

ARCTIC COUNCIL

ARCTIC MARINE STRATEGIC PLAN

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1.0 VISION

The Arctic Council's vision is **healthy and productive ocean and coasts that support environmental, economic and socio-cultural values for current and future generations.**

2.0 INTRODUCTION

2.1 Background

Arctic Council Ministers recognized that a more coordinated and strategic approach to managing the Arctic marine and coastal environment is needed.

“...existing and emerging activities in the Arctic warrant a more coordinated and integrated strategic approach to address the challenges of the Arctic coastal and marine environment and agree to develop a strategic plan for protection of the Arctic marine environment under leadership by PAME.” (Arctic Council Ministerial Declaration, Inari, Finland, 2002)

The Arctic Marine Strategic Plan represents an important opportunity to apply sustainable development and address the many existing instruments and governmental commitments to improve the management of ocean and coastal resources. As such, a key objective of the strategic plan is to promote the implementation of applicable international instruments such as UNCLOS, the UN Convention on Climate Change, the International Maritime Organization Conventions and Protocols, the Stockholm Convention on Persistent Organic Pollutants, the Convention on Biological Diversity, the London Convention, the Convention for the International Trade in Endangered Species, the Global Programme of Action, FAO Action Plans and relevant regional instruments such as the Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR). In addition the plan needs to assist in meeting the obligations set out in the targets from the World Summit on Sustainable Development (WSSD), noting in particular the commitment to an ecosystem approach, improved reporting and assessment, sustainable fish stocks, reduction in marine pollution and the establishment of a network of marine protected areas (see Table 1). The strategic plan will facilitate meeting these obligations and commitments.

Table 1: WSSD Targets

A regular process for global reporting and assessment of the state of the marine environment (36 b))	2004
Implementation of International Plans of Action for IUU, Fishing Capacity (31 d))	2004, 2005
Substantial progress re: land-based pollution by the next GPA review (33 d))	2006
Encourage application of the ecosystem approach (30 d))	2010
A representative network of Marine Protected Areas (32 c))	2012
Maintain or restore depleted fish stocks to levels that can produce the maximum sustainable yield, where possible (31 a))	2015

Abundant natural resources, increasing transportation and economic activity, and significant changes due to climatic processes, are resulting in increased use, opportunities and threats to the Arctic marine environment. Increased activities will lead to increased human presence in the high Arctic, via ships, aircraft, offshore installations, and the infrastructure developed to support resource extraction. Without a doubt, the Arctic environment and traditional lifestyles will be subjected to these increasing pressures. Some measures to manage these pressures and opportunities exist, but they have largely been reactive and developed on a sector-by-sector basis. Integrated approaches offer a more efficient and cost-effective way to address existing and emerging challenges.

The evolution of natural resource management has increasingly been towards more holistic and integrated approaches. The ineffectiveness of attempting to manage single components of inter-related systems has repeatedly been borne out. The necessity to manage human activities within the context of entire ecosystems and to address environmental, social and economic objectives was widely endorsed at the Earth Summit in 1992, accepted at the formation of the Arctic Council in 1996 and reconfirmed at the World Summit on Sustainable Development in 2002. WSSD also reconfirmed that the United Nations Convention on the Law of the Sea (UNCLOS) provides the overarching legal framework for all ocean management and further that key principles and approaches, such as precaution and ecosystem-based management are now widely accepted. The aim of the Arctic Marine Strategic Plan is to build on these internationally accepted principles and approaches and apply them in achieving a diverse set of sustainable development goals.

The Arctic Council recognizes the special interests of the Arctic's indigenous peoples in the management of the Arctic marine and coastal environments. Traditionally, the physical and spiritual health and well-being, as well as the economic viability of many of the Arctic's indigenous peoples, have been directly tied to the sea and its environment. More recently, indigenous governance in several forms has become a reality as has the recognition of indigenous rights. It is vital that these indigenous interests and rights be linked to any strategic approach to managing the Arctic marine and coastal environment.

(DRAFTING NOTE – Diagram will be inserted to illustrate where the AMSP fits in the global, regional and national context)

2.2 Coverage

This strategic plan takes into account all key activities and influences effecting marine ecosystems and as such considers coastal zones, river basins and other areas that are connected to the ocean ecosystem (figure 1). It is recognized that Arctic Council member states will define their relevant Arctic areas as appropriate. The plan is proactive and offers short and longer term options to address the accelerated changes that are occurring in the circumpolar Arctic.

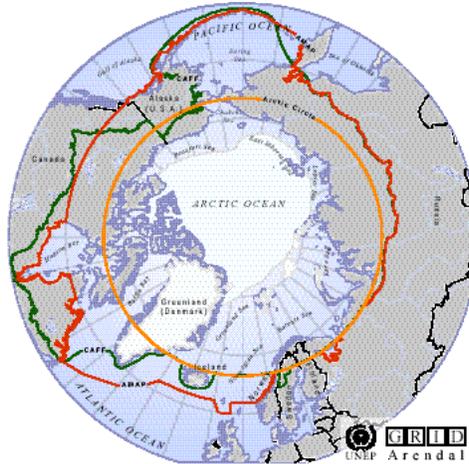


Figure 1

2.3 Drivers of Change

Climate change and increasing economic activity are the two key drivers of change of the environmental, economic and socio-cultural changes occurring in the Arctic today.

The best scientific analysis today points to greenhouse gases as being the major cause of the dramatic changes being seen in the northern climate. Therefore, even under the most optimistic projections of reduced emissions the present trend of warming, allowing for other natural fluctuations in the climate, will continue for the foreseeable future. Existing knowledge predicts a rise in temperature of a few degrees over the next several decades and an increase of open water around the Arctic Basin over an extended summer season. In addition, the Arctic will likely face increasing extreme weather events and possibly abrupt, presently unpredictable, changes to the climate system.

“The Arctic’s Recent Response to Climate Change” (from Arctic Climate Impact Assessment)

- Increases in winter surface air temperatures
- Increases in precipitation
- Thawing of previously permanently frozen ground
- Reductions in Arctic sea ice extent and thickness
- Variations in the ranges of animals and ecosystems
- Increases in storm surges and coastal erosion
- Increases in Siberian river outflows to the Arctic Ocean
- Warming of the Arctic Oceanic waters
- Record low levels of stratospheric ozone
- Increases in ground levels of ultra violet radiation

Economic development has been a slow, but determined driver in bringing social changes to the north. The harsh environment and difficult access to the bountiful arctic resources and its scattered population has restricted rapid development and communication. Technological developments have increased the rate of change over the past half century but climate change appears to be taking over as the major force in shaping the northern future. Recent years have seen a dramatic environmental change in the Arctic, bringing both serious challenges and exciting opportunities to the region. It is a time for decision and action.

2.4 Current Situation

Pollution

Pollutants originate from both outside and within the Arctic region. Contaminants from such activities as fossil fuel combustion, waste incineration and industrial processes are of major concern. Sources from within the arctic come mainly from abandoned and existing industrial and military sites, mines and exploration sites, disposal facilities, and commercial harbours. The transportation and storage of oil and sites with radioactive material represent significant threats to the marine food stocks in the Arctic environment. Human health issues associated with the relatively high level of contaminants in traditional arctic foods are of concern. The main pathways for input of contaminants to the Arctic marine environment include inflowing ocean currents, atmospheric deposition, river input, land run-off and direct discharge or disposal from land and sea-based activities. Further, these pathways, processes and sources that move contaminants through the Arctic are susceptible to the influences of climate variability and need continuous scientific attention. Broad-based marine pollution strategies are found in the numerous international conventions and agreements that apply in the Arctic.

Biodiversity and Ecosystem Integrity

Any climate change in the Arctic will produce many associated alterations to the environment and the ecology, including the introduction of alien species and the dispersion of contaminants. Increased development of resources, shipping, tourism and aquaculture also represent growing pressures on arctic ecosystems. Applying an ecosystem approach, identifying ecologically important areas and assessing the cumulative effect of development activities will be critical in conserving biodiversity. Broad-based conservation strategies are found in several international conventions and agreements that apply in the Arctic.

Communities and Human Health

(DRAFTING NOTE – This will be drafted in collaboration with the SDWG and based on the Human Development Report.)

Marine Resource Use

For centuries, exploitation of living and non-living resources of the Arctic marine environment has gradually increased and will likely continue to do so at an accelerated pace. During the last century hunting and fishing have sustained the small, dispersed communities of the Arctic. There are also now opportunities for new markets and economic endeavors, such as eco-tourism. Important fisheries and rich mineral and hydrocarbon reserves are becoming increasingly accessible due to technological advances and the observed trend toward longer open ice periods. The trend also has significant implications for the use of the Arctic as an efficient shipping route. These changes represent an important opportunity but it is critical that marine resources are developed sustainably, whereby use or extraction respects ecosystem integrity, while supporting the socio-economic development of northern communities.

2.5 Challenges and Opportunities

Working Together – Regional Cooperation

There is an increased understanding and acceptance that resources must be managed within the context of entire ecosystems and that regional cooperation and action have the greatest potential to address and avoid problems of degradation. The impacts of changes are best defined at a regional level and regional action offers the most relevant and efficient level of coordination. Working regionally offers “economy of scale” for such joint efforts as research, monitoring, assessments, technical cooperation, policy and program coordination, and compliance promotion. The Arctic Council has an opportunity to provide international leadership on the global sustainable development agenda through the adoption and application of an integrated, ecosystem-based approach to the Arctic region.

Thinning Ice – Opening up the Arctic

Increased accessibility and marine transportation in the Arctic will require greater maritime support and pose increased environmental risks. It can also act as a major positive influence, bringing about significant opportunities for social and economic development. Improved opportunities for resource exploration and development, shipping and fishing will promote greater investment and requirement for infrastructure in the region. A strategic plan will promote this development in a sustainable fashion, addressing the associated pressures on the environment and communities in a coherent and proactive manner.

The opening of a northern east-west corridor linking Europe and Asia through a polar route is attractive to shippers in terms of time and cost. Increased shipping will, in turn, generate an increased requirement for icebreaking support over a period of several decades. The placement of navigation aids, vessel traffic management, ship compliance inspections and security considerations will represent increasing demands on national maritime resources. Improved access will reduce the cost of transporting goods to the

north, facilitate the development of coastal towns and infrastructure and generate employment opportunities. The development of mineral resources, tourism and commercial fishing will also be advanced as more favorable conditions. The lessening of sea ice in the Arctic Ocean will reduce an important constraint on oil and gas extraction and therefore reduce operating costs and make northern hydrocarbons more competitive.

Human Health and Well-being

The impact of contaminants on the health of the Arctic environment and the northern population remains a high priority. The sources and pathways for these contaminants can be found within and outside the region. The Arctic marine and terrestrial animals used for food by indigenous peoples and other northern inhabitants accumulate many of the persistent organic pollutants and heavy metals, originating from industrial and agricultural practices far to the south and these are passed up and accumulated in the food chain. Further, many existing and abandoned military and industrial sites have left a legacy of pollutants and contaminated environments in the Arctic region. These sites may represent a significant challenge and have the potential to contribute to local and regional environmental degradation. The issue is made more serious by the present warming trends in the Arctic, which results in the accelerated release and distribution of substances into the environment. Many existing towns and settlements, industrial development and facilities within the catchment areas draining into the Arctic Ocean have inadequate waste management facilities; this situation will be aggravated by population increases. A key goal of the strategic plan is to deal with pollution issues by promoting greater understanding of the occurrence and concentration of contaminants and by communicating this information to the public, thus leading to better awareness and selection of food choices. The Arctic Marine Strategic Plan recognizes the need to facilitate the global control and reduction of the manufacture, release and use of chemicals demonstrated to be of concern in the Arctic working through intergovernmental agreements.

The Arctic represents a huge challenge to governments. They must address the impact of technological and economic development on the culture and traditional way of life of indigenous peoples, who, until now, have been at least partially protected by the very nature of the extreme environment in which they live. As long time stewards of the Arctic, indigenous peoples need to be informed and involved in shaping a regional approach to their changing environment. Their numbers may be relatively small, but they are the face of the north and their desire to live in concert with the environment represents a manifestation of our stated goals for sustainability and ecosystem-based management.

Modern Ocean Management – An Integrated Ecosystem Approach

Arctic nature is influenced by ecological stressors such as low temperatures and a short growing season. Species are near their limits of distribution and ecosystems are delicately balanced. Arctic ecosystems generally tend to be relatively simple and low in biological diversity compared with temperate and tropical ecosystems. However, in certain areas

both biological diversity and population density are extremely high. Arctic biological diversity is characterized by endemic resident species, species with unique genetic variation and migrating species. Arctic biological diversity is important locally, nationally and globally. Against a backdrop of a changing climate and ecological systems, and increased economic development, a strategic plan must strive to secure the natural productive capacity and biological diversity of the Arctic ecosystems.

An ecosystem approach and integrated management call for the consideration of human activities, the ecology and the environment in a holistic and comprehensive manner. No scenario can be treated in isolation. An ecosystem approach requires that sector management take place in a way that protects the ecology, minimizes the impact on the environment and integrates thinking across environmental and socio-economic borders. Actions need to be focused on realistic and practical steps that are directed towards reducing environmental damage, protecting biodiversity, promoting the health and prosperity of communities and managing resource activities. To be successful these actions need improved understanding, better monitoring, prediction and reporting systems, clear objectives, enhanced infrastructure, the use of best practices, integrated decision-making and a robust, coordinated, regional approach.

The Arctic Council recognizes that human activities affecting the Arctic marine environment should be managed in a way that promotes marine conservation and protection, biological diversity and sustainable development. This is best done through an ecosystem-based management approach which includes the consideration of several key features such as: multiple scales, long-term perspectives, humans as an integral part of ecosystems, adaptive management, and sustaining production potential for goods and services.

An ecosystem-based management approach for the application of the Arctic Council strategic plan will be guided by the following characteristics:

- The development of [environmental] [ecosystem] management goals
- Best use of available scientific, technical and traditional ecological knowledge and advice about the structure and function of the ecosystem
- An integrated multidisciplinary [expert] assessment
- Coordinated and integrated monitoring
- Involvement of all stakeholders, in particular indigenous communities and other Arctic inhabitants
- Integrated planning, policy decisions, control and enforcement

The opportunity exists now to prepare for an increase in Arctic activities through the development of a regional approach that will maximize benefits, and meet the challenges of reducing pollution and the risk of environmental impact, conserve Arctic flora and fauna, preserving traditional indigenous subsistence and cultural practices and uses, promoting the well-being of indigenous communities and other Arctic inhabitants, mitigate the effects of climate variability, and supporting sustainable marine resource use.

3.0 PRINCIPLES AND APPROACHES

The working principles and approaches that underlie the development and implementation of the strategic plan recognize and respect the rights and obligations covered under applicable regional and international conventions and agreements. It is acknowledged that the UN Convention on the Law of the Sea is the recognized legal framework for the implementation of this Plan. In developing and implementing this strategic plan, Arctic States reaffirm these principles and approaches, including *inter alia*:

- To advance **sustainable development** in the Arctic, including opportunities to protect and enhance the environment, and the economies, cultures and health of indigenous communities and of other inhabitants of the Arctic, as well as to improve the environmental, economic and social conditions of Arctic communities as a whole (*refer to Terms of Reference for Sustainable Development Program as adopted by the 1st Arctic Council ministerial meeting in 1998*).
- Application of the **precautionary approach** shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation (*1992 Rio Declaration on Environment and Development, Principle 15*).
- National authorities should endeavor to promote the internalization of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the cost of pollution (“**Polluter Pays**”), with due regard to the public interest and without distorting international trade and investment (*1992 Rio Declaration on Environment and Development, Principle 16*).
- “Elaborate **regional** programmes of action and improve the links with strategic plans for the sustainable development of coastal and marine resources, noting in particular areas that are subject to accelerated environmental changes and development pressures.” (*WSSD, Johannesburg Plan of Implementation, para. 33 c*).
- Promote **integrated management** of coastal and marine areas through collaborative planning processes which manage human activities in a comprehensive fashion while considering all factors necessary for the conservation and sustainable use of marine resources (*based on Agenda 21, chapter 17, para 17.5*).
- The use of a broad-based, regionally focused, **ecosystem-based approach** to conserve and maintain biological diversity and productivity of the Arctic marine environment, including protection of the Arctic marine environment from the impacts of land and sea-based activities and transboundary implications (*refer to*

the 12 guiding principles, “Malawi principles” as identified in the Convention on Biological Diversity).

4.0 GOALS AND STRATEGIES

The Arctic Council’s high-level goals are as follows:

- *Reduce and prevent pollution in the Arctic Marine Environment*
- *Conserve Arctic Marine biodiversity and ecosystem functions*
- *Promote the health and prosperity of indigenous communities and other Arctic inhabitants*
- *Advance sustainable Arctic marine resource use*

4.1 Strategic Measures

The strategic measures are selected according to the goals, principles and approaches outlined above and in consideration of the current and emerging situation affecting the Arctic marine environment, its ecology and the social and economic health of its peoples. The strategic measures are determined to a large degree on the assessment of the risks and benefits, the collective political ability to act, the financial implications and the capacity (knowledge, facilities and effort) available to address the required objectives. In addition the measures reflect the following criteria:

1. The measure relates to the jurisdiction of the Arctic Council and is circumpolar in nature;
2. The measure relates to the Arctic Ocean environment, or to one of the drivers of change of direct or potential importance to that environment;
3. The measure is strategic in nature and provides policy direction;
4. There are measurable results that can be identified;
5. The measure is one that meets with the consensus and approval of the Arctic Council.

1. Improve knowledge and understanding of the Marine Environment

- 1.1 Integrate and enhance Arctic Council research and monitoring activities including development of new databases
- 1.2 Improve the knowledge and understanding of marine food safety related to human health
- 1.3 Provide a regional contribution to the UN Global Marine Assessment

- 1.4 Encourage the application of monitoring systems, *in situ* and satellite, for the observation of the Arctic marine environment
- 1.5 Conduct a comprehensive and integrated assessment of Arctic marine shipping at current levels, as well as anticipated activities in the future.
- 1.6 Incorporate traditional ecological knowledge and local community-based scientific monitoring in assessments and reports and ensure communities are kept informed of the use of the information
- 1.7 Contribute to the international Polar Year (2007 – 2008).

2 Respond to emerging knowledge

- 2.1 Develop and implement marine strategic measures in response to the ACIA [Drafting Note to be further elaborated based on the outcome of the ACIA policy discussions.]
- 2.2 Develop and implement marine strategic measures in response to the Human Development Report, [Drafting Note to be further elaborated based on the outcome of the SDWG / SAO's discussions.]
- 2.3 Develop guidance for the management and monitoring of increased oil and gas and shipping activity based on current and emerging assessments, and taking into consideration the need for protection of traditional use of resources by indigenous peoples to avoid damage, interference or loss

3 Implement and comply with applicable international/regional commitments

- 3.1 Develop measures to assist in meeting WSSD commitments related to the marine environment, including the application of an ecosystem approach and development of a regional network of marine protected areas.
- 3.2 Broaden the Arctic Council Regional Programme of Action for the Protection of the Arctic Marine Environment from Land-based Activities to address all priority concerns.
- 3.3 Promote through International Maritime Organization the development and implementation of shipping standards applicable to the Arctic Marine Environment.
- 3.4 Promote implementation and further development of contaminant related conventions/agreements, noting in particular the Stockholm Convention and possible additional global action on mercury and emerging substances of concern.
- 3.5 Periodically review the status and relevance of international/regional conventions and agreements and assess the need to take joint preventative measures directly or through competent international organizations.

4 Improve regional policy and program coordination

- 4.1 Analyze the applicability of a regional seas agreement to the Arctic
- 4.2 Continue and expand the development of Arctic guidelines and codes of practice for the marine environment.
- 4.3 Promote pilot projects that demonstrate regionally integrated management

5 Facilitate partnerships and technical cooperation

- 5.1 Foster partnerships between government and communities, industry, NGOs and academia.
- 5.2 Increase cooperation and collaboration with international/regional organizations such as international fisheries organizations, and associated conventions/agreements having marine related responsibilities
- 5.3 Encourage and facilitate technical cooperation for Russian Federation's activities aimed at protecting the Arctic marine environment.

6 Build the capacity and engagement of indigenous communities and other Arctic inhabitants

- 6.1 Promote oceans education for understanding the importance of the Arctic seas, and training related to best operating practices
- 6.2 Develop mechanisms to enhance local involvement in the collection of information and monitoring.
- 6.3 Improve communication by ensuring latest scientific, human development and economic information is available in community languages, improve access to info (website), liaison officer, protocols for information.
- 6.4 Support coastal community pilot projects related to integrated ocean management

7 Support communication/reporting and outreach

- 7.1 Develop a reporting system for assessing the implementation and effectiveness of the AMSP.
- 7.2 Provide AMSP progress reports to the Arctic Council and to GPA review (2006 and 2012), International Polar Year (2007-2008) and Rio+20 review (2012).
- 7.3 Develop a communication and engagement plan to support understanding, and involvement in implementation of the AMSP.

(DRAFTING NOTE: Annex B contains possible strategic measures for the application of an ecosystem-based management approach. These measures are

attached to facilitate discussion and further consultation is required. These measures will be assessed in relation to the selection process identified at the beginning of section 4 and considered in relation to the broader suite of strategic measures outlined above.)

5.0 IMPLEMENTATION

The Arctic Marine Strategic Plan (AMSP) is intended to address both the short-term and long-term and will be re-evaluated in 2010. Many factors influence the success or failure of any plan. The AMSP focuses strongly on two such factors which are deemed to be critical for its success: strong institutional support; and effective engagement of stakeholders.

The Arctic Council already provides strong institutional support for the management of the Arctic marine environment and the AMSP relies on the existing structures and mechanisms of the AC for its implementation, i.e., AC bi-annual meetings, SAO meetings and the activities of the Working Groups. As the AMSP encompasses the entire spectrum of Arctic Council interests, each Working Group is expected to implement those portions of the Plan relevant to its specific objectives as follows:

AMAP - to provide reliable and sufficient information on the status of, and threats to, the Arctic environment, and provide scientific advice on actions to be taken in order to support Arctic governments in their efforts to take remedial and preventive actions relating to contaminants.

CAFF - to address the conservation of Arctic biodiversity and ensure that the use of Arctic living resources is sustainable.

EPPR - to deal with the prevention, preparedness and response to environmental emergencies in the Arctic that are the result of human activities.

PAME - to address policy and non-emergency pollution prevention and control measures related to the protection of the Arctic marine environment from both land-based and sea-based activities.

SDWG - to address the protection and enhancement of economies, cultures and health of the inhabitants of the Arctic, in an environmentally sustainable manner.

ACAP - to prevent adverse effects, reduce and ultimately eliminate pollution of the Arctic environment.

These work plans are approved on a bi-annual basis by the AC, on the recommendation of the SAO's with the active participation of the Permanent Participants.

Regular progress reports to the Arctic Council on the implementation of the Plan will be provided through the coordination of PAME in collaboration with other Working Groups. Using a process similar to that used for the development of the Plan, PAME will lead a

review of the Plan by 2010 to determine its adequacy, in light of the results of on-going assessments, national and regional reporting.

Achievement of the goals of the AMSP cannot be accomplished in isolation. Arctic Ministers will need to consult with other sectoral ministers within their respective governments. Working Groups will have to coordinate and cooperate amongst themselves, and the Arctic Council will need to look to outside governments and agencies for support and participation.

Under the direction of SAO's PAME will in consultation with other AC Working Groups and Permanent Participants, develop a communication plan to support the implementation of the AMSP. This communication plan will be developed within two years and updated bi-annually.

ANNEX A

(Drafting Note: An overview of Arctic Council activities is included only for drafting purposes and is not intended to be included in the final document.)

Current Situation – Pollution/Contaminants

The following is an overview of key Arctic Council activities that relate to marine pollution reduction and prevention.

Knowledge/Assessments	Programs & Projects
AMAP has prepared assessments on the main sources and impacts of contaminants in the Arctic.	<ul style="list-style-type: none"> - ACAP has developed projects to respond to AMAP Recommendations - AMAP and CAFF are collaborating on developing a joint monitoring strategy for the AC.
AMAP and CAFF are co-leading ACIA. PAME has assessed the need, for further actions or instruments to prevent pollution of the Arctic marine environment (1996 PAME Assessment Report)	<ul style="list-style-type: none"> - Pending Policy Recommendations - Regional Programme of Action for the Protection of the Arctic Marine Environment from Land-based Activities - Arctic Offshore Oil & Gas Guidelines
<ul style="list-style-type: none"> - Snap shot Analysis of Maritime Activities in the Arctic - Circumpolar Marine Workshop (PAME/CAFF/IUCN) 	
EPPR has undertaken a risk assessment for emergency preparedness.	<ul style="list-style-type: none"> - Circumpolar Map of Resources at Risk from Oil Spills in the Arctic - Field Guide for Oil Spill Response in Arctic Waters - Arctic Shoreline Cleanup and Assessment Technology Manual

Current Situation – Biodiversity and Ecosystem Functions

The following is an overview of key Arctic Council activities that relate to the conservation of marine biodiversity.

Knowledge/Assessments	Programs & Projects
<ul style="list-style-type: none"> - CAFF: Arctic Flora & Fauna: Status and Conservation - Circumpolar Workshop 	<ul style="list-style-type: none"> - Arctic Flora & Fauna: Recommendations for Conservation - Cooperative Strategy and Action Plan

(CAFF/PAME/IUCN)	for the Conservation of Biological Diversity - Marine protected area initiative - ECORA - Circumpolar Biodiversity Monitoring
- CAFF and AMAP are co-leading ACIA	CAFF & AMAP are collaborating on a joint monitoring strategy

Current Situation – Health and Prosperity of Communities

(DRAFTING NOTE – This will be drafted in collaboration with the SDWG and based on the Human Development Report.)

Knowledge/Assessments	Programs & Projects
Arctic Human Development Report	SDWG projects

(Note connection to AMAP Health Expert group which is looking into the health of people and food with regard to contaminants.)

Current Situation – Marine Resource Use

The following is an overview of key Arctic Council activities that relate to the use of Arctic marine resources.

Knowledge/Assessments	Programs & Projects
Circumpolar Marine Workshop (IUCN/CAFF/PAME)	SDWG Projects

ANNEX B

(DRAFTING NOTE: Annex B contains possible strategic measures for the application of an ecosystem-based management approach. These measures are attached to facilitate discussion and further consultation is required. These measures will be assessed in relation to the selection process identified at the beginning of section 4 and considered in relation to the broader suite of strategic measures outlined.)

Possible Strategic Measures for Establishing an Ecosystem Approach to Management

- i. Identify the large marine ecosystems of the Arctic based on the best available ecological information.
- ii. Identify elements that can serve as key environmental and socio-economic indicators of the state of these Arctic marine ecosystems and guide effective decision-making.
- iii. Map main human activities affecting these ecosystems and perform a cross-sectoral impact assessment including cumulative effects.
- iv. Develop [ecosystem] [ecological] quality objectives for the key elements identified and compare these to [management objectives] [goals and strategic measures] and if necessary, develop new ones.
- v. Implement monitoring activities to cover the key elements identified. and [to ensure long-term data sets].
- vi. Identify major [ecosystem forcing functions] [factors influencing the ecosystem] and base management decisions thereon.
- vii. Assessment of the quality and documentation of available Arctic data and establishment of minimum requirements for data sets to be used. Without such a measure, efforts to assess the structure and function of the ecosystem and those elements dependent upon such assessments can only be suspect in their validity and usefulness.

NOTES:

- *The purpose of this working paper is to explore comments elements to clarify an ecosystem-based management approach for the AMSP.*
- *Include CBD (and possibly other) definitions of what an ecosystem is.*
- *Include CBD definition of an ecosystem approach.*
- *ACIA uses “expert” knowledge.*