

## **EXPERT GROUP ON ARCTIC EBM: REPORT TO SENIOR ARCTIC OFFICIALS**

### **FOREWORD BY THE CO-CHAIRS**

The co-chairs of the Arctic Council Expert Group on ecosystem-based management (EBM) for the Arctic environment are pleased to present, for consideration by the Senior Arctic Officials (SAOs), the Expert Group's report on Arctic EBM. This report responds to the mandate from Ministers at Nuuk for the Expert Group to "recommend further activities in this field for possible consideration by the SAOs before the end of the Swedish chairmanship."

We hope that the SAOs will agree that the work of the Expert Group was extremely successful. In the course of three very substantive meetings in the United States, Sweden and Norway during 2011 and 2012, participants from Arctic Council Member States, the Permanent Participants and non-governmental organizations had valuable discussions about EBM in the Arctic and as a result produced the attached report, along with four annexes.

For purposes of its work, the Expert Group used the following definition: *EBM is the comprehensive, integrated management of human activities based on best available scientific and traditional knowledge about the ecosystem and its dynamics, in order to identify and take action on influences that are critical to the health of ecosystems, thereby achieving sustainable use of ecosystem goods and services and maintenance of ecosystem integrity.* Using this definition, the report puts forward a series of recommendations that the Expert Group hopes can be considered by Ministers, including the adoption of an explicit policy commitment by the Council to EBM, along with nine principles related to EBM that the Council could apply in its work in the Arctic region. The Expert Group also makes a series of recommendations for activities that could, as appropriate, advance EBM in the Arctic.

The recommendations are supported by annexes on definitions and principles for EBM in the Arctic; knowledge and process needs for EBM in the Arctic; advancing EBM in the work of the Arctic Council; and prior and ongoing EBM activities of the Arctic Council.

We wish to thank the many participants in the working group for their valuable and constructive input to the work which made it possible to progress and come up with sets of recommendations on the matter in good time. We would also like to pay a special tribute to Mr. Joel Clement (USA), Mr. Alf Haakon Hoel (Norway), Ms. Elizabeth McLanahan (USA) and Ms. Rita Cerutti (Canada) for their intersessional work and invaluable support to the co-chairs for our task

Evan T. Bloom  
U.S. Department of State

Magnús Jóhannesson  
Iceland Ministry for the Environment

Laura Piriz  
Swedish Agency for Marine and Water Management

## **EXPERT GROUP ON ARCTIC EBM: REPORT TO SENIOR ARCTIC OFFICIALS**

### **I. INTRODUCTION**

The rapid changes taking place in the Arctic pose immense management challenges for Arctic nations as they endeavor to maintain the sustainability of the natural, cultural, and economic resources of the region. In addition to the highly accelerating impacts of climate change in the region such as loss of sea ice, coastal wave erosion, thawing permafrost, changes in wildlife movement patterns and cycles, and altered vegetation patterns – managers also face ocean acidification, substantially increased interest in resource extraction and tourism, prolonged stress on critical social needs such as food security, increased traffic in the maritime environment, and disintegrating transportation infrastructure in the terrestrial environment.

To address these challenges, there is a need for flexible and adaptive management approaches in the Arctic that recognize cultural, governmental/legal, and sub-regional differences, apply an integrated and interdisciplinary approach to understanding and managing these ecosystems, enable a more predictable operating framework for stakeholders, and ultimately maintain the resilience of Arctic ecosystems and communities.

Ecosystem-based management provides just such an approach. At a general level, EBM facilitates efficient and science-based decisions by providing a way of assessing and managing the effects of multiple stressors affecting the same ecosystem. Locally, through the design of inclusive stakeholder processes that reflect a broad range of scientific as well as traditional and local knowledge, EBM can help ensure that policy outcomes advance ecological, social and economic goals, and help Arctic residents adapt to changing ecological and socio-economic conditions. Finally, because ecosystems and human activities are dynamic, our understanding of these systems and activities is constantly evolving; the flexible and adaptive nature of EBM is, therefore, suited to address the rapid changes occurring in the Arctic.

EBM provides a complement to single-sector or single-species approaches; it is not a set of conservation measures but rather an inclusive framework for balancing competing priorities and interests. EBM strives to integrate commercial, social, cultural, and ecological values, but the ecosystem aspect is “first among equals” because ecosystem failure would compromise all other values or goals; hence the term “ecosystem-based”. The bottom-line of EBM is ecosystem sustainability, without which there is no means to assure sustainable economic or social systems.

The Arctic Council has a history of engagement with EBM. For example, EBM is a guiding principle informing the work of CAFF (Conservation of Arctic Flora and Fauna) and is reflected in the Arctic Marine Strategic Plan, the Arctic Marine Biodiversity Monitoring Plan and the approach taken by the Circumpolar Biodiversity Monitoring Programme (CBMP) to harmonize biodiversity monitoring efforts. Other relevant Arctic

Council projects include PAME's work on Large Marine Ecosystems (LMEs), its expert group on the ecosystem approach, as well as the Best Practices in Ecosystem-based Oceans Management in the Arctic (BePoMAR) document that was endorsed at the 2009 Arctic Council Ministerial.

## **II. MANDATE FROM THE ARCTIC COUNCIL MINISTERS**

### **Nuuk Declaration of the Arctic Council Ministers, May 12, 2011:**

*"Decide to establish an expert group on Arctic ecosystem-based management (EBM) for the Arctic Environment to recommend further activities in this field for possible consideration by the SAOs before the end of the Swedish chairmanship".*

In May 2011, Arctic Council Ministers called for the establishment of an Expert Group on Arctic ecosystem-based management (EBM). Composed of government and non-governmental experts from Arctic States and representatives from the Arctic Council's Permanent Participants and Working Groups, the Expert Group on Arctic EBM (Expert Group) was tasked with fostering a common understanding of EBM and EBM principles across the Arctic Council and providing guidelines or recommendations for advancing EBM in the coastal, marine, and terrestrial ecosystems of the Arctic. The task also called for recommendations for further Arctic Council activities related to EBM to be delivered in advance of the 2013 Arctic Council Ministerial meeting.

The Expert Group met three times and was chaired by representatives from Iceland, Sweden and the United States. This report provides the findings of the work of the Expert Group and a set of recommendations that includes a policy commitment; a definition of EBM in the Arctic; a set of principles tailored to EBM in the Arctic; and a set of high-priority activities for future work to advance EBM in the Arctic Council. The background documents developed and adopted by the Expert Group during its deliberations are attached as annexes.

## **III. PROPOSED RECOMMENDATIONS OF THE EXPERT GROUP ON ARCTIC EBM**

The Expert Group on Arctic EBM has developed the following recommendations for consideration by Senior Arctic Officials and Arctic Council Ministers:

**1) It is proposed that the Arctic Council adopt a policy commitment to EBM, and that the following statement be considered as that commitment:**

*We will work together to advance Ecosystem-Based Management in the coastal, marine and terrestrial environments of the Arctic and, where relevant, work through the Arctic Council structure to coordinate ongoing and prospective EBM approaches to maximize the benefits of such efforts within and across boundaries and for the Arctic as a whole.*

**2) It is proposed that the Arctic Council adopt a definition of EBM relevant to its work in the Arctic, as follows:**

Ecosystem-based management is the comprehensive, integrated management of human activities based on best available scientific and traditional knowledge about the ecosystem and its dynamics, in order to identify and take action on influences that are critical to the health of ecosystems, thereby achieving sustainable use of ecosystem goods and services and maintenance of ecosystem integrity.

**3) It is proposed that the Arctic Council adopt the following nine principles for its work in the Arctic:**

1. EBM supports ecosystem resilience in order to maintain ecological functions and services.
2. EBM recognizes that humans and their activities are an integral part of the ecological system as a whole, and that sustainable use and values are central to establishing management objectives.
3. EBM is place-based, with geographic areas defined by ecological criteria, and may require efforts at a range of spatial and temporal scales (short-, medium- and long-term).
4. EBM balances and integrates the conservation and sustainable use of ecosystems and their components.
5. EBM aims to understand and address the combined, incremental effects (known as “cumulative impacts”) that multiple human activities impose upon ecosystems, resources, and communities.
6. EBM seeks to incorporate and reflect scientific knowledge as well as expert, traditional, and local knowledge.
7. EBM is inclusive and encourages participation at all stages by various levels of government, indigenous peoples, stakeholders (including the private sector) and other Arctic residents.
8. Transboundary perspectives and partnerships can contribute significantly to the success of EBM efforts.
9. Successful EBM efforts are flexible, adaptive, and rely on feedback from monitoring and research because ecosystems and human activities are dynamic, the Arctic is undergoing rapid changes, and our understanding of these systems is constantly evolving.

**4) It is proposed that the Arctic Council consider the following recommendations for activities to be undertaken by the Arctic Council, Permanent Participants, Arctic Council Working Groups, and Arctic States, as appropriate, to advance EBM in the Arctic:**

### **Policy and Implementation**

Advancing further EBM efforts across the Arctic will build upon existing EBM implementation and involve transboundary and sub-national or regional arrangements, integrated approaches, shared goals, and consideration of traditional knowledge as appropriate. The Expert Group on Arctic EBM recommends the following actions:

- Develop an overarching Arctic EBM goal, derived from established Arctic Council goals and visions, and provide guidance on how to develop and operationalize objectives supporting this goal.
- Explore ways in which Arctic States can cooperate to advance conservation and management of biologically, ecologically, and culturally significant areas.
- Develop and adopt a policy and best practices for incorporating traditional knowledge into EBM activities as appropriate.
- Encourage initiatives between two or more Arctic States to advance implementation of EBM in the Arctic and demonstrate how knowledge is collected, shared, processed and used to contribute to EBM in the Arctic.
- Review, update and adjust the Observed Best Practices in Ecosystem-based Ocean Management in the Arctic, endorsed by the 2009 Arctic Council Ministerial, to be applicable to all environments, including marine, coastal and terrestrial.

### **Institutional**

Recognizing the important ongoing EBM work within the Arctic Council, particularly in the marine environment, sustaining and strengthening EBM will require building greater coordination and integration capacity across the Arctic Council and taking steps to further advance EBM in terrestrial environments. The Expert Group on Arctic EBM recommends the following actions:

- Identify a lead to assure coordination of a common approach to the work of the Arctic Council on EBM in the Arctic and ensure appropriate reporting of progress to the Senior Arctic Officials.
- Institute periodic Arctic Council reviews of EBM in the Arctic to exchange information on integrated assessment and management experiences, including highlighting examples from Arctic States.

## **Science and Information**

Advancing Arctic EBM will require the identification of important coastal, marine, and terrestrial areas, improved data comparability and compatibility, enhanced information exchange and monitoring, and improvements in the development and use of integrated assessments. In order to achieve this, the Expert Group on Arctic EBM recommends the following actions:

- Encourage the use of the revised map of 17 Large Marine Ecosystems to inform EBM implementation; and explore the development of terrestrial assessment units (landscape equivalents to LMEs) based upon ecological criteria or existing ecoregions.
- Identify biologically, ecologically, and culturally significant areas in the coastal, marine and terrestrial environments, and consider EBM-related needs for these areas. Identify the coastal, marine and terrestrial areas most vulnerable to human impacts.
- Assess the value of significant Arctic ecosystem services relevant to the well-being of local communities and regional economies, and those of particular global significance.
- Enhance access to, and use of, the multidisciplinary data required for the implementation of EBM by building upon ongoing work in the Arctic Council to contribute to an Arctic Council data portal.
- Exchange information and experiences with integrated assessments of ecosystem status, trends and pressures for coastal, marine, and terrestrial areas and provide guidance on approaches for integrating existing assessments.

## **IV. EXPERT GROUP METHODS, MEETINGS, AND OUTPUTS**

In order to carry out the Nuuk mandate on EBM, Arctic States and Permanent Participants were invited to nominate individuals to participate in the Expert Group. In addition, invitations to participate were extended to the Arctic Council working groups, accredited observers, and other experts. The initiative was co-chaired by the United States, Iceland, and Sweden.

Meeting 1: The first meeting of the Expert Group was hosted by the United States at the U.S. Department of the Interior headquarters in Washington, D.C on October 18-19, 2011. Evan Bloom from the U.S. Department of State, Magnús Jóhannesson from the Iceland Ministry for the Environment, and Dr. Mia Dahlström of the Swedish Agency for Marine and Water Management co-chaired the meeting, which included nearly two dozen participants from seven of the eight Arctic countries, three permanent participant groups, and representatives from the CAFF and PAME working groups.

At the conclusion of the two-day meeting, the participating delegations agreed that this effort represents a timely and much-needed convergence of EBM expertise to review the state of the art and best practices in Arctic EBM, and to recommend further Arctic EBM activities to the Arctic Council. In addition to an intersessional effort to adapt existing EBM definitions and principles to pan-Arctic needs, the delegations agreed to support an intersessional effort to compile an analysis of high-level knowledge and process needs for marine, coastal, and terrestrial EBM implementation across the Arctic.

Meeting 2: The second meeting of the Expert Group took place April 16-18, 2012 and was hosted by the Swedish Agency for Marine and Water Management in Gothenburg, Sweden. The meeting was co-chaired by Evan Bloom, U.S. Department of State; Magnús Jóhannesson, Iceland Ministry for the Environment; and Dr. Laura Píríz, Swedish Agency for Marine and Water Management. The meeting was attended by 32 participants, including seven Arctic States, one Permanent Participant, several experts and observer organizations, and representatives from the SDWG, PAME, AMAP and CAFF working groups.

The Expert Group revised and adopted the intersessional document on Definitions and Principles which contains a clear and succinct definition of EBM as well as a series of principles that represent key elements of a potential common EBM approach by the Arctic Council. At the conclusion of the meeting, delegations agreed to revise and finalize the knowledge and process needs document and develop two additional intersessional documents -- a paper on advancing EBM in the Arctic, and one on best practices and conservation objectives.

Meeting 3: The third meeting was hosted by Norway in Tromsø October 5-7, 2012, and co-chaired by Magnús Jóhannesson (IC) and Dr. Laura Píríz (SE). The meeting was attended by 21 participants, including six Arctic States, several experts and observer organizations, and representatives from the SDWG and PAME. Russia, Denmark, and Permanent Participants were unable to attend the meeting.

The Expert Group used the two intersessional papers to translate key findings into potential activities for the Arctic Council to consider for advancing EBM implementation. These activities were classified according to three categories: Policy and Implementation, Institutional, and Science and Information. The Expert Group then agreed to the outline of a report to the SAOs and prepared a first draft. Following review and feedback from the SAOs and Permanent Participants at the SAO meeting in Haparanda, Sweden in November, 2012, the Expert Group revised and finalized this report.

### Annexes

- Definition and Principles for EBM in the Arctic
- Knowledge and Process Needs for EBM in the Arctic
- Advancing EBM in the Work of the Arctic Council
- Prior and Ongoing EBM Activities of the Arctic Council