

# AOR

ARCTIC OCEAN REVIEW  
PROJECT



**REPORT FROM THE AOR EXPERT WORKSHOP  
IN SUPPORT OF THE AOR PHASE I REPORT**

**WASHINGTON DC  
13-14 SEPTEMBER 2010**



# Report from the AOR Expert Workshop in Support of the AOR Phase I Report

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**Washington DC 13-14 September 2010**

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## 1. Context and objectives

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The AOR Expert Workshop was hosted by the US Government at the facilities of the Consortium for Ocean Leadership. About 50 people participated from academia, Arctic Council member governments, observers, Permanent Participants organizations, and others (see Annex I List of participants).

The workshop was structured around themes representing the main chapters of the draft AOR Phase I Report (13 of August version). where The point of departure was Chapter 2: *The Status of the Arctic marine environment and Emerging Stresses* (see Annex II Workshop agenda)

The main objective of the workshop was to contribute to the development of the AOR Phase I Report, focusing on the following issues:

- The status of the Arctic marine environment and emerging trends
- Status and trends of the major sectoral activities
- The key international instruments, frameworks and measures, and
- Modern management approaches

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## 2. Thematic presentations and Discussions

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The workshop was organized into the following five sessions where experts presented their respective views:.

Session I. Status of the Arctic Marine Environment and Emerging Trends (Chapter 2)

Session II: Offshore Oil and Gas (Chapters 3-4)

Session III: Shipping (Chapters 3-4)

Session IV: Living marine resources (Chapters 3-4)

Session V. Integrated ocean management mechanisms

A final, Session VI: Conclusions - setting the stage for Phase II consisted of a more general discussion, where the invited facilitators (L. Kimball and T. Laughlin) presented the main points emerging from discussions in three breakout sessions, where participants responded to a set of questions prepared and distributed in advance of the meeting (see Annex III questions for breakout sessions). All presentations are posted on the PAME homepage at [www.pame.is](http://www.pame.is)

The keynote address was delivered by Dr Robert Corell (lead coordinator of the Arctic Climate Impact Assessment). He discussed the changing Arctic in light of climate science, trends and dynamics of climatic change and the role of the oceans; ocean acidification and its impacts on marine species; reductions in sea ice extent over the years and the potential petroleum resources that may be opening up in the Arctic; impacts on marine ecosystems and the need for planning of long-term adaptation and implementation actions.

### ***Session I. Status of the Arctic Marine Environment and Emerging Trends***

This session was divided into the following three presentations:

- The status of the Arctic marine environment – John Calder, AMAP Vice-Chair

- State of Science: A View from the Marine Working group of IASC - Sara Bowden, Secretary of the IASC Marine Working Group
- Relevant Science Agreements: Reliability of access for Marine Scientific Research (MSR) to the Arctic Ocean and the possibility of a “MSR Code of Conduct” – Prof. Betsy Baker

### **Status and Trends as presented by experts**

The Arctic marine environment is experiencing unprecedented, multi-dimensional change, with root causes often originating from outside the Arctic. Existing trends towards decline in sea ice, ocean acidification, sea level rise, and reduction in glaciers are likely to continue. Physical, chemical and ecosystem changes are evident and likely to continue and there is a need for the legal/regulatory/policy regimes to evolve accordingly in an effort to counteract these trends.

The number of observations of the Arctic Ocean during the IPY was noted with emphasis on the need for further research and sustained observations in the Arctic. Finally, existing and emerging issues involving science relevant agreements within the context of the AOR Project were addressed.

### **Discussions**

There was considerable discussion on Arctic science and the need to strengthen science and scientific cooperation and the potential for supplemental guidance (non-binding) on MSR access, drawing on elements in bilateral agreements. The role of the Arctic Council in relation to science was also addressed, as were the role and function of existing scientific bodies. The acceleration of Arctic climate change heightened the sense of urgency among participants to establish baseline scientific data and expand biological monitoring networks for a wide range of resources and species.

### ***Session II: Offshore Oil and Gas***

This session focused on identifying the existing and emerging issues of petroleum-related activities in the Arctic, with particular attention to the environmental vulnerabilities and effects and was divided into the following two presentations:

- Oil and Gas Activities in the Arctic: Effects and Potential Effects – Dennis Thurston
- Existing and Emerging issues - Vulnerability and potential effects/impacts – Hein-Rune Skjoldal

### **Status and Trends as presented by experts**

Both presentations were based the findings of the AMAP Oil and Gas Assessment and addressed oil spills in ice and its potentially large ecological impact. It was pointed out that resource estimates are significant, but resources are mostly offshore and expensive to develop. Given the depletion of global hydrocarbon reserves, there is an expected trend for increased development, with its feasibility being influenced by the economic, regulatory and policy environments. Most near future developments will likely result in basic research as opposed to large scale development, and conducted within ice free areas under national jurisdiction.

### **Discussion**

Attention was given to oil spills and their prevention and potential cleanup needs. Prevention was noted a the key focus, rather than cleaning up, as managing oil spills in icy waters is significantly more challenging than in warmer latitudes. Ongoing knowledge on national practices can identify elements that have the possibility of contributing to harmonized approaches in the implementation

of the Arctic Council Oil and Gas Guidelines. It was noted that greater linkages and synergies need to be addressed among existing relevant agreements. EPPR plays a central role in identifying risk assessment approaches and gap analysis for the Arctic. There is a need to define the location of oil and gas activity in relation to sensitive areas in order to avoid adverse impacts.

### ***Session III: Shipping***

This session focused on the findings of the Arctic Marine Shipping Assessment (AMSA) and existing and emerging issues in relevant international agreements and was divided into the following two presentations: . .

- Arctic Marine Shipping Assessment: The Way Forward - Dr. Lawson W. Brigham
- The Governance of Arctic Marine Shipping: Breaking Ice, Sea of Challenges - Prof. David L. VanderZwaag

### **Status and trends as presented by experts**

Arctic states are taking actions to respond to the AMSA recommendations and important ones such as making mandatory the IMO Guidelines for ships operating in ice-covered waters, are progressing faster than many would have predicted. However, significant gaps persist such as a lack of charting, strong and consistently applied standards/training for operators (e.g. ice navigators, pilots, etc.) and the marine tourism industry.

### **Discussion**

It was pointed out that a mandatory Polar Code will need vigorous means to ensure compliance. Also in relation to shipping there is a need to examine linkages, such as the work under EPPR, identification of vulnerable and sensitive areas, and the on-going work on a search and rescue agreement.

### ***Session IV: Living marine resources***

This session was divided into the following two presentations:

- The status of living marine resources in relation to climate – Dr. Harald Loeng
- Relevant Agreements: Existing and Emerging issues – Prof. Ted L. McDorman

### **Status and trends as presented by experts**

It was pointed out that the central Arctic Ocean is a deep ocean and therefore not likely to sustain demersal fisheries, even in the absence of ice. Also the complexity of the issue and difficulty of predictions was emphasized. Presenters indicated that there is considerable uncertainty regarding how organisms will adapt to climate change, including its effect on predator-prey relations and how the migration of species may disrupt ecosystem balances. As to international agreements, it was stated that this is not an issue of urgency because the prospect of an international commercial fisheries is unlikely and fisheries will mostly be limited to within 200nm zones. In general, the presenters felt there are more immediate priorities for the arctic marine environment.

### **Discussion**

It was suggested that the AOR also include aboriginal whaling, birds, and highlight the numerous bilateral agreements that exist in this field. Linkages to the identification of sensitive and culturally significant areas were raised. Furthermore, some noted that the AOR Report may wish to emphasize

that scientific work on marine living resources in the Arctic marine environment is an important part of monitoring the Arctic marine environment and in the field of ecosystem management.

### ***Session V. Integrated ocean management mechanisms***

Session V on integrated oceans management saw three presentations addressing status, trends and measures within and across sectors, including indigenous concerns.

- Integrated Ocean Management in the Arctic Ocean Review – Mr. Brooks Yeager
- NEAFC – A RFMO in the North East Atlantic - Kjartan Hoydal, NEAFC Secretary
- Status of the Indigenous Marine Environment in the Arctic – Camilla Brattland Saami Council

### **Status and trends as presented by experts**

There are numerous international soft law agreements that mandate action in this area. Ecosystem-based oceans management has been on the agenda for more than 30 years, and there is a need to move to implementation. Units for ecosystem-based oceans management has to be defined by ecological criteria. There has been a diversity of experiences at incorporating ecosystem approaches into fishery management plans.

### **Discussion**

Needs for monitoring and assessment for operational and science needs, identification of sensitive areas and areas of cultural significance, a possible survey of indigenous marine use areas subject to impacts from shipping and other activities, and a possible inventory of shipping infrastructure in the Arctic were discussed. Linkages to activities in other Arctic Council working groups as well as possible measures were identified. It was suggested that an alternate or complimentary approach of area or place-based management might be more immediately amenable to ecosystem objectives, despite challenges related to data gaps and complexities in some areas concerning decision making authority. During the session, some creative ideas were raised concerning strategies for scientific cooperation and transboundary planning, which could potentially be facilitated by the Arctic Council.

### ***Session VI: Conclusions - setting the stage for AOR Phase II***

The final session summarized the main outcomes from the three break-out sessions. In presenting the main points of the discussion, the facilitators identified a number of issues, including domestic efforts, inspiration to be drawn from on-going efforts at integrated oceans management (Nordic, EU, IUCN), and the use of Large Marine Ecosystems (LMEs).

In relation to ecosystem-based ocean management (and assessment), it was pointed out that it can be useful to consider practical next steps, taking into account urgency of growth of some activities, notably shipping. Coordinated, compatible, interoperable monitoring programs providing for data exchange/cooperation mechanisms are needed. Integrated assessment (sectors, ecosystem components; environmental, economic and social aspects) should, where they do not exist, be developed and, where appropriate, designed to contribute to the Regular Process under the UN auspices. The identification of key habitat, features, species and mechanisms for area protection was also addressed as were the need for harmonized approaches and transboundary agreements for transboundary activities, stocks and species. Existing bilateral agreements (oil and gas, marine species, science/MSR access) can be further developed. The question was also raised of the role of Arctic Council in these respects. How can it in a practical way build on national efforts to supplement and advance integrated oceans management in the Arctic?

Another general aspect of the discussions was that many observations, while true in some parts of the Arctic, are not so for the entire region. This reflects the diversity of the Arctic, with a wide variety of ecosystems and governance systems at various levels, which often make generalizations difficult. Some participants noted the need to better consolidate the development of the AOR Phase with other Arctic Council working groups, in particular as it pertains Chapter 2.

### **Next Steps**

The AOR leads will develop the Phase II AOR project plan to be distributed for comments for the PAME I -2011 meeting (tentative early February) parallel to finalizing the AOR Phase I Report for submission to the 2011 Ministerial meeting. Section 4 below does set forth the methods of inclusion/exclusion of comments received.

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## **3. Summary of Comments**

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Below is a summary of comments received from the workshop without any prejudgment of inclusion or exclusion into the AOR Project.

### **Chapter 2 - Status of the Arctic Marine Environment**

Discussions included comments such as:

- Emphasize pan-Arctic trends and take into account regional diversity of the region i.e. local vs. pan-Arctic perspectives.
- Highlight the most important change within the main economic sectors and its respective impacts.
- Include additional information on monitoring and observing networks in the Arctic as they relate to science and assessment needs (e.g. integrated assessments).
- Consider changes in the Arctic marine environment in the context of local and indigenous health and economics.

### **Chapters 3 and 4: Global and Regional Agreements and Instruments**

Discussions included comments such as:

- Describe the linkages between instruments of relevance to the Arctic.
- Make levels of detail within respective sub-sections comparable and streamline content.
- Include relevant instruments, institutions and processes at the bilateral level and make connections to multilateral instruments.
- Separate Integrated Oceans Management from Chapter 4 to become a stand alone Chapter 5.

### **New Chapter 5: Integrated Ocean Management**

Discussions included comments such as:

- Describe the range of assessments and instruments both globally and regionally in a more integrated manner, from both the view point of operational aspects and science.
- Include spatial approaches and policies such as marine spatial planning, Large Marine Ecosystems (LMEs), EU marine strategy and Nordic policy-oriented approaches.

### **New Chapter 6: Conclusions**

A final concluding chapter was not part of the AOR workshop as the input received at the workshop was needed to inform such a chapter, which will describe the legal and management context for the Arctic Marine Environment and suggest possible areas of focus for Phase II of the AOR. The first draft of the conclusions, to be prepared by the AOR lead countries, will be included in the next version of the AOR Phase I Report.

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## **4. Next steps – Context of the AOR Project**

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The workshop provided an overview of the key issues as presented within a thematic approach coinciding with the chapters of the draft AOR Phase I Report. The presentations were of high quality, representing an advanced understanding of the issues at hand and providing an important input to the AOR process and guidance to the lead countries in further developments of the AOR Project.

The discussions provided many useful suggestions, both from a practical level on improving the text, to a more conceptual level by e.g. introducing new ideas, content and concerns. The leads will consider all inputs and decide on inclusion/exclusion based on the overall mandate of the AOR project. Such decisions will be based on the following three categories:

- 1) within the scope of the AOR Project and relevant for discussion and possible inclusion in AOR Phase I Report
- 2) outside the scope of the AOR Phase I, but relevant for discussion and possible inclusion in AOR Phase II
- 3) outside the overall mandate and scope of the AOR Project and will therefore not be taken any further.

## ANNEX I – List of Participants

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## ANNEX II – AOR Workshop Agenda

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Monday 13<sup>th</sup> of September

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**08:30-09:00**

**Registration and Refreshments**

**09:00-09:30**

**Opening of the Workshop**

- Overview of project and process (Canada)
- Presentation of the draft AOR Report (Canada)
- Introduction of participants

**09:30-09:50**

***Keynote Address: Dr. Robert W. Corell, Director of the Global Change Program at the H. John Heinz III Center for Science, Economics and the Environment***

**09:50-11:30**

**Session I. Status of the Arctic Marine Environment and Emerging Trends (Chapter 2)**

- The status of the Arctic marine environment (15 min) – John Calder, AMAP Vice-Chair
- Status of Science (15 min) - Sara Bowden, Secretary of the IASC Marine Working Group
- Relevant Science Agreements - Existing and Emerging issues (15 min) – Prof. Betsy Baker
- Questions (10 min)

**10:45-11:10 - Coffee Break**

**Session II: Offshore Oil and Gas (Chapters 3-6)**

- Status of offshore oil and gas activities in the Arctic (15 min) – Dennis Thurston
- Existing and Emerging issues - Vulnerability and potential effects/impacts (15 min) – Hein-Rune Skjoldal
- Questions (10 min)

**11:50-12:50**

➤ **Breakout groups for Sessions I and II**

➤ Facilitators: Lee Kimball and Tom Laughlin

**13:00-14:00 – Lunch Break**

**14:00-15:30**

**Session III: Shipping (Chapters 3-6)**

- Status of Shipping in the Arctic (15 min) - Dr. Lawson W. Brigham
- Relevant Agreements - Existing and Emerging issues (15 min) - Prof. David L. VanderZwaag
- Questions (10 min)

**Session IV: Living marine resources (Chapters 3-6)**

- The status of living marine resources (15 min) – Dr. Harald Loeng
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- Relevant Agreements - Existing and Emerging issues (15 min) – Prof. Ted L. McDorman
- Questions (10 min)

**15:30-16:00 Coffee Break**

**16:00-17:00**

- **Breakout groups for Sessions III and IV**
- Facilitators: Lee Kimball and Tom Laughlin

**Tuesday 14<sup>th</sup> of September**

**09:00-10:00**

**Session V. Integrated ocean management mechanisms**

- Status, trends and measures within and across sectors (15 min) – Mr. Brooks Yeager
- Status, trends and measures within and across sectors (15 min) - Kjartan Hoydal, NEAFC Secretary
- Status, trends and measures within and across sectors (15 min) – Camilla Brattland Saami Council
- Questions (15 min)

**10:00-10:20 Coffee Break**

**10:20-11:20**

- **Breakout groups for Session V**
- Facilitators: Lee Kimball and Tom Laughlin

**11:20-12:00**

**Session VI: Conclusions - setting the stage for Phase II (Chapter 7)**

- Summary from facilitators from Sessions I-V (15 min)
- Discussions (15 min)
- Wrap-up and Next steps (AOR Leads)

**Close of Workshop at 12:00**

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## ANNEX III – Questions for the Breakout Sessions

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### *Purpose of workshop*

To review the status and trends of the arctic marine environment (AME), and the relevant governance context; and, in doing so contribute to the development of the phase 1 report of the Arctic Ocean Review.

### *Questions for the breakout groups*

#### **Session I:**

- 1) In view of changes in the arctic marine environment in recent years (~ 20 yrs) and the growing rate of change, what do you think will be the most significant changes (environmental, economic, socio-cultural). in the near term (~ 20 yrs) and why?
- 2) How will these changes affect growing information/knowledge needs and priority-setting? What are the implications for existing arrangements to meet information/knowledge needs?

#### **Sessions II, III and IV:**

- 3) With regard to the current mixture of global and regional legal instruments, regulatory frameworks and cooperative arrangements
  - (a) Are there areas of overlap or redundancy?
  - (b) Are there linkages where coordinated approaches could be further developed?
  - (c) Are there thematic issues or geographic coverage that could be further developed or supplemented?
  - (d) Are there aspects or elements that could be strengthened or refined?  
(e.g. monitoring/compliance/reporting)
  - (e) Is more arctic-specific planning and norm/guideline development needed; if so, with respect to what activities?
- 4) To what degree are development/sectoral activities taking account of changes, trends and new information related to the Arctic marine environment, and employing modern management approaches? Which ones? (e.g. ecosystem, market-based, etc.) Does this need to be improved? How?

#### **Sessions V and VI:**

- 5) Are there obstacles to implementing an integrated, ecosystem-based ocean management approach? How can these be addressed? What are the lessons learned? What are some constructive next steps?
  - 6) What is the value-added of a multilateral regional approach for the AME?
    - (a) How can this approach be strengthened/advanced?
    - (b) How to ensure that this approach is informed by timely and credible science?
    - (c) What is the role of the Arctic Council, states, and arctic inhabitants/communities?
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# PAME

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Photos on the front cover by Ingrid Berthinussen, Norway.