



## **POLICY OPTIONS FOR ARCTIC ENVIRONMENTAL GOVERNANCE**

**Prepared by the Environmental Governance Working Group**

### **Co-Chairs**

**Dr. Stuart Chapin**, University of Alaska at Fairbanks

**Dr. Neil Hamilton**, WWF-Arctic International Program

**5 March 2009**

### **Background**

The expansion of economic activity under conditions of environmental change poses new challenges for the entire Arctic region and the world. Access to open water across the Arctic Ocean is awakening interest from the energy, shipping, fishing, and tourism industries. Each of these globally important commercial activities, if not properly regulated, poses risks that together will be amplified in the confined Arctic Ocean. Due to rapidly changing conditions and to inadequate baseline data regarding the dynamics of Arctic marine ecosystems, many vulnerabilities and potential consequences of anthropogenic impacts are poorly understood or unknown. Furthermore, increased resource use threatens the sustainable livelihoods of indigenous peoples who depend on the environment and marine resources. Rapid change also provides opportunities to shape ecological, cultural and economic changes to meet society's needs

Though recent press highlights the potential for disagreement among Arctic nations over claims to land area and resources, there is much common agreement regarding Arctic governance and many common interests among Arctic states.

The EU and the U.S. both recently released important statements regarding their Arctic policies. In November 2008, the European Commission issued its Arctic Communication, which laid out EU policy objectives in a number of different areas, including environmental protection, indigenous peoples, sustainable use of resources, and international governance options. The January 2009 Presidential Directive on Arctic Region Policy outlined a similar set of issues, with the notable addition of U.S. security interests. The policy statements were remarkable in their level of agreement, with clear areas for potential policy cooperation.

Areas of agreement included the following:

- Both affirmed their commitment to the extensive law of the sea framework already in place.

- Both indicated a preference for working within existing institutions and frameworks rather than creating a new overarching governance regime, though they both indicated a willingness to modify some of these frameworks to adapt to new conditions in the Arctic.
- Both recognized the threats posed to indigenous communities by rapid environmental change and poorly regulated economic expansion and supported efforts to include indigenous peoples in the decisions that affect them.
- Both indicated a commitment to greater cooperation in scientific research and monitoring.
- Both highlighted the need for greater coordination on matters of safety and emergency response.

The EU and U.S. also agree that any governance regime in the marine Arctic should be informed by the principles of ecosystem-based management. The Arctic Communication states that “holistic, ecosystem-based management of human activities” should complement any efforts to mitigate and adapt to the changes in the Arctic caused by climate change. Similarly, the U.S. Presidential Directive clearly states that the relevant executive agencies should “Pursue marine ecosystem-based management in the Arctic.” Both the EU and the U.S. have experience with ecosystem-based management regimes within their own maritime zones and could push for its wider application in transboundary Arctic marine governance of Large Marine Ecosystems and the Arctic Ocean.

### Arctic marine environment

The environmental conditions of the Arctic are unique, with extreme variations in light and temperature. Ecological structures and functions in the region are threatened by a decrease in the maximum extent of summer sea ice and rising average air and sea surface temperatures. These trends may be amplified by a number of feedback mechanisms that scientists are just beginning to understand, such as changing surface albedo, as well as additional carbon release from melting permafrost. The coastal zone and continental shelves, where most economic activity is concentrated, is the most sensitive to adverse impacts of human activity both within the Arctic Ocean and on adjacent lands. Low temperatures and little sunlight slow down the evaporation of toxic components as well as the physical, chemical and biological breakdown of pollutants.

Arctic species and ecosystems are delicately balanced in this unique and extreme environment. In general, the terrestrial and marine ecosystems are relatively simple, so disruption of one link in the food chain – for instance, through over-exploitation – could severely affect the rest of the system. The Arctic also serves as a reservoir, or a sink, for many hazardous substances generated and discharged elsewhere and provides a wealth of ecosystem services not only for Arctic nations but for the world. Thus the Arctic plays several important roles in the global system.

Beyond the biophysical environment, the Arctic is also geopolitically unique. It is an almost enclosed ocean basin surrounded by land. Most of the ocean is sovereign territory of the five arctic coastal states (USA, Canada, Denmark (Greenland), Norway, and Russia) or is part of their exclusive economic zones. The centre of the Arctic Ocean (in addition to a few other pockets around its perimeter) is, and will remain, ‘high seas’—de facto international space—and therefore attracts interest from a wide variety of interested nations beyond the arctic borders. However, an environmental governance regime specifically for the high seas in the Arctic Ocean has not been

established. The deep seabed in the Arctic Ocean is also the common heritage of mankind, administered by the International Sea-Bed Authority.

### **Opportunity for international collaboration**

Arctic governance strategies could build upon and set precedents for effective environmental governance frameworks throughout the world. The fact that the Arctic Ocean is a central component in the global climate crisis provokes the need to identify and protect common interests in the Arctic, which might include environmental protection, peace and security, science for progress, and indigenous livelihoods. The emergence of a new ocean area for human use is a tremendous opportunity to learn from past experience and establish an effective regional and international governance regime.

While sector-specific policies are critical for managing fishing, hydrocarbon, and shipping activities, a holistic, ecosystem-based management approach is necessary to ensure that adequate environmental safeguards are established in the marine Arctic. The development of such an approach is fundamentally international in nature and should be based on a system of international principles, standards and rules that addresses the interactions and interdependencies among countries, stakeholders and institutions in the context of climate change.

### **Analysis of policy shortcomings**

Environmental governance in the marine Arctic is characterised by a patchwork of rules and institutions that reflects the mix of national jurisdictions and international space in the region, as well as its historical realities. There is currently no governance body specifically mandated to adopt and enforce legally binding rules for the marine Arctic. The primary arctic institution—the Arctic Council—does not have the mandate to develop or impose legally binding obligations on its participants, but rather was intended to be an advisory body. This means that the legal capacities for environmental governance currently lie primarily in the hands of the Arctic states themselves and any bilateral and multilateral initiatives they might undertake. There is an absence of an overall policy setting process, as well as gaps in participation and geographical scope. While some sector- and region-specific forms of co-operation do exist, they are often voluntary in nature and may be slow to address emerging issues. There is still no network of marine protected areas established in the Arctic, as well as a lack of regulatory instruments such as transboundary environmental impact assessment (EIA). Save for some co-operation among governing bodies regarding the Atlantic portion of the Arctic, there is also a lack of integrated, cross-sectoral, ecosystem-based management.

The current governance systems are thus not set up to manage for resilience in the face of the uncertain but inevitable and rapid changes that are occurring in the region. There is a high risk that a ‘business as usual’ approach will be the likely default position regarding both national and international waters. Though there is more urgency now, and less time to respond, our ability to establish adaptive management systems is greater now than it was 20 years ago.

### **Policy pathways**

As useful as it is to consider a set of policy options, it is perhaps even more appropriate to approach environmental governance in terms of policy pathways. The idea of pathways specifically allows for an adaptive management approach and an evolution of policy over time. Especially in the face of so much uncertainty, there is a need to adopt a precautionary approach

regarding the Arctic environment. For example, a pathway approach could enable a precautionary beginning to environmental protection (e.g. moratoriums on certain activities in specific regions) and then (where warranted by the evidence) a gradual easing of environmental restrictions. Thinking in terms of pathways also encourages a plurality of approaches within and among the governing institutions involved, hopefully informed by a shared set of principles and improved through dialogue on emerging best practices. Pathways can emerge, diverge and merge as needed.

Naturally, sector-based regulation is a necessary component of environmental protection. These sectoral issues are covered in the related policy-options papers developed by the other Arctic TRANSFORM working groups. For this reason, this particular paper focuses on policy options specific to cross-sectoral environmental governance. Though this paper also focuses on the marine environment specifically—as is the remit of the Arctic TRANSFORM project—it should be stressed that the terrestrial and marine ecosystems are interconnected and that governance approaches should take these interactions and interdependencies into account. Fortunately, the set of policy tools and principles can apply to both land and sea.

There are several components of a multi-pronged approach that need to be further developed to improve environmental governance at the local, national, bilateral and international scales. These approaches include those that are currently underway through sector-based approaches, nation-based approaches, and multi-lateral approaches as well as the potential development of a new set of instruments to improve multi-lateral cooperation. This section briefly identifies and discusses a set of core principles that are essential to an effective environmental governance approach, outlines the actors and institutions involved in governance, and outlines some mechanisms that could be components of pathways to improved Arctic governance.

There is little political support for an Arctic Treaty, as mentioned in recent policy statements by both the EU and U.S. However, both statements leave the door open for new international instruments. The need for new or improved instruments and their scope requires further discussion, and the development and implementation of any such instruments would require a coordinated effort in the appropriate fora. Useful starting points have been identified within the other Arctic TRANSFORM Working Groups' policy-option papers. Examples thereof are identified in Box 1, below.

#### **Box 1. Sample starting points for policy pathways**

*Fisheries Working Group:* “prepare for the conservation and management of new or expanding fisheries within parts of the Arctic marine area under their respective jurisdiction, including by means of effective policies for combating IUU fisheries under flags of non-compliance and through port state control to deter free riders taking advantage of changes in distribution”;

*Shipping Working Group:* “Work closely at IMO to strengthen the existing voluntary 'Arctic Guidelines' and develop a strategic plan with a timetable to make the guidelines mandatory”;

*Offshore hydrocarbon Working Group:* “Seek to integrate offshore oil and gas with other activities in the area to minimise conflict through marine spatial (and temporal) planning. Take first steps towards a Pan Arctic EIA”;

*Indigenous peoples Working Group:* “We recommend that the commercial industries benefiting from Arctic resources set up an Arctic Trust Fund that will counterbalance some of the risks that their activities create. The fund could be used for adaptation activities such as relocation, training, education, etc.”.

Implementation of these policy options could lead to a more integrated process whereby states and other actors use a multi-lateral cross-sectoral approach for the integrated management of Arctic resources. The Arctic Council is promoting this cross-sectoral approach through several programs such as the Arctic Marine Strategic Plan and the Integrated Oceans Management project.

### Principles of environmental governance

Every governance system rests on a set of core principles. The following set of principles provides a starting point for governance of Arctic marine ecosystems:

- **The principle of fit** – create arrangements that avoid or minimize spatial and temporal mismatches among biophysical systems, socioeconomic activities, and governance practices. Multi-level governance is an example of this principle. Different system components operate at different scales, and effective regime design implies attention to relevant scales.
- **The principle of multiple use** – develop integrated approaches that can mediate among different uses of marine resources and establish priorities when such uses are incompatible.
- **The principle of cooperation** – ensure that all interested stakeholders have a voice in decision-making and decisions are made in a transparent fashion at the appropriate level of governance.
- **The principle of adaptive management** – design and operate governance systems to promote adaptation and social learning as knowledge improves regarding the relevant biophysical systems, human activities, and their interactions.
- **The principle of policy flexibility** – marine ecosystems in the Arctic are changing rapidly. The ecosystem functions requiring protection will be different to what we have now. Attention solely to the issue-based threats is thus highly unlikely to be effective unless framed within an overarching context. Resilience, learning, and ecosystem-based management are all significant elements of this principle.
- **The principle of precaution** – Any environmental governance framework needs to recognise that preserving healthy ecosystems and functioning ecosystem services requires a precautionary approach, especially in conditions as pristine and vulnerable as those found in the Arctic. This would ideally entail putting regulations in place *before* human activities increase.

### Actors and Institutions

Nation-states and their groupings are the dominant actors in Arctic governance. The Arctic Council provides a unique intergovernmental arctic forum, with the eight Arctic states and indigenous peoples having the central roles in guiding its activities. The role of indigenous peoples in the Arctic Council is an important step in international governance, but has not lived

up to its promise due to resource constraints and limited engagement in policy development. Although many Arctic states recognise the importance of traditional knowledge and the need to involve indigenous residents in governance decisions, arctic indigenous peoples still face significant barriers to the full assertion of their rights. Traditional ecological knowledge, as well as recognition of sacred places, should be important considerations in any dialogue about Arctic governance. There is also a growing desire from non-Arctic actors for engagement in the Arctic Council, particularly on the part of the EU and China. The EU has a growing interest in maintaining access to the Arctic and protecting its environment.

Other state-linked groups with more focused interests or limited mandates include the Nordic Council of Ministers, the Northern Dimension, the Conference of Arctic Parliamentarians, International Arctic Science Committee and many other regionally-based organizations. None currently have yet articulated a plan to take up the challenge of improving Arctic environmental governance in any overarching manner.

Environmental NGOs play a small but significant role in the Arctic environmental governance debate. WWF in particular has been a significant player through its early identification of climate-related issues, and its ongoing presence as an observer at the Arctic Council and active participant in the Working Groups. The role of environmental NGOs in general is perhaps more significant in the Arctic than other regions because of the relatively open and public nature of governance debates.

### Policy options

A key choice in approaching environmental governance is the extent to which a precautionary approach should be undertaken. Typically, environmental rules are developed only after problems of overexploitation or destruction of the natural environment and its resources have already emerged. Such an approach is also possible in the modern Arctic context, but the relatively pristine nature of the Arctic, its heightened fragility and past failures elsewhere point to a need to take a higher level of precaution.

A few key policies could be central to a precautionary and integrated approach:

- **Scientific research** – an essential component of good environmental governance is an improved understanding of marine ecosystems in the Arctic and monitoring how they are evolving in the face of climate change. There is a basic lack of information about where important ecosystems are located and how they function.
- **Moratoria** – it could be desirable to place moratoria on specific activities in specific regions before levels of human activity increase. For example, in their recent Arctic policy statements, both the U.S. and EU have called for a moratorium on Arctic fishing for stocks not yet covered by fisheries agreements. Stakeholder agreement to such protection is helped by the fact that such moratoria are temporary in nature and occur prior to investment being made in economic activities.
- **Environmental Impact Assessments and risk assessments** – assessments of environmental impacts and risks could be useful for preventing and responding to political, economic or cultural instabilities stemming from environmental change.
- **Issue-specific summits** – in the near-term, issue-specific summits could be called as a means to raise awareness on specific issues, explore potential solutions and spur nations to quickly close gaps in governance.
- **Marine protected areas (MPA)** – Designation of marine protected areas could be used to protect particularly sensitive, pristine and unique areas.

- **Large marine ecosystems (LME)** – The management of LMEs could be undertaken at national and bilateral levels in order to preserve ecosystem integrity and holistic governance of human activity in these regions. The Arctic Council’s PAME working group has created a draft map of LMEs in the Arctic.
- **Integrated coastal management (ICM)** – managing the land-water interface through integrated coastal management could help reduce land-based contributions to degradation of the marine environment.
- **Reserve networks** – establishing networks of terrestrial and marine protected areas could increase the resilience of ecosystems’ abilities to adapt to changing Arctic conditions. It will be necessary to manage a process of environmental change (as opposed to the traditional aim of protecting species living in a specific area). This could involve co-management agreements with indigenous peoples and across national borders.

Figure 1 illustrates the possible scales of various environmental governance activities. Consistent with the idea of policy pathways, it is possible to envision multiple starting points on any particular issue. It is also possible to identify near-term approaches that can be implemented relatively quickly (e.g. national regulations or international soft-law arrangements) as a means of developing best practices and putting some sort of governance in place in the near term. Should it be necessary, governance that is more regulatory and international in nature could be developed.

**Figure 1. Possible scales of environmental governance activities**

Activity	Possible scales	
	(easier / less ambitious)	← → (more ambitious/difficult)
Scientific research	species-specific – LME research – full Arctic Ocean assessment	
Management level	local/regional – national – bilateral – multilateral	
Marine protection	species/stocks – LMEs and MPAs – ICM – reserve networks – ocean	
Legal structures	soft law – state/national regulation – bilateral agreement – treaty	

**Arctic Council.** The Arctic Council’s key strengths are in its engagement with indigenous peoples and its ability to produce pan-arctic scientific assessments that raise the visibility of Arctic issues. It also serves as the most important forum for discussion between and within countries on many overarching issues (both sectoral and cross-sectoral). The key weaknesses are its lack of adequate funding and a permanent secretariat. The Arctic Council is a non-regulatory body, and there is ongoing debate in political and academic spheres about whether it should be more policy oriented and eventually also have regulatory capacities. Given the lack of another pan-arctic forum, the Arctic Council may be the best means to implement an ecosystem-based management approach requiring coordination across sectors and countries. Several Working Groups, notably PAME and AMAP, already make specific recommendations on cross-sectoral governance issues. However, there is a lack of political will on the part of the Council’s member states to timely implementation of its recommendations. The Council’s scientific activities and forum for dialogue have the potential to facilitate greater state action but modifications to its current mandate may be necessary.

**UNCLOS.** The UN Law of the Sea Convention, as the umbrella convention within the law of the sea regime, provides the overarching framework for ocean governance. UNCLOS and its

associated organisations represent a generally accepted starting point for international discussions on maritime affairs. UNCLOS could provide a framework for nations to harmonize national laws for marine protection within and outside 200 miles by 1) promoting well-developed national standards as models and/or 2) creating international Environmental Impact Assessment (EIA) standards.

**Strengthening other existing institutions.** Strengthening the governance mechanisms already in place could be a preferable starting point. For example, the existing RFMO mechanism could be used to address spatial and species gaps in fisheries management and provides an opportunity for precautionary approach for fisheries. Another example is the opportunity to strengthen the polar code for shipping through the IMO. Lessons from existing efforts governing portions of the Arctic could also be adapted to new regions and issues (e.g. the OSPAR regional framework convention). Extensive opportunities exist to improve national governance institutions as well as increase participation of indigenous peoples in governance processes.