



# Ecosystem Approach to Management **Progress Report 2015-2017**

*Joint Group of Experts on the Ecosystem Approach to Management*

*January 2017*

**Ecosystem Approach to Management**

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## **BACKGROUND**

PAME established in 2007 an expert group on the Ecosystem Approach to Management (the EA-EG). This was broadened in 2011 to become a PAME-led joint expert group with participation of other Arctic Council working groups (AMAP, CAFF, and SDWG). Norway and the USA are co-lead countries for the theme 'Ecosystem Approach to management' (EA) under PAME. The work of the EA Expert Group is carried out according to a work plan as part of the agreed PAME workplan for 2015-2017.

The co-leads provided a progress report on the EA work to the PAME II-2016 meeting in Portland Maine, September 20, 2016. The outcome of the discussion at the PAME on the EA item is presented as part of the Records of Decision in Annex III.

## **EA COORDINATION ACTIVITIES**

Request from Ministers at Iqaluit (2015) for the development of practical guidelines for an ecosystem-based approach to the work of the Arctic Council - [Iqaluit Ministerial Declaration](#).

## SUMMARY OF ACCOMPLISHMENTS FROM THE 2015-2017 WORKPLAN

### 2015

#### *PAME I-2015 (Akureyri, Iceland, February 2015)*

- ✓ Initiated the development of a prospectus for the 5th Ecosystem Approach Workshop: Methodology and status of development of ecological (quality) objectives for Arctic Large Marine Ecosystems (Bergen, Norway May 2015). The draft workshop prospectus was discussed with all working groups and is planned with a focus on the issue of setting ecological objectives as part of the EA. It is designed with a view toward a sixth EA workshop in 2016 which may be part of an international conference on all aspects of implementing EA in the Arctic with multiple work groups and other entities as sponsors.
- ✓ A new Terms of Reference (ToRs) 2015–2017 for the joint EA-EG was developed in consultations with AMAP, CAFF and SDWG and agreed at the PAME I-2015 meeting and submitted to the Arctic Council Ministers in April 2015 as Annex II of the EA Progress Report for the period 2013-2015. In the ToRs it is recognized that the 6 elements of the implementation of the EA to management developed in a concept paper will form the basis of the work of the EA-EG. The work is carried out according to a work plan as part of the agreed PAME Work Plan for 2015-2017.

#### *Third Meeting of Scientific Experts on Fish Stocks in the Central Arctic Ocean (Seattle, Washington, USA April 14 – 16, 2015)*

- ✓ In order to pursue the objective of enabling central -Arctic IEA, co-chairs and members of the EA EG (Skjoldal, Mundy, Coon) participated in the third scientific meeting on Arctic fish stocks in Seattle, Washington (April 14 – 16, 2015). The purposes of the third meeting ([terms of reference](#)) were to identify ongoing Arctic research and monitoring activities, and to continue the process of developing the scientific information necessary to support the development of an international agreement on fishing in the Arctic in areas outside the territorial waters of the five Arctic coastal states (the Kingdom of Norway, the Russian Federation, the United States of America, Canada, and the Kingdom of Denmark). Following the third scientific meeting diplomatic representatives of the Arctic coastal states met in Oslo in July where they reached an agreement on fishing in the central Arctic Ocean that, among other provisions calls for the state of currently available scientific information to be improved by an international program of research and monitoring, JPRSM, to reduce the substantial uncertainties associated with Arctic fish stocks. The agreement also called on Korea, Japan, China and Iceland to join in



the international agreement and to participate in implementing the JPRSM. Members of the EA EG plan to participate in the development of the JPRSM, as a logical extension of the central-Arctic IEA.

*Fifth EA Workshop on Ecological Objectives (Bergen, Norway, May 2015)*

- ✓ The topic of the workshop was “[Methodology and status of development of ecological \(quality\) objectives for Arctic Large Marine Ecosystems](#)”. The workshop was attended by 20 participants from 6 countries (Canada, Finland, Iceland, Norway, South Korea and USA). At the workshop we reviewed existing ecological objectives in national legislation and management with examples from Canada, Norway and the USA. We also reviewed developments toward more comprehensive and integrated sets of ecological objectives with examples from the Marine Strategy Framework Directive (MSFD) of the European Union and the work on integrated management plans in Norway. There was also a session on perspectives of Indigenous Peoples with presentations on cultural values and ecological objectives inherent in indigenous knowledge (IK) and indigenous management practices. It was recognized that objectives are rooted in cultural values and that the ecological objectives inherent in IK are essential constituents of the ideal set of ecological objectives to be used in implementing the ecosystem approach to management in the Arctic.
- ✓ A background document was prepared for the workshop (included as Annex 3 in the 5th EA workshop report). This document will be further elaborated and used as the basis for a report "Status of Setting Ecological Objectives in the Arctic" to be finalized in spring 2016 (item 1 c on the Work plan).
- ✓ The workshop agreed a number of recommendations and next steps (Annex 3). Information on existing ecological objectives will be sought from more countries and we are also seeking more information on Indigenous management practices. The information will be used for extended analysis to be included in the status report on ecological objectives. One recommendation is to explore the need for common guidelines for how to set ecological objectives in the Arctic.

*Workshop on Integrated Ecosystem Assessment (IEA) for the Central Arctic Ocean (ICES WKICA) (Bergen, Norway 28-29 May 2015)*

- ✓ Following the 5<sup>th</sup> EA Workshop on Ecological Objectives, the co-chairs of the EA-EG (Skjoldal and Mundy) served as Chairs of the Bergen workshop, along with the chair of CAFF (Hindrum) and the representative of Russia (Klepikov). PAME Secretariat (Gudmundsdottir, Hreinsson) and EA members (Coon, Schroeder, von Quillfeldt)

were joined by AMAP Secretariat (Fuglestad and Larsen) and CAFF member (Jorgensen). From an EA perspective the workshop laid the foundation for Arctic progress by LME's on a key element of EA implementation, assessing the ecosystem. As a result of the recommendations of the workshop, ICES agreed to implement a formal working group on integrated ecosystem assessment in the central Arctic Ocean (WGICA) in partnership with PAME.

*PAME II-2015 (Tromsø, Norway, September 2015)*

- ✓ Progress report on the work of the Ecosystem Approach expert group (EA-EG) describing work over the last half year according to agreed work plan for 2015-2017 time period.
- ✓ Terms of Reference for the joint EA-EG 2015-2017
- ✓ 5th Ecosystem Approach to Management Workshop Report (May, 2015)
- ✓ Report of the ICES/AMAP/CAFF/PAME Workshop on Integrated Ecosystem Assessment (IEA) for the Central Arctic Ocean (WKICA) (May, 2015)

## 2016

### *PAME I-2016 (Stockholm, Sweden, February 2016)*

- ✓ Progress report on the work of the Ecosystem Approach expert group (EA-EG) describing work over the last half year according to agreed work plan for 2015-2017 time period.
- ✓ Planning of the international conference on status of implementation of the Ecosystem Approach to management in the Arctic, to be held in Fairbanks, Alaska, 23-25 August 2016. A steering group was established to work out the conference prospectus. Invitations sent out to Arctic Member States, Permanent Participants and other experts to submit examples of implementation of EA to the steering committee.
- ✓ Establishment of the new ICES/PAME Working Group on Integrated Ecosystem Assessment for the Central Arctic Ocean (WGICA) and its terms of reference as approved by ICES.

### *ICES/PAME Working Group on Integrated Ecosystem Assessment for the Central Arctic Ocean (WGICA)*

- ✓ The WGICA held its inaugural meeting at ICES Headquarters, Copenhagen, Denmark, from 24 to 26 May 2016. The group recognized the important contributions made by the 2015 Workshop for the Integrated Ecosystem Assessment (IEA) of the Central Arctic Ocean (CAO), which concluded that the purpose of an IEA for the central Arctic Ocean was twofold: 1) provide a holistic and integrated view on the status, trends and pressures, and 2) contribute to implementation of the ecosystem approach to management of the central Arctic Ocean. The full report of the meeting is available from the [ICES web site](#).

### *Ecosystem Approach International Conference (Fairbanks, Alaska USA, August 2016)*

- ✓ The EA International Conference, EAIC, assembled leading members of the Arctic EA Community of Practice, CoP, to discuss and review the status of implementation of EA in the Arctic in August 2016. The list of conference participants identifies the leadership of the Arctic EA CoP.
- ✓ Indigenous participation in EAIC was pan-Arctic with representatives of Canadian settlement regions (NWT, Nunavut) and Alaska making presentations on indigenous



regulation and management of natural resources (Noksana, Jr., Kanayurak, Gruben) and ICC Alaska presentation on food security (Behe), and a session chaired by Martin Robards featuring multiple aspects of integrating indigenous knowledge in management of Arctic resources, including the efforts of the Arctic Waterways Safety Committee to integrate management of US government shipping activities with subsistence hunting schedules in Alaska.

- ✓ The meeting provided the first implementation of Arctic Council ministerial (Kiruna 2013) call for periodic review of the status of implementation of EA in the Arctic, and it assembled leading members of the Arctic EA community of practice to do so.

*PAME II-2016 (Portland, Maine, September 2016)*

- ✓ Progress report on the work of the Ecosystem Approach expert group (EA-EG) describing work over the last half year according to agreed work plan for 2015-2017 period, including the initial report from the international conference on status of implementation of the Ecosystem Approach to management in the Arctic which was held in Fairbanks, Alaska, 23-25 August 2016 and note that a final report is to be presented at PAME I-2017. EA International Conference Site which includes posting of presentations and videos.
- ✓ Agreed to produce the report “Status on implementation of EA in the Arctic” as one of the deliverables for the 2017 Ministerial meeting. Arctic States, PPs and observers invited to contribute more information on national EA implementation to be used in this report.
- ✓ PAME notes the importance of close collaboration between the MPA and the EA expert groups and their work.

*Fourth Meeting of Scientific Experts on Fish Stocks in the Central Arctic Ocean (Tromsø, Norway, September, 2016)*

- ✓ EA EG co-chairs (Skjoldal and Mundy) participated in the fourth scientific meeting on Arctic fish stocks, 4th FiSCAO. The 4th FiSCAO was the first to formally include scientists from China, Korea, Japan, Iceland and the EU in addition to the original five Arctic coastal states. Parties were provided with updated information about ongoing Arctic research and monitoring activities, and provided a summary of fish and shellfish species in the central Arctic and adjacent waters. Progress was made toward a joint program of scientific research and monitoring, JPRSM. Negotiations supported towards an international agreement on fishing in the Arctic in areas outside the territorial waters of the five Arctic coastal states (the Kingdom of Norway, the Russian Federation, the United States of America, Canada, and the Kingdom of Denmark).

## **ANNEX I - TERMS OF REFERENCE 2015-2017**

### **Background**

The Arctic Council (AC) adopted in 2004 the Arctic Marine Strategic Plan (AMSP) which had the ecosystem approach to management (EA) as a core and overarching principle. One of the strategic actions (7.4.1) was to identify the Large Marine Ecosystems (LMEs) of the Arctic, for which PAME developed a working map of 17 Arctic LMEs which was adopted by the Arctic Council in 2006. The map was revised during the 2011-2013 period to include 18 Arctic LMEs. The revised map was accepted by the Arctic Council in May 2013.

PAME established in 2007 an expert group (EG) on the Ecosystem Approach to marine management (EA, or the equivalent term Ecosystem-based management, EBM) co-chaired by the USA and Norway with work activities identified in PAMEs biennial work plans. The revision of the Arctic LME map was done under this EG with input from other Working Groups and Arctic States.

With reference to the AC approval of the PAME Work Plan 2011-2013 (May 2011), with particular reference to the updating of the Arctic Marine Strategic Plan (2004) and the EA work, PAME was given the mandate to broaden the scope and membership of its EA EG. PAME extended its invitation to the other Arctic Council working groups dealing with marine-related issues to participate in this work in 2011. The rationale for extending the PAME EA-EG was based on increased emphasis on the EA as the foundation of the Arctic Council's work and the essential need to apply the EA to manage Arctic marine-related issues. PAME agreed in 2011 to a Terms of Reference for the EA-EG as a basis for the Work Plan for 2011-2013. The EA Work Plan was revised as part of the PAME Work Plan for 2013-2015.

In addition to revision of the LME map, the EA-EG has produced an EA concept paper and considered various aspects of Integrated Ecosystem Assessment (IEA) as a key component of the EA. The EA-EG has conducted five workshops as part of its work (Tromsø, Norway, January 2011; Stockholm, Sweden, March 2012; Reykjavik, Iceland, June 2013; Vancouver, Canada, June 2014; and Bergen, Norway 2015). Reports from these workshops as well as progress reports on the EA work are available at the PAME webpage, [here](#).

The Arctic Council established a ministerial-level Expert Group on Ecosystem-based Management (EBM) in 2011 which reported back to ministers in Kiruna (2013). One of the recommendations of the EBM Expert Group which was adopted by the Arctic Council in May 2013 was to: "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". The EA Terms of Reference document is developed in response to this and other marine-specific EBM recommendations in the Kiruna Declaration. The Arctic Council working groups addressing marine issues have identified a need for a mechanism to facilitate exchange of information and experiences gained to support the development of a common and coordinated approach to the implementation

of the EA by Arctic states. The EA-EG with the participation of relevant Arctic Council working groups is well suited to serve as such a mechanism with the aim to contribute collectively to the integration of EA implementation into the overall work of the Arctic Council.

### **Purpose of the EA Expert Group**

The EA expert group will consider scientific and technical aspects related to the implementation of the EA to the management of the Arctic LMEs and contribute to ongoing Arctic Council projects of relevance.

The aims of the group are to:

- ✓ Provide a forum for and facilitate exchange of information and experiences that will support implementation of the EA by Arctic states and AC working groups.
- ✓ Consider methodological development, and develop appropriate documents to support the development.
- ✓ Contribute to and review progress in the development of IEA within the Arctic, and provide advice and guidance as appropriate.
- ✓ Give input to the development of recommendations for further work in AC working groups.
- ✓ Help to develop consistency in the EA work performed by states and in the working groups.
- ✓ Identify, discuss and address issues of common concern, and prepare scoping papers, if requested.
- ✓ Facilitate access to supporting activities and resources.

It is not intended that the EA-EG will produce IEAs for any specific area but rather to facilitate exchange of information and provide guidance to contribute to a common approach among Arctic Council member states.

The issues and needs identified in Annex A for the 6 elements of implementation of the EA will form the basis for the more detailed work plans for the EA-EG. The EA concept paper, available here, describes a framework for implementation of the EA with 6 main elements. The main focus of the work will be on scientific, technical and methodological issues related to elements 3 (ecological objectives), 4 (IEA), and 5 (valuation).

### **EA Expert Group membership, co-chairs and ways of working**

The members of the EA expert group are nominated by AC member states, working groups and permanent participants.

The EA co-chairs are nominated for the period as defined by the EA work plan (2015-2017). The work of the EA-EG will be guided by the co-chairs following-up on the decisions made by PAME and the other contributing working groups, including development of EA-EG work plans. The co-chairs call and chair EA meetings and workshops.

The co-chairs are primarily responsible for the conduct of EA work, developing an equitable division of work among EA expert group members. The EA co-chairs are responsible for reporting to Arctic Council working groups. It is expected that some of the recommendations for further work will be accomplished throughout the Arctic Council's

working groups and their associated expert groups and expert networks. By whom specific tasks will be accomplished (e.g. which working group) will depend on topics, available expertise and other resources. In addition, Arctic Council member states are engaged in developing these elements and they will be part of and contribute to these continuing efforts.

The EA-EG is expected to meet twice annually either in-person or by teleconference. In addition, members of the group are expected to participate in organizing and convening EA-EG related workshops as stipulated within work plans of relevant working groups. In addition, members may expect to be contacted by the co-chairs and secretariat between meetings for advice when the need arises.

A list of members of the expert group (to be updated as needed) is attached as a separate document.

## **ANNEX II – FRAMEWORK FOR IMPLEMENTATION OF THE EA**

The EA concept paper, available [here](#), describes a framework for implementation of the EA with 6 main elements:

1. Identify the ecosystem (LMEs),
2. Describe the ecosystem,
3. Set ecological objectives,
4. Assess the ecosystem (Integrated Ecosystem Assessment - IEA),
5. Value the ecosystem, and
6. Manage human activities in an adaptive manner.

Regarding the first element, identify the ecosystem, we have completed the assigned task of identifying the Arctic LMEs, which form the starting point for management and management cooperation in the case of transboundary LMEs. However, significant ongoing issues related to integration and differentiation of spatial scales will need to be addressed. For example is the important matter of how to integrate issues and results of work at the scale of LMEs to address the larger, pan-Arctic scale, and vice versa.

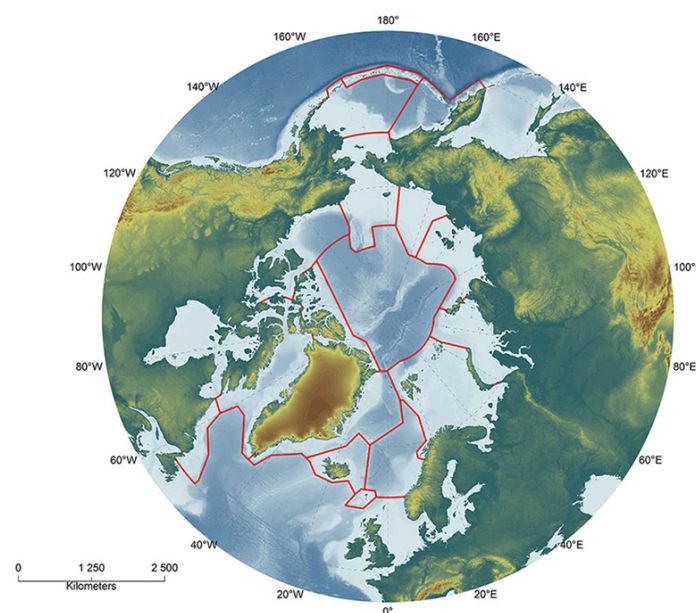
Regarding the second element, describe the ecosystem, there is a large body of information and many descriptions of the Arctic marine ecosystems including the recent Arctic Biodiversity Assessment (ABA) by CAFF. As part of the Assessment of Oil and Gas Activities in the Arctic (OGA), AMAP has produced extensive descriptions of each of the Arctic LMEs including detailed information on species of fish, birds and mammals. There is a need to consider and clarify how existing and emerging descriptions of Arctic marine ecosystems can be applied in the context of the EA, for instance in relation to conducting IEAs. The third element, setting ecological objectives, provides an important component of the EA, defining in practical terms sustainability in relation to the extent of human use of natural resources and associated environmental impacts. There is a need to compare ongoing efforts to set regional and national ecological objectives in order to support development of transboundary ecological objectives. The work of the International Council for Exploration of the Sea (ICES) is expected to make important contributions to identifying and applying ecological objectives in the EA.

The fourth element, assess the ecosystem, or Integrated Ecosystem Assessment (IEA), is essential to implement EA. There is a need to continue work to compile information on, and compare regional and national approaches to the basic methodology for conducting IEA, as well as promoting and facilitating the production of IEAs for the various Arctic LMEs. An IEA provides information on status and trends of the main ecosystem components, including evaluation of impacts by various human activities such as fishing, pollution, coastal development, and others, as well as the overall or cumulative impacts of those activities. The state of development toward IEA is quite different across the Arctic, being reasonably well developed in some of the boreal and sub-Arctic areas where there are large fisheries (e.g. Barents and Bering seas), and being less well developed in some of the high Arctic LMEs (e.g. Beaufort and Kara seas) that lack large fisheries. A specific issue to consider is the relationship of IEA to other types of environmental assessments, such as

Environmental Impact Assessments (EIAs), and how such assessments can support the work on IEA for specific LMEs. A related issue is how to coordinate and integrate across assessments carried out for various purposes both outside the Arctic Council (e.g. fish stocks and multispecies assessments) and by working groups inside the Arctic Council (e.g. AMAP AACA-C project). Collaboration with relevant organizations in particular ICES will be sought to further advance international understandings on IEA.

The fifth element, valuing ecosystem goods and services, provides an essential link between the natural ecosystem (of which man is part) and the human subsystem with its cultural, social and economic aspects. CAFF, in partnership with TEEB, UNEP, WWF Arctic and GRID-Arendal have launched a TEEB Arctic Scoping Study as a first step towards mainstreaming Arctic biodiversity and ecosystem services into policy and decision-making processes. There is a need to further develop and use methodology for valuing ecosystem services and to integrate this aspect into IEA in its fully integrated form (including socio-economic information from societal drivers to response). It is recognized that cultural values of indigenous Arctic peoples are not consistent with economic approaches applied by the Arctic states. Recognizing multiple approaches to valuation may help cross-cultural communication in implementing the ecosystem approach.

The sixth and final element, the adaptive management of human activities, is implemented by the Arctic States, and needs ultimately to be based on comprehensive IEAs on the geographic scale of LMEs, which may require transboundary cooperation. IEAs identify management actions and interventions that are necessary to achieve the overarching goals of sustainable use of resources and conservation of biodiversity that are expressed by operational ecological objectives. Adaptive management of human activities requires practical scientific advice based on the outcome of the IEA process. Such practical scientific advice serves as the basis for decision-making that allow managers to achieve specific management objectives in an ecosystem context. ICES has a long history of providing scientific advice to management in an international context, making it a relevant and important partner for the work on this topic.



*Figure 1. Map of the 18 Arctic Large Marine Ecosystems (LMEs)*



### **ANNEX III - EA WORK PLAN ITEMS 2017-2019**

Ecosystem Approach to Management (EA): PAME continues to integrate the ecosystem approach into assessments and management recommendations through follow-up to the 2013 EBM marine-related recommendations, taking into account previous work on Large Marine Ecosystems (LMEs), and new and ongoing EA activities of cross-cutting nature. EA activities are forwarded within the terms of reference of the joint EA expert group with participation from other Arctic Council working groups marine-related issues (AMAP, CAFF, and SDWG). PAME convened jointly with AMAP and CAFF an international conference on the Status of Implementation of the Ecosystem Approach to management in the Arctic; produced the Status on Implementation of EA in the Arctic Report; and continues to participate in the ICES/PAME Working Group on Integrated Ecosystem Assessment for the Central Arctic Ocean (WGICA). PAME encourages AMAP and CAFF to join the ICES/PAME Working Group and the continuation of this group work on vulnerability towards potential impacts of shipping be carried out as a priority to support the work on the AMSA II(D) recommendation on “Specially Designated Arctic Marine Areas”. PAME has noted the importance of close collaboration between the MPA and the EA expert groups and their work.

1) Project/activity: Preparation of Guidelines for EA/EBM Implementation in the Arctic  
Lead/co-leads: Norway, United States, Joint EA Expert Group  
WG partners – [CAFF, AMAP, SDWG] Other Partners: Observers – [WWF]

*Rationale and overall Objective:* The goal of this project is to develop guidelines for EA/EBM implementation in Arctic marine ecosystems, based on the six elements of the EA Implementation Framework

*Main activities:* Work will include an anticipated 6th EA workshop (summer 2017), a Joint Workshop on EA and MPAs/EBSA, and a 2nd International EA Conference in 2018. A follow-on to the 2018 conference would be report on the status of implementation of EA in the Arctic. Contribute to SDWGs project on EIA as relevant ((refer to the SDWG project 10 on Arctic Environmental Impact Assessment and Public Participation - Good Practice Recommendations (EIA) [Proposed: lead Finland] )

*Timeline: 2017-2019*

*Kiruna Vision Element(s):* [A Peaceful Arctic/The Arctic Home/A Prosperous Arctic/A Safe Arctic/A Healthy Arctic Environment/Arctic Knowledge/A Strong Arctic Council]  
Finnish Chairmanship Priorities, if applicable: [Environmental protection/ Connectivity/ Meteorological cooperation/Education]

2) Project/activity: Integrated Ecosystem Assessment of the Central Arctic Ocean  
Lead/co-leads: cross-cutting initiative in cooperation with ICES – PAME, CAFF, AMAP

*Rationale and overall Objective:* provide scientific advice on issues such as the prospect for future fisheries in the Central Arctic Ocean and sensitivity and vulnerability in relation to shipping activities. Contribute towards implementation of the ecosystem approach in the central Arctic Ocean.

*Main activities:* conduct an integrated ecosystem assessment for the Central Arctic Ocean

Timeline: 2016-19

Kiruna Vision Element(s): [A Peaceful Arctic/The Arctic Home/A Prosperous Arctic/A Safe Arctic/A Healthy Arctic Environment/Arctic Knowledge/A Strong Arctic Council]

Finnish Chairmanship Priorities, if applicable: [Environmental protection/ Connectivity/ Meteorological cooperation/Education]

EA Work plan items – EA

- ✓ Prepare guidelines for EA/EBM implementation in Arctic (marine) ecosystems (Iqaluit declaration)
- ✓ Consider/prepare guidelines for how to set ecological objectives
- ✓ Continue review of developments in Integrated Ecosystem Assessment (IEA) of Arctic LMEs
- ✓ Consider (project/scoping paper) integration of ecologically/culturally important areas including MPAs in the context of EA to management of Arctic LMEs
- ✓ 6th EA workshop summer 2017- Topic Values and valuation?
- ✓ Joint workshop on EA and MPAs/EBSAs
- ✓ 2nd International EA Conference – 2018.
- ✓ Review status of EA implementation by LMEs
- ✓ Focus on IEA?

## **ANNEX IV – RECORDS OF DECISION 2015-2017**

### **PAME I-2015 (Akureyri, Iceland)**

- ✓ PAME welcomes the progress report on the work of the Ecosystem Approach expert group (EA-EG) describing work over the last 6 months as well as a summary of achievements under the work plan for the 2013-2015 period. PAME notes the importance to continue the outreach activities to secure a strong involvement of the other working groups working on marine-related issues (AMAP, CAFF and SDWG).
- ✓ PAME welcomes and agrees to the new and revised Terms of reference (ToR) for the PAME-led joint Ecosystem Approach Expert Group (EA-EG) with participation of other Arctic Council working groups (AMAP, CAFF, SDWG) in an effort to ensure an adequate breadth in expertise of nominated members to the EA-EG. Draft versions of the ToR have been sent to the other working groups for their comments and PAME notes that there may yet be acknowledgements added in response to comments to be received.
- ✓ PAME welcomes the planning and convening of the 5th EA workshop on “Methodology and status of development of ecological (quality) objectives for Arctic Large Marine Ecosystems” by the EA-EG. Tentative venue and time is Bergen, Norway, 26-27 May 2015.
- ✓ PAME welcomes the planning of a scoping workshop on conducting an integrated ecosystem assessment for the central Arctic Ocean by the International Council for the Exploration of the Sea (ICES) in collaboration with other relevant Arctic Council working groups, tentative venue and time is Bergen, Norway 28-29 May 2015.

### **PAME II-2015 (Tromsø, Norway)**

- ✓ PAME welcomes the progress report on the work of the Ecosystem Approach expert group (EAEG) describing work over the last 6 months according to the agreed work plan for 2015-2017 time period.
- ✓ PAME welcomes the report from the 5th EA workshop on “Methodology and status of development of ecological (quality) objectives for Arctic Large Marine Ecosystems” that was held in Bergen, Norway, 26-27 May 2015. PAME notes the background document on objectives, included as Annex III of the workshop report, and welcomes the further development of this document as the basis for the report "Status of Setting Ecological Objectives in the Arctic" to be delivered in spring 2016. Arctic States, PPs and observers are invited to contribute more information to be used in this report, according to the recommendations from the workshop.
- ✓ PAME welcomes the report from the joint ICES/AMAP/CAFF/PAME Workshop on Integrated Ecosystem Assessment (IEA) for the Arctic Ocean (WKICA) that met in Bergen, Norway, 28–29 May 2015. PAME notes the conclusion of the workshop that ICES should establish a working group on Integrated Ecosystem Assessment (IEA) for the central Arctic Ocean (WGICA) and welcomes such an initiative by ICES. PAME agrees to take part through the EA-EG in a joint WG with ICES from the Arctic Council.
- ✓ PAME welcomes the information provided on the outcome of the Third Meeting of Scientific Experts on Fish Stocks in the Central Arctic Ocean and notes its relevance to the work of a new ICES Working Group on Integrated Ecosystem Assessment of the Central Arctic Ocean (ICES/WGICA).
- ✓ PAME welcomes the initial plan for an international conference on implementation of the EA for Arctic LMEs and agrees to the next step which is to establish a planning

group to prepare a detailed program for the conference. Venue and time will also need to be identified (tentatively Fairbanks, Alaska, in August 2016).

#### **PAME I-2016 (Stockholm, Sweden)**

- ✓ PAME welcomes the progress report on the work of the Ecosystem Approach expert group (EAEG) describing work over the last half year according to agreed work plan for 2015-2017 time period.
- ✓ PAME welcomes the planning of the international conference on status of implementation of the Ecosystem Approach to management in the Arctic, to be held in Fairbanks, Alaska, 23-25 August 2016. A steering group has been established and an announcement and a more detailed program will be forthcoming. Arctic Member States, Permanent Participants and others are invited to submit examples of implementation of EA to the steering committee via the PAME Secretariat.
- ✓ PAME welcomes the establishment of the new ICES/PAME Working Group on Integrated Ecosystem Assessment for the Central Arctic Ocean (WGICA) and its terms of reference as approved by ICES. The WGICA will meet at the ICES headquarters in Copenhagen, 24-26 May 2016. It is expected that AMAP and CAFF will join as co-sponsors of WGICA from 2017. The PAME Secretariat will circulate the terms of reference to its members.
- ✓ PAME notes the delay in production of the report "Status of Setting Ecological Objectives in the Arctic" based on the background document on ecological objectives, included as Annex III of the 5th EA workshop report from Bergen last May. Arctic States, PPs and observers are again invited to contribute more information to be used in this report, according to the recommendations from the 5th workshop by May 15.

#### **PAME II-2016 (Portland, Maine)**

- ✓ PAME welcomes the progress report on the work of the Ecosystem Approach expert group (EAEG) describing work over the last half year according to agreed work plan for 2015-2017 period.
- ✓ PAME welcomes the initial report from the international conference on status of implementation of the Ecosystem Approach to management in the Arctic which was held in Fairbanks, Alaska, 23-25 August 2016 and note that a final report is to be presented at PAME I-2017.
- ✓ PAME welcomes the plan to produce the report "Status on implementation of EA in the Arctic" as one of the deliverables for the 2017 Ministerial meeting. Arctic States, PPs and observers are again invited to contribute more information on national EA implementation to be used in this report and are urged to send it to the PAME secretariat by 30<sup>th</sup> of October 2016.
- ✓ PAME welcomes the First Interim Report of the ICES/PAME Working Group on Integrated Ecosystem Assessment for the Central Arctic Ocean (WGICA) that met at ICES Headquarters in Copenhagen 24-26 May 2016.
- ✓ PAME notes the plans for further work over the next two years and encourages that work on vulnerability towards potential impacts of shipping be carried out as a priority to support the work on the AMSA II(D) recommendation. PAME notes the importance of close collaboration between the MPA and the EA expert groups and

their work.

**PAME I-2017 (Copenhagen, Denmark)**

- ✓ PAME welcomes the 2015 – 2017 Progress Report of the Joint Ecosystem Approach Expert Group (EA-EG) and acknowledges the substantial accomplishments documented in the report.
- ✓ PAME welcomes the Summary Report of the International Science and Policy Conference on the Status of Implementation of the Ecosystem Approach in the Arctic, subject to final edits and comments received by February 8.
- ✓ PAME approves the report, Status of Implementation of the Ecosystem Approach to Management in the Arctic, subject to final edits and comments received by February 8.
- ✓ PAME appreciates the progress made by the expert group in advancing understanding of integrated ecosystem assessment, IEA, through its participation in the formation of, and participation in, the ICES Working Group on Integrated Ecosystem Assessment in the Central Arctic Ocean, WGICA, and participation in the meetings of scientific experts on fish stocks in the central Arctic Ocean, FISCAO.
- ✓ PAME approves to the EA-EG work plan items for inclusion into the PAME 2017-2019 Work Plan (Annex I).

## ANNEX V - TABLE OF EA WORKING GROUP ACTIVITIES

Year	Activity	Product
2004	Adopting the EA as an overarching principle	<a href="#">Arctic Marine Strategic Plan – AMSP 2004</a>
2006	Delineating and adopting Arctic Large Marine Ecosystems (LMEs)	<a href="#">Working map of 17 Arctic LMEs</a>
2007	PAME establishes an EA expert group (EA-EG)	
2007-2009	PAME and SDWG carry out the project ' <i>Best Practices in Ecosystem-based Ocean Management in the Arctic</i> ' (BePOMAr)	<a href="#">BePOMAr report (Hoel 2009)</a>
2009-2011	PAME carries out the project 'Arctic Ocean Review' in two phases – I (2009-2011) and II (2011-2013)	<a href="#">The Arctic Ocean Review PHASE I Report (2009-2011)</a>
2011	The EA-EG broadened to include AMAP, CAFF and SDWG	
2011	First EA workshop, Tromsø, Norway (LME boundaries)	<a href="#">Workshop Report</a>
2011-2013	'Arctic Ocean Review', phase II	<a href="#">The Arctic Ocean Review Project, Final Report, (Phase II 2011-2013)</a>
2011-2013	Ministers at Nuuk (2011) established an EBM expert group (EG) who works over a two-years period with 3 meetings to deliver a report with EA recommendations (definition, principles, and activities)	<a href="#">Report 'Ecosystem-Based Management in the Arctic'</a>
2012	2 <sup>nd</sup> EA workshop, Stockholm, Sweden (EA framework)	<a href="#">Workshop Report</a>
2012-2013	Revision and adoption of the map of Arctic Large Marine Ecosystems (LMEs)	<a href="#">Report 'Large Marine Ecosystems (LMEs) of the Arctic area. Revision of the Arctic LME map'</a>
2013	3 <sup>rd</sup> EA workshop, Reykjavik, Iceland (Data issues)	<a href="#">Workshop Report</a>
2013	Ministers at Kiruna (2013) adopts the EA recommendations from the EBM EG	<a href="#">Kiruna Ministerial Declaration</a>
2014	Workshop on Implementing Recommendations for Ecosystem-Based Management in the Arctic (Trondheim, Norway)	<a href="#">Workshop report</a>
2014	4 <sup>th</sup> EA workshop, Vancouver, Canada (Beaufort Sea LME)	<a href="#">Workshop Report</a>
2015	Request from Ministers at Iqaluit (2015) for the development of practical guidelines for an ecosystem-based approach to the work of the Arctic Council	<a href="#">Iqaluit Ministerial Declaration</a>
2016	International conference on status of implementation of the Ecosystem Approach to Management of Arctic Ecosystems, Fairbanks, Alaska	Report 'Status of implementation of the Ecosystem Approach to management (EA) in the Arctic: a conference summary'.



## ANNEX V – EA-EG CURRENT MEMBERSHIP

Members: Ecosystem Approach Expert Group (EA-EG)	
	<i>Co-leads: Norway and USA</i>
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<b>Permanent Participants</b>	<p>AIA: Jim Gamble <a href="mailto:aia@alaska.net">aia@alaska.net</a></p> <p>GCI: Victoria Lorraine Peter (no email address but Chief Joe Linklater is also a regular participant)</p>

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# PAME

Protection of the Arctic Marine Environment

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