

KEY PRINCIPLES IN DESIGNATING MARINE PROTECTED AREAS AND MARINE RESERVES

Right now, the opportunity to protect the largest areas of intact ocean habitat – Antarctica’s Southern Ocean – is before us. The body that regulates these waters – the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) – has a mandate to establish a system of marine protected areas (MPAs) in Antarctica’s Southern Ocean, home to almost 10,000 unique and diverse species, many of which cannot be found anywhere else in the world. But the fate of this protection hangs in the balance with a number of countries failing to support large-scale marine protection through the Commission.

The Antarctic Ocean Alliance (AOA) – over 30 global organisations working together to protect the Southern Ocean – submits that there are a number of critical reasons why large-scale, permanent protection that ensures Southern Ocean biodiversity should be established. These include: the success of the **precautionary principle** in ensuring healthy oceans; **the need for an intact laboratory to study the impacts of climate change and ocean acidification** and other scientific studies; **the need for ensuring protection established be lasting** rather than short-term; and, most importantly, the **brief window of opportunity right now to leave a important conservation legacy** in the Southern Ocean. Outlined below, these points make a strong case for CCAMLR to act urgently and decisively to ensure large-scale and permanent Southern Ocean protection.

As CCAMLR members work towards meeting these commitments, the AOA presents the following reminder of key principles and objectives of implementing MPAs and marine reserves (MRs) in the Southern Ocean.

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Crabeater seal. Image by Cassandra Brooks.

LIVING UP TO CONSERVATION COMMITMENTS

Recent years have seen the failure of the global community to meet a number of important commitments and deadlines to protect the biodiversity of the world’s oceans including the 2010 Convention on Biological Diversity’s protection target, the World Summit on Sustainable Development’s (WSSD) Johannesburg Plan on Implementation target and the Millennium Development Goals (MDG). The 2012 MDG Report noted that the world missed the 2010 target for biodiversity conservation, with potentially grave consequences.

At Rio+20 (2012) in “The Future We Want”, Parties reaffirmed the desire to protect the world’s biodiversity by highlighting “the importance of area-based conservation measures, including marine protected areas, consistent with international law and based on best available scientific information, as a tool for conservation of biological diversity and sustainable use of its components,” (Resolution adopted by the General Assembly, 27 July 2012).

Since 2004, CCAMLR itself has strongly and repeatedly committed to protecting the Southern Ocean’s biodiversity through the establishment of a representative system of MPAs. CCAMLR has completed a series of milestones towards the establishment of the envisioned representative system of MPAs. What is still missing is for CCAMLR Members to take action by finally designating large-scale MRs and other MPAs covering substantial areas in the Convention Area.

A LEGACY OF COOPERATION AND COLLECTIVE RESPONSIBILITY

CCAMLR's many great achievements in the past embody the cooperative and collaborative spirit of the Antarctic Treaty System between CCAMLR Members. CCAMLR's development of a representative system of MPAs and MRs will further this legacy as the collective responsibility of all CCAMLR Members, and not as the responsibility of individual Members proposing them. CCAMLR MPAs designated to protect the Southern Ocean's unique biodiversity for the good of humanity will not belong to any country, but will provide opportunities for cooperation between all CCAMLR Members through the development and implementation of management plans and research and monitoring activities.

CLIMATE CHANGE AND THE SOUTHERN OCEAN

Recent studies show that some regions of Antarctica have already been drastically altered by climate change. In addition, the acidity of the Southern Ocean is increasing through absorption of increasing quantities of CO₂ that poses additional dangers. Scientists have already identified the Southern Ocean as the first region in the world that is likely to experience widespread acidification because it is already relatively undersaturated in aragonite, a form of calcium carbonate (McNeil, BI and RJ Mearns, 2008). Furthermore, there are worrying indications of the impacts of black carbon in the Antarctic (formed through the incomplete combustion of fossil fuels in the area).



Adélie penguins on ice.

Image © Greenpeace / Roger Grace.

BENEFITS OF MPAs AND MRs

MPAs and MRs can confer significant benefits in the context of climate change and ocean acidification.

The first benefit of MPAs and MRs is to provide reference areas where the effects of climate change and ocean acidification can be researched and differentiated from the effects of natural variability and human activities. Antarctica has evolved for millennia without a permanent human population. Some areas with little to no human interference or impact provide scientists the chance to understand how species and ecosystems respond to environmental change. By eliminating or limiting certain types of human activities, MPAs and MRs can reduce the number of variables that scientists would need to consider.

The second main benefit of MRs and MPAs is their potential to increase species and ecosystem resilience to climate change and ocean acidification by reducing stress from human activities. Climate change and ocean acidification will continue to impact the environmental conditions in MPAs, but if other ecosystem stressors – fishing, pollution, and resource extraction, among others – are limited, species will be more able to withstand environmental changes. If MPAs and MRs are of sufficient scale and connected in networks they can encompass and protect key ecological processes and protect all the key life history stages.

Areas that are warming the slowest can serve as “climate refugia” – the last suitable habitats for species that depend on ice and cold waters. The Ross Sea will be the last part of the Southern Ocean with year round sea ice according to Intergovernmental Panel on Climate Change (IPCC) predictions. The sea ice is predicted to continue to expand over the next few decades, stabilise but decline thereafter. Consequently, the Ross Sea region will become a “refugium” for ice-dependent species as well as an important area for the study of changes in the extent of sea ice and how different species and communities adapt or fail to adapt to changes in sea ice and ocean temperature.

CCAMLR'S RESPONSE TO CLIMATE CHANGE

In recognition of these benefits, two of the six objectives in CM 91-04, The General Framework for the Establishment of CCAMLR, are:

- “The establishment of scientific reference areas for monitoring natural variability and long-term change or for monitoring the effects of harvesting and other human activities on Antarctic marine living resources and on the ecosystems of which they form part”; and
- “The protection of areas to maintain resilience or the ability to adapt to the effects of climate change.”

CCAMLR has agreed to urgently incorporate climate change considerations and the impacts of ocean acidification into its management decisions, noting the need to “implement as appropriate, improvements to current monitoring programs of harvested species and dependent and related species so as to provide robust and timely indicators of climate change impacts”. Addressing the threats of climate change and ocean acidification provides CCAMLR strong justification to act on its past agreements and commitments to designate the East Antarctic and Ross Sea MPAs.

IMPLEMENTING EFFECTIVE PROTECTION: MPA DESIGN PRINCIPLES

CCAMLR’s efforts to designate a representative system of MPAs are informed and supported by a number of important principles and criteria to support the agreed protection objectives in paragraph 2 of CM 91-04. The advice of the Scientific Committee is clear that the East Antarctic and Ross Sea MPA proposals meet the agreed protection objectives of CM 91-04.

Furthermore, these proposals meet the principles “comprehensiveness, adequateness, representativeness,” (CAR) agreed upon and frequently discussed by CCAMLR when progressing development of a representative system of MPAs:

Comprehensiveness – the need to include the full range of ecosystems across each bioregion;

Adequateness – appropriately sized MPAs to ensure protection of ecological viability and integrity of populations, species and communities;

Representativeness – sufficient MPAs to reflect the biotic diversity of marine ecosystems.

PRECAUTION

The precautionary principle as enshrined and widely practiced in international law is a fundamental element of the Convention as it was originally conceived.

Article II of the CAMLR Convention establishes the foundation for the precautionary and the ecosystem approaches are at the core of CCAMLR’s decisions regarding marine living resources. This central objective requires CCAMLR to achieve conservation objectives according to three principles of conservation. CCAMLR’s capacity to achieve conservation objectives cannot be limited by the state of scientific knowledge. Management decisions should take account of uncertainties associated with incomplete knowledge and should be ‘precautionary’ in the absence of complete knowledge.



Emperor penguin chick. Image by John B. Weller.

As CCAMLR’s approach to conservation evolved, agreement was reached and decisions were made to act in a precautionary way. Applying the precautionary approach to management decisions has become central to the setting of catch limits, developing exploratory fisheries, addressing bycatch and protecting vulnerable marine ecosystems. MPAs are one of the most effective conservation mechanisms available to CCAMLR to ensure a truly precautionary approach.

LARGE MPAs MEAN EFFECTIVE MPAs

MPAs and MRs need to be large enough to cover the ranges of the animals, such as wide ranging seabirds and migratory fish, and enable species to migrate as environmental conditions change due to the impacts of climate change and ocean acidification.

DURATION

In recent CCAMLR MPA discussions some Members have suggested that MPAs and MRs in the region should be designated with an expiry date.

All widely accepted definitions or concepts of MPAs and MRs under international agreements do not provide for their expiration. This is because it is not possible at the time of creation to determine when the MPA will no longer be needed. Instead, management and research arrangements are set up to be flexible through review clauses, which allow MPAs to achieve long-term protection objectives and also management measures related to activities permitted in the MPAs to be reviewed after reasonable time periods and adjusted if necessary. The sunset clause concept, which is sometimes used in fishing closures, is entirely unprecedented in protected area management, and is not consistent with MPA definitions accepted by a number of international bodies including the Convention on Biodiversity (CBD), the International Union for the Conservation of Nature (IUCN), and the Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR).

The IUCN definition states a marine protected area is “a clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values”.

“Protected areas should be managed in perpetuity and not as a short-term or temporary management strategy. Temporary measures, such as short-term, grant-funded agricultural set-asides, rotations in commercial forest management or temporary fishing protection zones are not protected areas as recognised by the IUCN.”

Guide for Applying Protected Area Management Categories, Dudley, 2008.

The IUCN has taken the step of explaining what specific words and phrases included in the definition mean in their Guidelines for Applying Protected Area Management Categories: “Protected areas should be managed in perpetuity and not as a short-term or temporary management strategy. Temporary measures, such as short-term, grant-funded agricultural set-asides, rotations in commercial forest management or temporary fishing protection zones are not protected areas as recognised by the IUCN.”

The benefits of MPAs and MRs accrue over time. The investment made in establishing a MPA or MR and the resultant benefits may be lost very quickly once protection is removed. In areas that are recovering from past exploitation it may take species or habitats decades, or sometimes even centuries, to fully recover. In addition, permanent protection enables scientists to establish long-term research programs and produce long-term data sets which are especially important when investigating climate change and monitoring ecological systems and processes which may follow patterns that occur over very long time frames.

A clause that automatically ends the designation of a protected area at a certain date is not in line with the central concept of MPAs, as it would not meet long-term conservation objectives. Consistent with global best practices, MPAs and MRs should be permanent, with regular reviews to verify that they are achieving their objectives.

CONCLUSION

The Ross Sea and East Antarctic proposals are consistent with the provisions and practices of the CAMLR Convention, and offer appropriate precautionary, permanent, large scale protection while allowing commercial fisheries to continue in some areas. CCAMLR Members must now honour their promises and demonstrate the leadership, vision and good stewardship for these vulnerable ecosystems that are critical for the long-term sustainability of the oceans.

The October 2013 CCAMLR meeting in Hobart is an historic opportunity for the CAMLR Commission to once again show global leadership in adopting a forward thinking approach to ocean protection. Designating the Ross Sea and East Antarctica MPAs would be a means of implementing existing global commitments and in doing so, ensuring the protection of the unique marine life found around Antarctica for future generations. This would be a good foundation for creating a legacy of which CCAMLR can be proud.

About the Antarctic Ocean Alliance

The Antarctic Ocean Alliance is a coalition of more than 30 leading environmental organisations and high-profile individuals working together to achieve large-scale protection for key Antarctic ocean ecosystems. Alliance members include the Pew Charitable Trust, Greenpeace, WWF, the Antarctic and Southern Ocean Coalition (ASOC), Whale and Dolphin Conservation (WDC), Humane Society International, Mission Blue (US), International Fund for Animal Welfare (IFAW), Oceans 5 (US), Deep Wave (Germany), The Last Ocean, Greenovation Hub (China), the Korean Federation for Environmental Movement (KFEM), Forest & Bird (NZ), ECO (NZ) and associate partners the Natural Resources Defense Council (NRDC), Oceana, TerraMar Project, the International Polar Foundation (UK), Plant a Fish, the International Programme on the State of the Oceans (IPSO), the Ocean Project, Bloom Association (France), OceanCare (Switzerland), Eco-Sys Action, Ocean Planet (Australia) and Corail Vivant (New Caledonia). AOA Ambassadors include actors Leonardo DiCaprio, Edward Norton, Oceanographer Dr. Sylvia Earle, entrepreneur Sir Richard Branson, Chinese entrepreneur and explorer Wang Jing and Korean actor Yoo Ji-Tae.