

PAME II-2019 Reykjavik

Agenda item 8 – Ecosystem Approach to  
Management

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# Agenda

1. 2<sup>nd</sup> International EA Conference, Bergen, June 2019 (Agenda 8.1 a)
2. 7<sup>th</sup> EA workshop in 2020 (Agenda 8.1 b)
3. Report on Ecological Objectives (Agenda 8.1 c)
4. Integrated Ecosystem Assessment of the Central Arctic Ocean (Joint WGICA) (Agenda 8.2)
5. Other EA-relevant activities (Agenda 8.1 d)

## Two documents

1. Annotations to the EA agenda point 8
2. Report from the Bergen Conference

# EA-EG – Brief history

- Established **2007**, joint group in 2011
- **6 workshops** 2011-2018
- Two international conferences – 2016 and 2019
- 18 Arctic **LMEs**
- **EA framework** with 6 elements
- EA **guidelines** – Rovaniemi May 2019
- Report ‘Status of EA implementation in the Arctic’ 2017
- Report ‘EA guidelines’ 2019

# 7th EA workshop on 'values and valuation'

- Work plan item: Convening of the 7th EA Workshop in 2020 with a focus on element No. 5 of the EA framework: Value the cultural, social, and economic goods and services produced by the ecosystems
- Draft workshop prospectus
- Venue and time are to be decided
- Late spring or autumn 2020, up north?
- Agreement by PAME on objectives and scope of workshop
- Planning group to develop workshop program

# Element 'Value ecosystem goods and services'

- 'Taking the **full economic picture** of human developments into account, including the downside in the form of **costs associated with environmental degradation and loss of biodiversity**, is an important part of what has been called 'greening of the economy'. On the other hand, there are **spiritual (religious) and cultural values** that perhaps should not be equated with money, but which nevertheless need to be brought into the 'equation' when options for future development are considered.'
- 'The **basic value systems** may differ substantially between Indigenous Peoples and 'western' societies, which needs to be recognized up front.'
- EA guidelines – '**scoping study** on Arctic ecosystem services and values using the Economics of Ecosystems and Biodiversity (**TEEB**) approach and methodology' (CAFF, UNEP, WWF).

# 7th EA workshop - Objectives

- Explore the **relation** between the fundament of **cultural and social values** and the **issue of valuation** of ecosystem goods and services.
- Consider the compatibility and approaches to deal with **monetary** and **other, non-monetary values** (e.g. cultural and spiritual).
- Identify **next steps** for work on the element of valuation in the Ecosystem Approach framework.

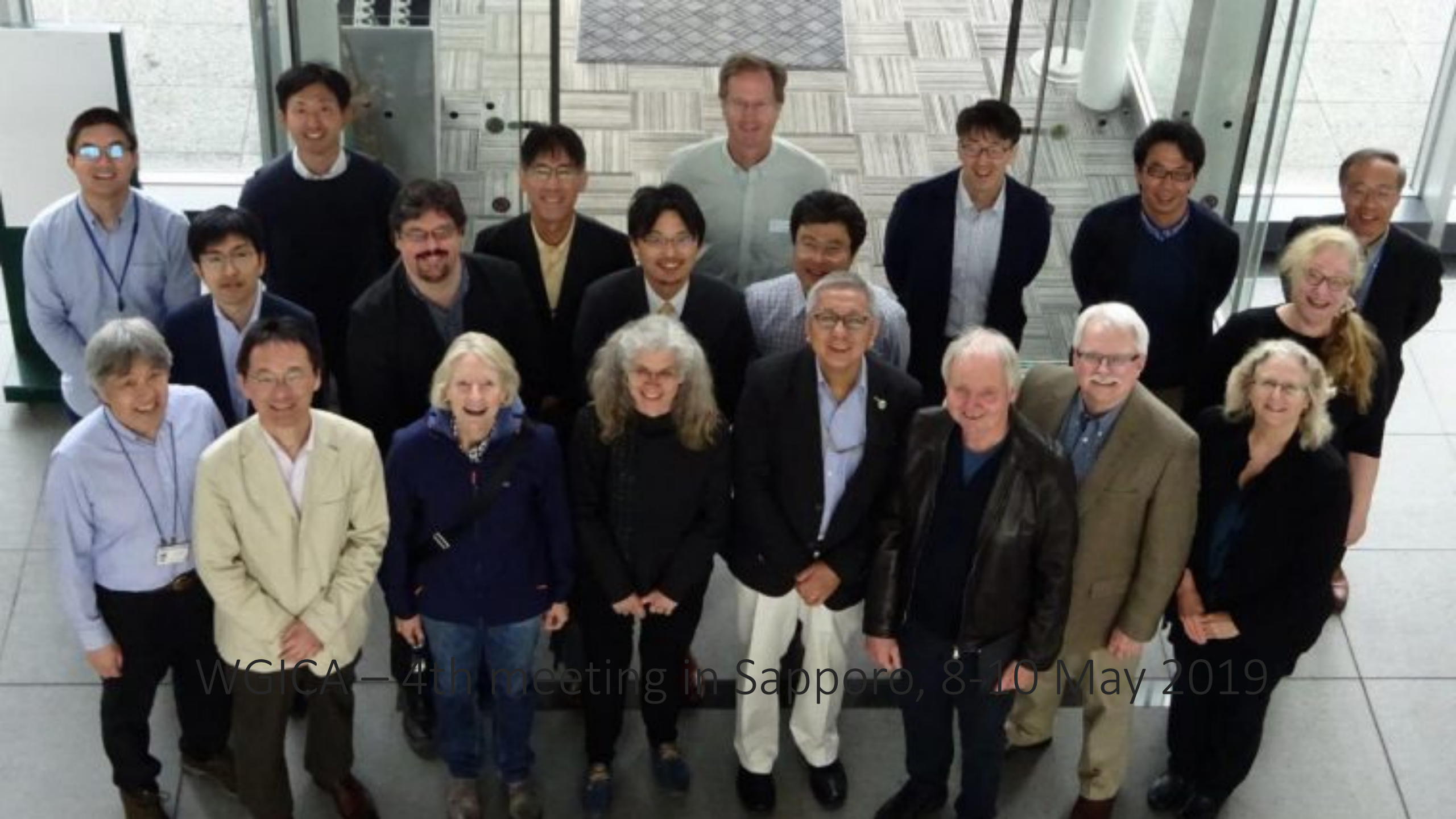
# Report on ecological objectives

- Ecological objectives vs Ecological Quality Objectives (EcoQOs)
- Status report on setting ecological objectives was on the 2015-2017 work plan. Topic of 5th EA workshop in Bergen. Report was dropped because of 'conceptual difficulties'.
- Brought back on the 2019-2021 work plan: 'Report on development in defining or setting Ecological Objectives'
- Planning phase – two main parts of report
  - Concepts and terminology
  - Experiences (e.g. EU MSFD)
- EA co-leads produce an extended outline by 1 December
- Nomination of experts by PAME delegates and others by 20 December

# WGICA – Joint working group on CAO

- ICES/PICES/PAME Working Group on Integrated Ecosystem Assessment of the Central Arctic Ocean – WGICA
- 2015 – Scoping workshop, Bergen 2015
- 2016-2018 – First 3-year period of work with 3 meetings of WGICA (Copenhagen, Seattle, St. John's)
- Report – 'Integrated Ecosystem Assessment of the Central Arctic Ocean: Ecosystem description and vulnerability characterization'
- Final stages of preparation and review
- ICES Cooperative Research Report, including peer review and technical editing





WGICA – 4th meeting in Sapporo, 8-10 May 2019

# New Terms of Reference (ToRs) for 2019-2021

- Review and consider **approaches and methodologies** for conducting an IEA of the CAO ecosystem.
- Review and report on **ongoing and recent changes and events** in the CAO ecosystem associated with changes such as in sea ice, oceanographic circulation, and hydrographic properties.
- Continue to examine **effects of climate change on the CAO ecosystem** by compiling and reviewing information on changes in response to the ongoing '**Great melt**', and assess likely consequences to the CAO ecosystem of projected future changes associated with further loss of sea ice and other climate-related changes (i.e. a climate impact assessment).
- Assess the consequences of recent and ongoing climatic and oceanographic changes on **transport pathways** (physical and biological) and potential **effects of contaminants** in the CAO ecosystem.

# New ToRs cont'd

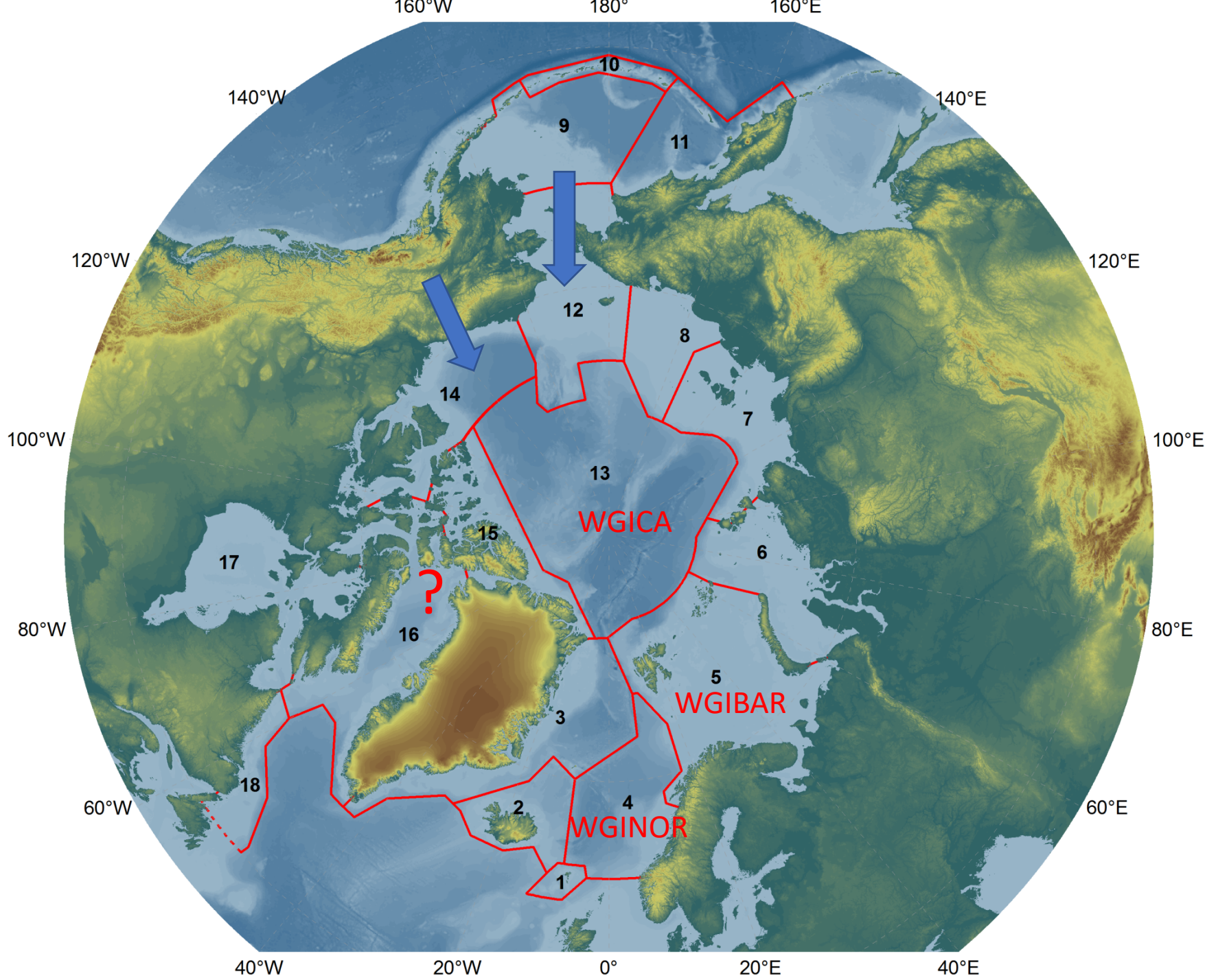
- Review and report on **new studies on fish** as well as other biological components of the CAO ecosystem.
- Continue to identify **priority research needs** and monitor how identified knowledge gaps (needed to improve IEA and management effectiveness) are being addressed and filled.
- Prepare an **Ecosystem Overview** for the CAO ecosystem.

# 2nd IEA report for the CAO

- 2019-2021
- First report – Ecosystem description and vulnerability characterization
- Second report – more emphasis on impacts of human activities
  - Climate change
  - Pollution
  - Shipping
  - Fisheries

# Other EA items – agenda 8.1 d

- PICES-2019 Annual Meeting, Victoria BC, Canada, 16-27 October
- Workshop 17 – **Scoping an IEA of the Northern Bering-Chukchi Seas LME.**
- Convenors: Libby Logerwell, Kirstin Holsman, Raychelle Daniel, and Yutaka Watanuki
- Workshop 7 – PICES contribution to Central Arctic Ocean (CAO) ecosystem assessment
- Invited speaker: Elena Eriksen, co-chair of ICES WGIBAR



**Criteria:**  
Bathymetry  
Oceanography  
Productivity  
Trophic linkages

18 Arctic  
Large Marine  
Ecosystems -  
LMEs

# Arctic Oil and Gas 2007



Arctic Council  
**Arctic Marine Shipping  
Assessment 2009 Report**



AMAP

## ASSESSMENT 2007

*Oil and Gas Activities in the Arctic –  
Effects and Potential Effects*

Volume One

# 1



## Identification of Arctic marine areas of heightened ecological and cultural significance:

### Arctic Marine Shipping Assessment (AMSA) IIc



# Description of Arctic species and LMEs

- H.R. Skjoldal et al.
- Descriptions of Arctic marine species and ecosystems – baseline information for assessments of impacts of climate change and human activities. Arctic Monitoring and Assessment Programme (AMAP) and Institute of Marine Research, Norway.
- Part I – General, pan-Arctic
- Chapters on Oceanography, plankton, benthos, fish, birds, mammals
- Part II – Arctic LMEs
- Sections on geography/topography, oceanography, plankton, benthos, fish, birds, mammals
- All species of mammals and birds, most species of fish, main species of benthos and plankton





*“Our future is now”*  
Fred Phillip