intersessional Meeting of the Scientific Committee for the Conservation of Antarctic Marine Living Resources
(Bremerhaven, Germany, 11 to 13 July 2013)
- SC-CAMLR-IM-I/03 The influence of ice conditions on the longline toothfish fishery in the Ross Sea and the likely impact that the introduction of marine protected areas (MPAs) will have on catches
Delegation of Russia
- SC-CAMLR-IM-I/04 Rev. 1 The designation of Marine Protected Areas (MPAs) in Antarctic waters
Delegation of Russia
- SC-CAMLR-IM-I/05 Rev. 1 Proposal by the Russian Federation to open areas of special scientific interest in the CCAMLR Convention Area (Part 1, Ross Sea and East Antarctica)
Delegation of Russia
- SC-CAMLR-IM-I/06 Rev. 2 MPAs in the area regulated by the Convention on the Conservation of Antarctic Marine Living Resources (background, plans and reality)
Delegation of Russia
- SC-CAMLR-IM-I/07 Is it necessary to establish MPAs in Divisions 58.4.1 and 58.4.2 to protect krill resources from the impact of fishing?
Delegation of Russia
- SC-CAMLR-IM-I/08 Science supporting the joint New Zealand–United States proposal for the establishment of a marine protected area in the Ross Sea Region
Delegations of the USA and New Zealand
- SC-CAMLR-IM-I/09 Analysis of potential threats from fishing to the objectives of a proposed Ross Sea region MPA
Delegations of New Zealand and the USA

SC-CAMLR-IM-I/10 Rev. 1 Scientific background to the proposed East Antarctica Representative System of Marine Protected Areas
Delegations of Australia, France and the European Union

SC-CAMLR-IM-I/BG/01 Existing initiatives that provide an extensive framework for research and monitoring in East Antarctica
Delegations of Australia, France and the European Union

SC-CAMLR-IM-I/BG/02 Review of the toothfish fishery in SSRU 881K from 1997–98 to 2011–12 and opportunities for fisheries research
Delegation of New Zealand

SC-CAMLR-IM-I/BG/03 Rev. 1 A draft plan for research and monitoring in the Ross Sea region, in association with spatial marine protection
Delegations of New Zealand and the USA

CCAMLR-SM-II/01 Provisional Agenda for the Second Special Meeting of the Commission for the Conservation of Antarctic Marine Living Resources
(Bremerhaven, Germany, 15 and 16 July 2013)

CCAMLR-SM-II/02 Provisional Annotated Agenda for the Second Special Meeting of the Commission for the Conservation of Antarctic Marine Living Resources
(Bremerhaven, Germany, 15 and 16 July 2013)

CCAMLR-SM-II/03 Proposal for a conservation measure establishing the East Antarctic Representative System of Marine Protected Areas
Delegations of Australia, France and the European Union

CCAMLR-SM-II/04 A proposal for the establishment of a Ross Sea Region Marine Protected Area
Delegations of New Zealand and the USA
(This paper introduces a revised version of the proposal contained in CCAMLR-XXXI/16 Rev. 1 of 29 October 2012)

CCAMLR-SM-II/BG/01 List of documents

CCAMLR-SM-II/BG/02 List of participants

CCAMLR-SM-II/BG/03	Marine Protected Areas: A fundamental tool for long-term ocean biodiversity protection and sustainable management A statement by IUCN-WCPA Submitted by IUCN
CCAMLR-SM-II/BG/04	Antarctic Ocean Legacy: Securing Enduring Protection for the Ross Sea Region Updated AOA Report Submitted by ASOC
CCAMLR-SM-II/BG/05	AOA Briefing 1: Duration of MPAs Submitted by ASOC
CCAMLR-SM-II/BG/06	AOA Briefing 2: Applying the Precautionary Principle to Marine Reserves and Marine Protected Areas Submitted by ASOC
CCAMLR-SM-II/BG/07	AOA Briefing 3: Climate Change and Ocean Acidification: Benefits of Marine Reserves and Marine Protected Areas Submitted by ASOC
CCAMLR-SM-II/BG/08	AOA Briefing 4: The Opportunity to Create an Antarctic Ocean Legacy Submitted by ASOC
CCAMLR-SM-II/BG/09	Information on the proposal for an East Antarctic Representative System of Marine Protected Areas Delegations of Australia, France and the European Union
CCAMLR-SM-II/BG/10	On absence of legal ability to organise marine protected areas in the high seas of the World Ocean, including the Antarctic waters Delegation of Ukraine (Submitted in English and Russian)

**Agenda for the First Intersessional Meeting
of the Scientific Committee**

**AGENDA FOR THE FIRST INTERSESSIONAL MEETING
OF THE SCIENTIFIC COMMITTEE**

1. Opening of meeting
 - 1.1 Adoption of agenda
2. Marine Protected Areas
 - 2.1 Joint New Zealand and the USA MPA proposal on the Ross Sea Region
 - 2.2 Joint Australia, France and EU MPA proposal on East Antarctica
 - 2.3 Generic issues
 - 2.4 Advice to Commission
3. Other business
4. Adoption of report of the Intersessional Meeting
5. Close of meeting.