



# Society for Conservation Biology

A global community of conservation professionals

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U.S. Department of State  
2201 C St., NW, Room 2665  
Washington, DC 20520

Attn: Evan T. Bloom, Director of Office of Ocean and Polar Affairs

October 18, 2010

Delivered by Email

RE: Comments from the Society for Conservation Biology (SCB) on the Convention for the Conservation of Antarctic Marine Living Resources' (CCAMLR) process to designate a network of marine protected areas in the Southern Ocean with specific emphasis on the Ross Sea.

## INTRODUCTION

The Society for Conservation Biology<sup>1</sup> would like to comment on the Convention for the Conservation of Antarctic Marine Living Resources' (CCAMLR) process to designate a network of Southern Ocean marine protected areas (MPAs) consistent with the World Summit on Sustainable Development's goal to establish an international representative system of marine reserves by 2012.<sup>2</sup>

Last year, CCAMLR designated its first MPA in an area located near the Antarctic Peninsula at the South Orkney Islands.<sup>3</sup> This year, SCB urges CCAMLR to focus its attention on the Ross Sea shelf and slope. Given the immense ecological and scientific importance of this region, SCB recommends that the CCAMLR:

- I. Continue to employ the scientific process as the means by which decisions are made, AND
- II. Provide full protection of the Ross Sea (its entire shelf and slope), until valid and properly funded science determines that the region will cope with climate change and other threats over which we have minimal control. *ONLY* then would a science-based process designating no-take MPAs and considering other areas, if any, for limited extraction, be appropriate.

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<sup>1</sup> The Society for Conservation Biology is an international professional organization dedicated to promoting the scientific study of the phenomena that affect the maintenance, loss, and restoration of biological diversity. The Society's membership comprises a wide range of people dedicated to the conservation, study and promotion of biological diversity: resource managers, educators, government and private conservation professionals, and students make up the more than 10,000 members worldwide.

<sup>2</sup> Peter Doran, *World Summit on Sustainable Development (Johannesburg) – An Assessment for IISD* (Int'l Inst. For Sustainable Dev., Briefing Paper Oct. 3, 2002) (available at [http://www.iisd.org/pdf/2002/wssd\\_assessment.pdf](http://www.iisd.org/pdf/2002/wssd_assessment.pdf)).

<sup>3</sup> *CCAMLR Establishes Marine Protected Area near Antarctic Peninsula*, INT'L POLAR FOUND. (Nov. 16, 2009), [http://www.sciencepoles.org/news/news\\_detail/ccamlr\\_establishes\\_marine\\_protected\\_area\\_near\\_antarctic\\_peninsula/](http://www.sciencepoles.org/news/news_detail/ccamlr_establishes_marine_protected_area_near_antarctic_peninsula/)

## CONTEXT

The CCAMLR's efforts have already identified the Ross Sea as one of eleven areas deserving additional close scrutiny in the current MPA designation process.<sup>4</sup> Moreover, a 2008 independent study of human impacts on marine ecosystems determined that the Ross Sea remains the least affected stretch of ocean remaining in the world.<sup>5</sup> According to a report by the Antarctic and Southern Ocean Coalition (ASOC), the Ross Sea's unique characteristics, ecological importance, fragility, productivity, and diversity, easily qualify it for protection under the Convention for Biological Diversity and as a World Heritage Site under the UN Educational, Scientific and Cultural Organization program.<sup>6</sup> However, since the Ross Sea is considered "high seas," neither of those international conventions applies.

Maintaining biodiversity within healthy stocks of species and functional ecosystems provides significant multi-use benefits and essential life-support services that contribute to poverty reduction and the overall wellbeing of the planet.<sup>7</sup> The Ross Sea, despite only covering approximately 2% of the total area of the Southern Ocean, provides habitat for an impressive array of species, including: one of the largest concentrations of marine birds in the world; a relatively intact food chain with a healthy population of apex predators; and a substantially significant population of endemic fish species.<sup>8</sup> These characteristics make the Ross Sea a world-class site for evolutionary and biological studies. However, a report conducted by New Zealand's National Institute of Water and Atmospheric Research concluded that, "All identified communities in the Ross Sea require further research."<sup>9</sup> Despite a steadily increasing knowledge of Antarctic ecology, several crucial knowledge gaps regarding the Ross Sea's biodiversity remain, especially surrounding ecosystem processes and interactions between different ecosystem elements.<sup>10</sup> In some cases, scientists need to conduct extensive research into the life histories of species such as the Antarctic Silverfish and Antarctic Toothfish in order to truly understand the dynamics of the entire ecological community.<sup>11</sup> Unfortunately, a scarcity of data on the life history of these species makes it difficult to gauge the ecological impacts of human activities in the Ross Sea.<sup>12</sup> Furthermore, this unclear understanding of human impacts on biodiversity and

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<sup>4</sup>CCAMLR, Brussels, Belg., Aug 13–17, 2007, *Workshop on Bioregionalisation of the Southern Ocean*, SC-CAMLR-XXVI/11 (2007).

<sup>5</sup> Benjamin S. Halpern, Shaun Walbridge, Kimberly A. Selkoe, Carrie V. Kappel, Fiorenza Micheli, Caterina D'Agrosa, John F. Bruno, Kenneth S. Casey, Colin Ebert, Helen E. Fox, Rod Fujita, Dennis Heinemann, Hunter S. Lenihan, Elizabeth M. P. Madin, Matthew T. Perry, Elizabeth R. Selig, Mark Spalding, Robert Steneck & Reg Watson, *A Global Map of Human Impact on Marine Ecosystems*. 319 SCIENCE, no. 5865, 2005 at 948.

<sup>6</sup> ASOC, *The Case for Inclusion of the Ross Sea Continental Shelf and Slope in a Southern Ocean Network of Marine Reserves* (Antarctic Treaty Consultative Meeting XXXIII, Information Paper No. 77, 2010), available at <http://www.asoc.org/LinkClick.aspx?fileticket=kki85XWZVIg%3D&tabid=197>.

<sup>7</sup> Rhys E. Green, Andrew Balmford, Peter R. Crane, Georgia M. Mace, John D. Reynolds, & R. Kerry Turner, *A Framework for Improved Monitoring of Biodiversity: Responses to the World Summit on Sustainable Development*, 19 CONSERVATION BIOLOGY, no. 1, 2005 at 57.

<sup>8</sup> ASOC, *supra* note 6

<sup>9</sup> Graham Fenwick & Janet Bradford-Grieve, *Recommendations for Future Directed Research to Describe the Biodiversity of the Ross Sea Region* (Final Research Report for Ministry of Fisheries Research Project at 9, 2002) (available at [https://www.biodiversity.govt.nz/pdfs/seas/ZBD2000\\_01\\_OBJ2\\_FRR\\_J\\_G\\_Revise.pdf](https://www.biodiversity.govt.nz/pdfs/seas/ZBD2000_01_OBJ2_FRR_J_G_Revise.pdf)).

<sup>10</sup> *Id.* at 9

<sup>11</sup> *Id.* at 11

<sup>12</sup> Erik Stokstad, *Behind the Eco-Label, a Debate Over Antarctic Toothfish*, 329 SCIENCE, no. 5999, 2010 at 1596.

ecological communities leaves the underlying consequences of our actions on human welfare in question.<sup>13</sup>

In a review of recent climate change studies, John McCarty noted that the concerns about climate change are becoming threats for species and ecosystem survival.<sup>14</sup> As the climate continues to modify and interact with other threats—such as habitat fragmentation and overharvesting of species—additional unforeseen consequences begin emerging.<sup>15</sup> McCarty emphasizes the importance of considering climate change in current conservation efforts and stresses the fact that we can no longer assume a species' historic range will remain suitable in the future.<sup>16</sup> Furthermore, several recent studies in the Antarctic have indicated bleak futures for various species because of the effects of climate change on sea ice availability.<sup>17</sup> Although the Ross Sea currently retains much of its sea ice, many scientists perceive this as a temporary refuge for its biota, and that as the planet continues to warm, many Antarctic species will face limited options for survival.<sup>18</sup> A recent expert panel concluded that we must do all we can to limit the impact of human activity in order to afford marine life the best possible chance to adapt to climate-related environmental changes beyond our immediate control.<sup>19</sup>

## RECOMMENDATIONS

### I. Continue to employ the scientific process as the means by which decisions are made.

We applaud the CCAMLR's recent use of "bioregionalisation" (often referred to as 'marine spatial planning') to identify and designate a network of MPAs to ensure the preservation of biodiversity throughout the Southern Ocean.<sup>20</sup> We also note that CCAMLR's efforts in this regard have been endorsed by the Antarctic Treaty Consultative Powers as consistent with the Antarctic Environmental Protocol.<sup>21</sup> SCB encourages the CCAMLR to continue using science as the basis for conservation decisions.

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<sup>13</sup> Green, *supra* note 7 at 64

<sup>14</sup> John P. McCarty, *Review: Ecological Consequences of Recent Climate Change*, 15 CONSERVATION BIOLOGY, no. 2, 2001 at 320.

<sup>15</sup> *Id.*

<sup>16</sup> *Id.* at 327

<sup>17</sup> *E.g.*, David Ainley, Joellen Russell, Stephanie Jouvrier, Eric Woehler, Philip O'B. Lyver, William R. Fraser & Gerald L. Kooyman, *Antarctic Penguin Response to Habitat Change as Earth's Troposphere Reaches 2°C Above Pre-Industrial Levels*, 80 ECOLOGICAL MONOGRAPHS, 2010 at 49; Grant Ballard, Viola Toniolo, David G. Ainley, Claire L. Parkinson, Kevin R. Arrigo & Phil N. Trathan, *Responding to Climate Change: Adélie Penguins Confront Astronomical and Ocean Boundaries*, 91 ECOLOGY, no.7, 2010 at 2056; Katie M. Dugger, David G. Ainley, Phil O'B. Lyver, Kerry Barton & Grant Ballard, *Survival Differences and the Effect of Environmental Instability on Breeding Dispersal in an Adélie Penguin Meta-Population*, 107 PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES (forthcoming Sept. 2010).

<sup>18</sup> Katie M. Dugger, David G. Ainley, Phil O'B. Lyver, Kerry Barton & Grant Ballard, *Survival Differences and the Effect of Environmental Instability on Breeding Dispersal in an Adélie Penguin Meta-Population*, 107 PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES (forthcoming Sept. 2010).

<sup>19</sup> Wright, A.J. (ed) 2009. Report of the Workshop on Assessing the Cumulative Impacts of Underwater Noise with Other Anthropogenic Stressors on Marine Mammals: From Ideas to Action. Monterey, California, USA, 26<sup>th</sup>-29<sup>th</sup> August, 2009. Okeanos - Foundation for the Sea, Auf der Marienhöhe 15, D-64297 Darmstadt. 67+iv p, (available at [http://www.sound-in-the-sea.org/download/CIA2009\\_en.pdf](http://www.sound-in-the-sea.org/download/CIA2009_en.pdf)).

<sup>20</sup> CCAMLR, *supra* note 4.

<sup>21</sup> ATCMXXXII-CEPXII. 2009a. Final Report, item 25 (pp. 22-23). Baltimore MD; ATCMXXXII-CEPXII. 2009b (Report of the Joint CEP/SC-CAMLR Workshop, Baltimore, MD, Working Paper No. 55, April 2009).

**II. Provide full protection of the Ross Sea (its entire shelf and slope), until valid and properly funded science determines that the region will cope with climate change and other threats over which we have minimal control. ONLY then would a science-based process designating no-take MPAs and considering other areas, if any, for limited extraction, be appropriate.**

Designating MPAs has become a proven tool in marine conservation and biotic management, but only when designated on the basis of a valid scientific foundation.<sup>22</sup> SCB has concerns over the paucity of scientific biological research involving Ross Sea ecology and the ability to use that scarce information to establish ecologically significant MPAs that protect all components of the marine environment. Combined with the current and impending threats of climate change, SCB considers Ross Sea as an unfit candidate for any type of effective bioregionalisation analysis at this time. However, with increasing pressures to expand toothfish fisheries, recent industrial fishing efforts, rampant illegal fishing, and rising global temperatures, Ross Sea remains in dire need of protection.<sup>23</sup> Therefore, CCAMLR should make the Ross Sea off limits to resource extraction of any kind until a future time when valid and properly funded science determines that the region will cope with climate change and other threats we have minimal control over. Protecting the Ross Sea in its entirety would further the CCAMLR's Article II goal of following a precautionary approach to ecosystem based management, while also providing an indispensable living laboratory for future studies on biodiversity impacts and global climate change.<sup>24</sup> The CCAMLR has the opportunity to not only protect the Ross Sea from an increasing array of threats, but also to establish a scientific precedent for the future conservation of our planet's marine living resources.

Thank you in advance for your cooperation.

Sincerely,

John M. Fitzgerald, J.D.  
Policy Director

Cameron J. Kovach  
Policy Coordinator for NA Chapters

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<sup>22</sup> Jane Lubchenco, Stephen R. Palumbi, Steven D. Gaines & Sandy Andelman, *Plugging a hole in the ocean: the emerging science of marine reserves*. 13 ECOLOGICAL APPLICATIONS, no. 1, 2003 at S3 (available at [www.vliz.be/imisdocs/publications/54500.pdf](http://www.vliz.be/imisdocs/publications/54500.pdf)).

<sup>23</sup> Stokstad, *supra* note 12.

<sup>24</sup> The Convention on the Conservation of Antarctic Marine Living Resources, p. 4; [http://www.ccamlr.org/pu/e/e\\_pubs/bd/pt1.pdf](http://www.ccamlr.org/pu/e/e_pubs/bd/pt1.pdf)