

PAME II-2020 – Ecosystem Approach Expert Group Pre-meeting

Monday 21 and Tuesday 22 September

Ecosystem Approach to management

Progress Report 2019-2021

Joint Group of Experts on the Ecosystem Approach to Management

September 2020

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Background

PAME established an expert group on the Ecosystem Approach to Management (the EA-EG) in 2007. This was broadened in 2011 to become a PAME-led joint expert group with participation also of other Arctic Council working groups (AMAP, CAFF and SDWG). Norway and USA are co-lead countries for the theme 'Ecosystem Approach to management' (EA) under PAME.

The EA-EG has held 6 workshops, with a 7th workshop in planning. EA-EG also made two conference on various aspects of the Ecosystem Approach to management (EA) in the Arctic between 2011 and 2021. Progress reports on the work have been prepared regularly and the last progress report were for the 2017-2019 work plan period.

A report on 'Status of implementation of the Ecosystem Approach to management in the Arctic', will be made by the end of the Iceland chairmanship in spring 21.

The various reports prepared by the EA-EG as referred to above are available at the PAME webpage under the Ecosystem Approach topic.

This report contains the progress of EA work during the 2019-2021 work plan.

Workshops 2011 - ongoing:

<https://www.pame.is/document-library/ecosystem-approach-to-management-documents/ea-workshop-reports>

2011

1st workshop on the Ecosystem Approach to Management: Update of the working map of Arctic LMEs and Status reporting for Arctic LMEs

- Facilitate exchange of information on the development of ecosystem status reports.
- Identify possible arrangements and integration of monitoring and assessment.
- Identify possible elements to the development of the Arctic Marine Strategic Plan (AMSP 2004) Phase I 2011-2013 scoping process.

2012

2st workshop on the Ecosystem Approach to Management

- Monitoring and Assessments within the Arctic Council
- Monitoring and assessments - National/international/case presentations
- Input to updating of the Arctic Marine Strategic Plan (AMSP)
- LME map and inventory of ecosystem status reports

2013

3ed workshop on the Ecosystem Approach to Management

- Overview of ecosystem approach and data needed for integrated assessment
- Case studies: Geographic paradigms in ecosystem-level data acquisition, integration and dissemination for conducting assessments and advancing EA
- Arctic Council Working Groups

2014

4th workshop on the Ecosystem Approach to Management - Understanding national approaches and reviewing progress on the IEA in the Arctic LMEs straddling national boundaries: The Beaufort and Barents Sea.

- Introduction – History, approaches, current projects on EA and IEA within the Arctic Council
- National overviews from the Beaufort, Approaches to IEA in the Beaufort Sea
- National overviews from the Barents, Approaches to IEA in the Barents
- Discussions of Lessons Learned
- Discussions and Specifications of Products and Next Steps

2015

5th workshop on the Ecosystem Approach to Management – Methodology and status of development of ecological (quality) objectives for Arctic Large Marine Ecosystems

- Review of existing ecological objectives in national legislation and management systems
- Review of new developments of comprehensive sets of ecological objectives
- Perspectives from indigenous peoples: values and objectives for use and management of living resources and nature

2018

6th workshop on the Ecosystem Approach to Management – the development of guidelines for Ecosystem Approach to management (EAM) in the Arctic (WKEAMA)

- Development of EA guidelines
- Integrated Ecosystem Assessment

2020-2021

7th workshop on the Ecosystem Approach to Management – the value and valuation

Under planning

Conferences 2016 - 2019

<https://www.pame.is/document-library/ecosystem-approach-to-management-documents/ea-conferences>

2016, Alaska, Fairbanks

International science and policy conference. The ecosystem approach to management: status of implementation in the arctic

- The Vision and Role of the Arctic Council
- Status and Experiences from National Implementation
- Making EA operational – developing the knowledge base and enabling activities
- Case studies – steps toward implementation
- Pan-Arctic marine science and policy.
- Status of Implementing the Ecosystem Approach to Management in the Arctic
- The Kiruna EBM recommendations

2019, Norway, Bergen

International Science and Policy Conference. Implementation of the Ecosystem Approach to Management in the Arctic. *The Ecosystem Approach to Management of Arctic Marine Ecosystems: Integrating information at different scales in the framework of EA implementation*

- Integrated Ecosystem Assessment
- MPAs and other special areas
- Voices from the North – a conversation about people, nature, and sustainability
- National EA implementation
- Central Arctic Ocean

2019-2021 WORK PLAN

1The implementation of the Second International Science and Policy Conference on Implementation of the Ecosystem Approach to Management in the Arctic:

The Ecosystem Approach to Management of Arctic Marine Ecosystems: Integrating information at different scales in the framework of EA implementation.

Bergen, Norway, 5-7 June 2019

Report: <https://www.pame.is/document-library/ecosystem-approach-to-management-documents/ea-conferences>

This conference was prepared with input from a planning group with members from AC countries and the EA-EG, AC working groups (AMAP, CAFF, PAME, SDWG), and ICES, PICES, and WWF. The program was developed as a combination of solicited and openly invited presentations.

The conference was attended by 54 participants from 9 countries (Canada, Kingdom of Denmark, Germany, Iceland, Japan, Netherlands, Norway, Russian, and USA), including several international organizations (AMAP, PAME, ICES, WWF). We were fortunate to have strong representation of participants from indigenous communities and organizations in Alaska, Canada, Greenland, and Norway (Sápmi) (14 in total). The list of participants is included as Annex 2.

Conference sessions

The program was structured with five sessions, bracketed by an introductory session on the first day and a concluding session by the end of the meeting on the third day:

- Session 1: Integrated Ecosystem Assessment
- Session 2: MPAs and other special areas
- Session 3: Voices from the North – a conversation about people, nature, and sustainability
- Session 4: National EA implementation
- Session 5: Central Arctic Ocean

The main topic for the conference was scale and scale integration, and we sought to illuminate this important but broad issue in each of the five sessions. The sessions were structured with a sequence (or sequences) of presentations followed by discussions recorded by appointed rapporteurs.

All sessions (except session 3) were held in plenary, moderated by a session chair. Session 3 was an exception where, after introductory presentations, there were three parallel breakout groups that reported back in plenary at the end of the session.

All in all, there were 45 presentations in the five sessions plus the opening session. All presentations are available at the [conference site](#), while summaries are included in Annex 3.

In the next section, we provide a summary of the conference organized by subheadings which highlight topics within but also across the conference sessions. In particular, session 3 with the ‘conversation on people, nature, and sustainability’ is reflected in the first part of the summary with

the more holistic and overarching topics at the EA framework level. The more detailed minutes from the discussions in each of the sessions, which have informed the conference summary, are included in Annex 4.

1. The 7th EA workshop on element No. 5 of the EA framework, *'Value the cultural, social, and economic goods and services produced by the ecosystems'*

The 7th EA Workshop Planning Committee has been meeting monthly during 2020. The workshop, originally scheduled to be held after PAME II in Nome Alaska, has been postponed until at least March 2021. In the meantime, the Committee is organizing virtual meetings to develop a background White Paper on Value and Valuation in EA.

In July 2020 Jake Rise introduced to the Planning Committee his thought about Human Rights and Ecosystem Approach to Management. This is used to further shape the background paper and develop the Program.

Separate virtual meetings will be organized with indigenous and traditional knowledge holders, economists, social scientists and marine scientists for focused discussion on topics specific to each area of expertise.

During the planning period it is planned to invite expertise on different aspects of the value and valuation, including the Economic sciences, Social sciences, and Natural sciences.

For the tentative Program and for the tentative brainstorming session (per August 2020) with a list of EA-relevant policy contexts – see annex 2

2. Report on development in defining or setting Ecological Objectives

The report on development in defining or setting Ecological Objectives' have two main parts: concepts related to ecological objectives, and experiences gained from practical application of ecological objectives

An extended outline was prepared by Dr. Hein Rune Skjoldal for the PAME II in 2019. A first draft will be prepared and input from PAME members and the EA expert group will be allowed.

Timeline are open.

3. The joint ICES/PICES/PAME Working Group for Integrated Ecosystem Assessment of the Central Arctic Ocean (WGICA)

The joint ICES/PICES/PAME Working Group for Integrated Ecosystem Assessment of the Central Arctic Ocean (WGICA) covers the Central Arctic Ocean (CAO) from the slopes down to the deep Eurasian and Amerasian basins. The fluxes and properties of water through the Atlantic and Pacific gateways, connecting the Arctic to other oceans, are part of the physical and biological variability of the basins of the CAO.

WGICA have had Annual meetings in Japan (2019) and as a web-based meeting in April 2020. Annual Reports are published and available at <https://www.ices.dk/community/groups/Pages/WGICA.aspx>.

Executive summary for 2020.

The working group on the Integrated Assessment of the Central Arctic Ocean (WGICA) aims to provide a holistic analysis of the present and future status of the ecosystem and human activities therein. A lack of consistent spatially and temporally dataset from the Central Arctic Ocean (CAO) limit trends and warning signal analyses. But the group aims toward an Ecosystem Overview (EO) that relate the main regional pressures with the human activities and the ecosystem components that are most impacted by these pressures.

Climate change reduce sea ice, increased light penetration, cause regionally variable trends in stratification and mixing of the water column, increased inflow in both the Atlantic and Pacific sectors, and heating of waters at the surface and extending deeper and deeper. These changes in turn affect primary production and cascade through the food web to ice-associated fauna, zooplankton, fish, benthos, and sea mammals. These changes may be exacerbated by increasing human activities in and around the cao, and Current and future human activities in the context of climate change includes contaminants from outside the CAO that are currently a main source of pollution. Macro-, micro- and nanoplastics, transported by rivers and ocean currents, have been found in sea ice and wildlife. Sea ice is an important sink for microplastics.

The number of ships and the distances traveled are increasing. Oil spills from activities on the shelves may affect the ecosystem. Ocean mining may expand into the Arctic resulting in biodiversity loss while most species in the CAO remain undiscovered. Tourism is generally associated with ships or, in smaller volumes, as flights to the North Pole.

An agreement has been made to ban commercial fishing in the high seas of the Central Arctic Ocean. The effects of a warming ocean, retreating ice-cover and acidification on fish are examined from ecological and policy perspectives. Negative impacts on the polar cod population will negatively impact ringed seals and beluga whales and therefore will also affect subsistence harvests in the future.

Until 2024, human activities and related management organizations, and a climate and vulnerability assessment will be described.

are still working with the first IEA report will be published as a Cooperative Research Report following peer review and technical editing by ICES. Dates and deadline? PAME also notes the plan to produce a second version IEA report with more emphasis on impacts of human activities on the CAO ecosystem to be completed in 2021. PAME notes the upcoming meeting of the Provisional Scientific Coordinating Group under the Agreement to Prevent Unregulated High Seas Fisheries in the Central Arctic Ocean and opportunities for collaboration.

WGICA shall produce and deliver annual reports as well as three final reports before year 2024:

- **Annual Reports** (Interim Reports)

The annual report of this year is *this* report. New reports will follow each year answering the ToRs and give the last updates on scientific work from the CAO

- **Final Reports**

Three final reports are planned.

- **Report 1 - Ecosystem description of the CAO**

This report (approximately 350 pages) is in production and details are given in chapter 2 of this annual report.

- **Report 2 – part I: Human activities, pressures and management bodies; part 2: climate- and vulnerability assessment of the Central Arctic Ocean (CAO)**

This report will build on Report 1 and will start in winter 2020 with a deadline October 2024.

- **Ecosystem Overview (EO) – CAO**

Ecosystem overviews provide a description of the ecosystems, identify the main human pressures, and explain how these affect key ecosystem components. Such overviews are approximately 15 pages and updated each third year. We started the EO for the CAO in June 2020 and a first draft will be delivered in November. See Chapter 8 of this annual report for more details.

Planned activities 2020-2024:

Web-based meeting in subgroups scattered throughout the year, arranged by ToR/sub-groups leaders

2021: Webex-based meeting April early May 2021 to discuss assessment models to be built for data-poor areas, with the Ecosystem Overview (EO) as a first step to develop more methods.

2021: to write part 1 (Human activities and management bodies) by following the structure of the EO

2021: In fall 2021, to have a physical meeting in ICES HQ to discuss the way forward to:

- Finalize the Part 1
- Draft the ToRs for 2022-2024
- Develop Ecological Overview
- Writing of Report 2 - part 2.

2022-2024: to write part 2 (Climate- and Vulnerability- Assessment).

Other IEA groups for the Arctic LMEs

Barents Sea	ICES	WGIBAR	Elena Eriksen (NO) <u>Anatolii Filin</u> (RU)
Norwegian Sea	ICES	WGINOR	Per Arneberg (NO) Anna Ólafsdóttir (ICE)
Central Arctic Ocean	ICES-PICES-PAME	WGICA	Hein Rune Skjoldal (NO-ICES-PAME) John Bengtson (USA-PICES) Sei-ichi Saitoh (JAP-PICES)
Northern Bering – Chukchi Seas	PICES-ICES_PAME	WGNBC	Libby Logerwell (USA)
Eastern coast of Greenland	ICES	WGIEAGS	Colin Stedmon (DK) Jesper Boje (DK)

4. Strengthen the communication between the EA expert group co-chairs and relevant working groups in the AC

Strengthen the communication between the EA-EG co-chairs and the relevant Arctic Council Working Group members to: better coordinate our work plans and efforts towards Integrated Ecosystem Assessments

Inform about progress/status of respective work; and to seek inputs, as relevant.

Communication efforts will include distributing the EA-EG Progress Report annually

Inviting Working Group members to join workshop and conference planning committees

Inviting Working Group members to contribute to development of the next (2021-2023) work plan.

Update 2020:

- AMAP, CAFF and SDWG involved in a series of planning-meeting for the 7th workshop
- WGICA suggest joining forces with AC working groups (AMAP, CAFF, Shipping and more) to make an EA for the CAO

Annex 1 – EA WORK PLAN 2021-2023

Tentative plan for spring 2021-2023 (to be discussed on PAME II 2020)

1. PROJECT NAME

Planning of the 7th Workshop and communication product

DESCRIPTION

The objective is to continue 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.

The 7th EA workshop in 2020 with focus on element No. 5 of the EA framework: Value the cultural, social, and economic goods and services produced by the ecosystem.

LEAD(S) AND PARTNERS: USA - Norway in close collaboration with the EA expert group

2. PROJECT NAME

Report on development in defining or setting Ecological objectives

DESCRIPTION

The objective is to continue 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.

Report on developments in defining or setting ecological quality objectives in the context of EA implementation in national and international processes.

LEAD(S) AND PARTNERS: Norway - USA in close collaboration with the EA expert group

3. PROJECT NAME

Integrated Ecosystem Assessment (IEA) of the Central Arctic Ocean

DESCRIPTION

The objective is to provide scientific advice on issues such as the prospect for future fisheries in the central Arctic Ocean and sensitivity and vulnerability to shipping activities. Contribute to the implementation of the EA in the Central Arctic Ocean. Continued emphasis on development of Integrated Ecosystem Assessment (IEA). Continue to report on developments within ICES/PICES/PAME Working Group on Integrated Ecosystem Assessment (WGICA) as well as other ICES activities on IEA, the meetings of scientific experts on fish stocks in the Central Arctic Ocean, and any other relevant activities.

LEAD(S) AND PARTNERS Norway (PAME) and Japan (PICES)

4. PROJECT NAME (=need to be discussed at the PAME II 2020)

Planning of 8th Workshop.

DESCRIPTION

Discussion of possible topics such as:

- Revising the EA Framework and Guidelines
- Progress in implementing EA in Arctic waters – challenges and understanding
- Other topics to be discussed by the EG

5. PROJECT NAME (=need to be discussed at the PAME II 2020)

How to get AC working groups engaged in EA of Arctic LMEs

DESCRIPTION

Discussion of possible topics such as:

- Relevance of the working groups
- Relevant information for a EA
- How to access such information

Annex 2 – The 7th Value-valuation workshop proposal

Preliminary list of EA-relevant policy contexts where the understanding and capability to consider and capture values affect decision-making.

- Institutionalization of EA/EBM processes per se;
- Marine and coastal spatial planning;
- Harvesting /fishing quotas and rights at local through national and international scales;
- Management (and co-management) of living renewable resources;
- Planning and management of industrial development (shipping, marine and coastal infrastructure, non-renewable resources, renewable energy) – e.g. through strategic environmental assessment and environmental impact assessment; Including ecological compensation?/ Benefit sharing? Mainstreaming of biodiversity objectives.
- Access to and activities in areas;
- Public participation in decision-making, devolution;
- Economic and fiscal policies linked to coastal and marine livelihoods (e.g. subsidies, cost of no-action);
- Identification and management of specially managed areas (conservation of cultures and biodiversity);
- Indigenous rights issues, other issues of rights to resources, and managing common goods;
- Food security and livelihoods, equitability;
- Pollution and waste management;
- Monitoring (including community-based monitoring); Monitoring taking a EA approach vs only monitoring economically important species as is often done
- (human) adaptation and resilience to climate change, especially ecosystem-based adaptation.
- Environmental risk management and response? Invasive species (For example potential impact of Elodia on Salmon rivers, cost of inactivity)
- Values depend on stakeholders and vary significantly within an area and at a broader scale i don't know how we would reflect that. Stakeholder analysis?
- Application of value and valuation in multilateral and international frameworks (e.g. UN CBD, UNEP, GEF, Agenda 2030)

DRAFT PROGRAM

Overall goal: To identify, understand and find ways to benefit from the diverse systems of values and valuation of nature in the shared ecosystems of an increasingly connected Arctic.

Specific goals:

- Identify and understand diverse values held for nature
- Explore the relationships between values and valuation
- Explore ways to incorporate diverse systems of values and valuation into the Ecosystem Approach to management

Background

The concept of the Ecosystem Approach to management (EA) has been around for at least 30 years and has been extensively discussed, elaborated and developed within national and international fora. The Convention on Biological Diversity adopted a Guidance for the Ecosystem Approach in 2000 at its 5th Conference of the Parties (CBD COP V/6)¹. The EA was adopted as an overarching principle and approach by Arctic Council (AC) Ministers in 2004 as part of the Arctic Marine Strategic Plan (AMSP). In 2011, the Ministers established an expert group on Arctic ecosystem-based management (EBM), which reviewed the EA (or EBM) concept² and provided a definition of EA along with principles and recommendations that were adopted as part of the Kiruna Declaration in 2013 (see Box 1). In Iqaluit in 2015, and in Fairbanks in 2017, the Arctic Council Ministers recognized the need for EA and requested and encouraged the development of practical guidelines for EA implementation in the Arctic. The AC Working Group, Protection of the Marine Environment (PAME) established an EA Expert Group (EA-EG) in 2007 that was broadened in 2011 as a joint group with participation of three other Arctic Council working groups (AMAP, CAFF, and SDWG).

Box 1. What is the “Ecosystem Approach”?

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.

(Kiruna Declaration. The Eight Ministerial Meeting of the Arctic Council. May 15, 2013. Kiruna, Sweden. <http://hdl.handle.net/11374/93>)

The Joint Ecosystem Approach (EA) Expert Group (EA-EG) has held 6 workshops in 2011-2018 on various aspects of development of EA to the management of Arctic marine ecosystems and two international conferences on EA implementation in the Arctic (Fairbanks, Alaska, August 2016, and

¹ <https://www.cbd.int/decision/cop/default.shtml?id=7148>

² EA and EBM are synonymous terms for the same management concept.

Bergen, Norway, June 2019). To guide the development and implementation of the EA to Arctic marine ecosystems, the joint EA-EG prepared an EA framework that was used as a basis for the report '**Status of Implementation of the Ecosystem Approach to Management in the Arctic**' in 2017³, and '**Guidelines for Implementing an Ecosystem Approach to Management of Arctic Marine Ecosystems**'⁴ that were welcomed by Arctic Council ministers in Rovaniemi in May 2019. '*Value the cultural, social and economic goods and services produced by the ecosystem*' is one of the six elements of the EA framework (Box 2).

What are "values"? In an increasingly connected world, it is more and more the case that cultures with different systems of valuing nature share the same ecosystem. As the EA considers the "comprehensive management of human activities based on best available knowledge...to take action on influences that are critical to the health of the ecosystem...[for] achieving sustainable use... and ecosystem integrity" (Box 1), it must be grounded in an understanding of the diversity of values held for the ecosystem, which informs the meaning of terms such as the ecosystem itself, its health and integrity, sustainable use, best available knowledge and actions considered for management. A prominent issue in the Arctic that needs to be recognized up front is that value systems differ between Indigenous Peoples and more industrialized societies. This difference fundamentally affects the understanding of the relationship between ecosystems and people and hence the objectives of management and the types of knowledge that concern the EA. For example, if the ecosystem is considered a 'home' or a 'garden', and if a community is grounded in an awareness of its direct nutritional, cultural, and spiritual dependency on the ecosystem, it is likely to value nature in a different way compared to communities who regard nature as a resource for creating profit or for economic development.

What is "valuation"? Broadly, valuation is how a culture qualifies and quantifies the values it attaches to things. This means identifying the relative importance of relationships between the individual (or the individual's community) and the many different parts of "nature", "social relations" and "economy" that surround the individual. The valuation task is complex and diverse even within a single culture, as various components of nature are valued by different communities in different ways and for different reasons. Considering values held for nature across cultures with different sets of values, different valuation systems and different institutionalisation of related decision-making processes is an even more complex endeavour.

This workshop will hold conversations about different systems of valuing nature, the relationship between values and valuation, and ways to incorporate values and valuation into the Ecosystem Approach.

³ <http://hdl.handle.net/11374/1927>

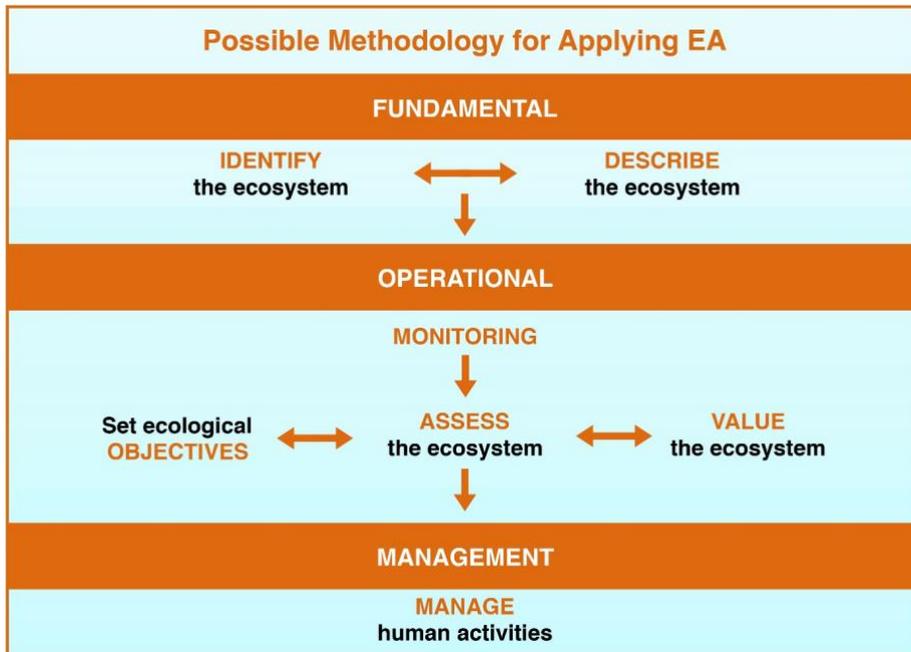
⁴ <http://hdl.handle.net/11374/2390>

Box 2. What is the EA Framework?

The Arctic Council has developed a framework for implementation of the Ecosystem Approach to management of human activities in Arctic marine and coastal environments. The EA framework consists of six related elements:

- 1) Identify the geographic extent of the ecosystem;
- 2) Describe the biological and physical components and processes of the ecosystem including humans;
- 3) Set ecological objectives that define sustainability of the ecosystem;
- 4) Assess the current state of the ecosystem (Integrated Ecosystem Assessment);
- 5) Value the cultural, social and economic goods produced by the ecosystem; and
- 6) Manage human activities to sustain the ecosystem.

While they are numbered, the elements do not necessarily need to be sequential although they are eventually linked in an iterative and adaptive operational management cycle. Monitoring is an essential component of EA as illustrated in the schematic representation of the framework.



Sessions (DRAFT – all comments and suggestions welcome):

Meeting opening. Welcome by workshop leads and Introductions by all participants.

Session 1. Diversity of values

- Indigenous cultures (Storyteller from St. Lawrence Island)
- Local cultures (Storyteller from a fishery city/village)
- Industrialized cultures (Industry leader to be invited to talk about food-security vs nature conservation)
- Ethics and human rights (Speaker on UN Sustainable Development Goals)

Session 2. Diversity of methods of valuation

- Economic sciences
 - The Economics of Ecosystems and Biodiversity ([TEEB](#)) (speaker:... ask CAFF)
 - Non-market valuation (Dan Lew, NOAA AFSC)
- Social sciences
 - Kai Chan, UBC researcher;
 - Kirsten Leong, NOAA PIFSC
- Natural sciences
 - Integrated Ecosystem Assessments (Speaker: Kirstin Holsman, NOAA AFSC)
 - CAFF Biodiversity Assessment (speaker: Cathy Coon)
 - Valuing Marine Ecosystems (Melanie C. Austen, Plymouth Marine Laboratory UK)
- Ethics and human rights
 - Environmental ethics in the IPBES Sustainable Use Assessment (Jake Rice, Canada)
- Interdisciplinary and inter-cultural approaches
 - Bridging different worldviews (Robin Wall Kimmerer)

Session 3. Value and valuation in management

- Speaker: Alf Håkon Hoel (Norway)
- Practical examples of management approaches that incorporate Indigenous cultural values:
 - AEWEC Conflict Avoidance Agreement
 - Shipping lanes development with Indigenous Communities
 - Co-management with nearby communities
 - Indigenous-lead MPAs and OECMs
 - North Pacific Fishery Management Council Bering Sea Fisheries Ecosystem Plan, ITK Task Force (Speakers: Sarah Wise NOAA AFSC, Diana Stram NPFMC)

Workshop products (DRAFT – all comments and suggestions welcome):

- Guidelines indicating how value and valuation can be used to manage human activities in the Arctic in order to maintain ecosystem integrity without compromising human rights.
- A collection of case studies that demonstrate how value and valuation shape human activity and that demonstrate how to integrate different values into EA.
- A PAME statement to be posted on the homepage that acknowledges the importance of cross-cultural valuation that honors ethics and human rights.