

CHAPTER 3: INTERNATIONAL REGULATORY FRAMEWORKS APPLICABLE TO THE ARCTIC

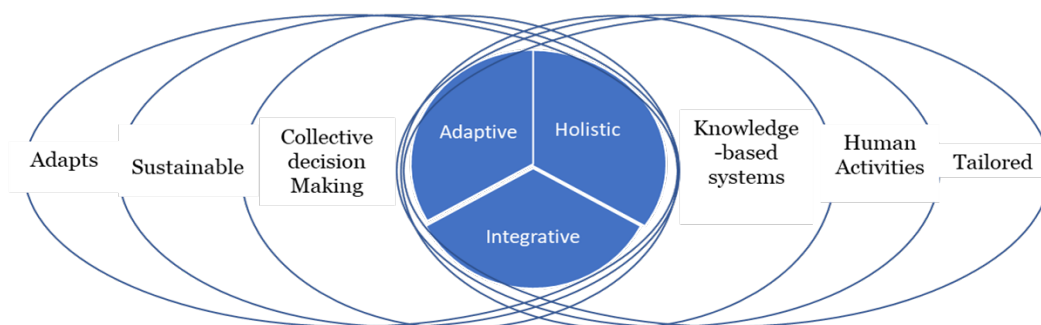
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An Ecosystem-based Approach to Arctic Governance

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An ecosystem is a complex network of interconnected natural systems in which biological organisms – animal and plants – interact with a given physical environment; it can be seen as a “bubble of life”. The Arctic is a geographical space with a unique ecosystem. This space is currently under immense pressure from the impacts of climate change and other stressors, such as marine pollution from discharge of oil and toxic chemicals, biodiversity loss and the introduction of invasive species. Strategies for governing the Arctic should consider the subtle relationship that exists among all the region’s living species and the physical processes shaping their environment. In particular, any form of governance must take into account the changes occurring in that environment: temperatures are rising; ocean currents are shifting; and ice is melting. The primary goal of such strategies is to establish a healthy, productive and resilient ecosystem, one that thrives while providing services which meet human needs sustainably. Ecosystem-based management (EBM) refers to a formula where human activities are integrated into the management mechanism. It is a holistic scheme that draws on the knowledge about ecosystems and the stressors influencing them. In the Arctic, the EBM approach has been found to suit the region best because of its complex, sensitive, cold-adaptive and fragile ecosystem services.

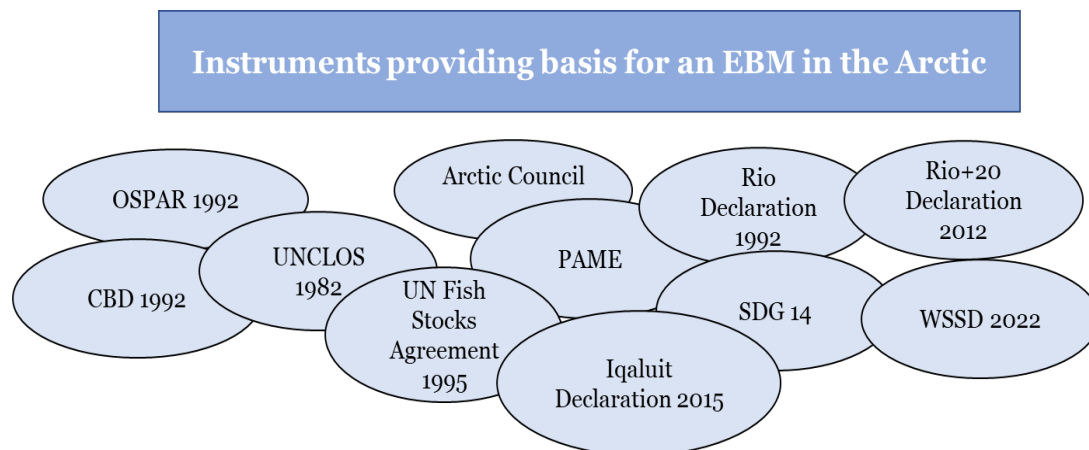
Eco-system Based Management Approach



Applying EBM would mean taking the totality of impacts on the Arctic ecosystem into account in the region's governance mechanism. It is a "collaborative" management technique which can be instrumental in preserving biodiversity and the natural environment and, at the same time, making an effort to limit human activity in pristine areas. There is no commonly agreed definition of what an EBM encompasses. The Arctic Council – a club of eight Arctic States – conceptualizes the approach as comprehensive and integrated management of human activities supported by best available science and traditional knowledge about the health of the ecosystem and its dynamics. Fundamentally, the EBM approach is a flexible and adaptive tool, as it responds to the dynamic state of existing knowledge and evolves as that knowledge evolves. It makes it possible to assess the future needs of the region in relation to its natural resources. Several other conceptions of EBM can be seen at work in practice, especially in the management of marine areas: integrated oceans management, demarcation of marine protected areas (MPAs), marine spatial planning (MSP), identification of large marine ecosystems (LMEs) and ocean zoning. All of these frameworks offer an integrated approach to preventing marine environmental pollution by regulating human activities. In sum, they are tools for managing the full range of human activities to respond to the dynamic behavior of marine ecosystems.

Several international instruments have recognized, and endorsed, EBM in their structures. Although the normative significance of most of these instruments reflects the soft-law spirit, hard-law mechanisms can be found that impose strict legal obligations. For example, the Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR, 1992) regulates human activities along the lines of EBM. OSPAR institutes protective, conservation, restorative or precautionary measures for the purpose of safeguarding species, habitats, ecosystems or ecological processes in the marine environment. In creating MPAs, one of which is located in the High Sea in the North-East Atlantic marine area, the Convention applies to part of the Arctic Ocean. The basis for creating an MPA is found in the processes set out in the Convention on Biological Diversity (CBD) in combination with the provisions of the UN Convention on the Law of the Sea of 1982. The parties to the OSPAR Convention incur a legal obligation to comply with rules applicable to MPAs created by the Convention. Today, EBM has become fundamental to the work of the Arctic Council,

especially that on ocean management. Council-initiated soft-law mechanisms have highlighted the need for the development of MPA networks. For example, in 2015 the working group Protection of Arctic Marine Environment (PAME) released a framework for a Pan-Arctic Network of Marine Protected Areas, highlighting its contribution to EBM.



Several other instruments can be seen as embracing an EBM approach as well. The Rio Declaration of 1992, the Rio+20 outcome – the Future We Want – of 2012, and the Johannesburg Plan of Implementation from the World Summit on Sustainable Development (WSSD) of 2022 all refer to EBM, underlining its importance.

There are multiple drivers and factors to consider in an EBM approach for the Arctic that interact with biophysical, socio-economic and political conditions. Rising temperatures and melting ice sheets – sources of substantial uncertainty in local communities – are some of the major biophysical and socio-economic drivers of change in the region. The Arctic marine environment is wide-ranging and hosts economic activities by a variety of actors. This diversity urges the adoption of EBM as a coherent regional approach. Indeed, it has been submitted that an integrated approach, such as EBM, is a suitable mechanism for maintaining the Arctic’s pristine environment and eco-system services. This is a particularly cogent argument in the case of marine areas, given that the Arctic as a physical space extends over several jurisdictions and national boundaries, including the central Arctic Ocean – an area beyond national jurisdictions. Recognizing the value of an EBM approach, the Arctic Council’s Iqaluit Declaration of 2015 acknowledged that the Arctic environment needs

management embodying such approach. The Declaration provided crucial impetus for developing guidelines to apply EBM in the region.

The project Best Practices in Ecosystem-based Oceans Management, carried out by Arctic Council working groups, such as PAME and SDWG, has put forward six principles for successful implementation of EBM in the Arctic: (i) flexible application, (ii) integrated and science-based decision-making, (iii) commitment to ecosystem-based oceans management, (iv) area-based approaches and transboundary perspectives, (v) stakeholder participation, and (vi) adaptive management. These were derived from work observing the best practices in ecosystem-based ocean management in the Arctic countries. These practices serve as encouraging examples of well-informed protection for the Arctic marine environment.

For more on this, read...

Wienrich N and Others, 'The ecosystem approach to marine management in the Arctic: Opportunities and challenges for integration' (2022) 9 *Frontiers in Marine Science* 1 <https://doi.org/10.3389/fmars.2022.1034510>

