Capacity Building
Overview of the Arctic Council
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Introduction

People with a job to do cannot do that job to satisfaction unless they have the right skills and tools. In today’s world of change — changes in the environment in which we live, changes in family life and community structure, changes in the economy and the business world, changes in government — it’s hard to keep up with the skills and tools needed to make a decent living and to live in harmony with our neighbours and our surroundings.

One of the Arctic Council’s goals is to help Arctic governments and people gain the skills and tools they need to live and work sustainably in the Arctic environment. The term for this goal is *capacity building*. This guide presents the work of the Arctic Council in terms of capacity building.

Capacity building involves many different things in the context of the Arctic. Capacity building equips Arctic governments to govern with the interests of people in mind, to share management with local communities, and to recognize the great variety of cultural traditions that make up the region. It informs people about the social, political, cultural, and economic events taking place around the world and shows how these events affect, and are affected by, the Arctic.

Capacity building places a high value on information — gathering it, interpreting it accurately, sharing it with the right users, and turning it into action toward positive change. Turning knowledge into action often requires new ways of doing things. New skills may be needed in the areas of the collection, organization, and storage of information; analysis; assessment; research; and technology, so that reliable information can be made available. New communication skills may assist in getting information out in an understandable way. New organizational, management, and operational methods may be needed to take full advantage of community partnerships. And new methods of education and training may help to bring people and organizations up to speed on the skills they need to operate sustainably.

In short, capacity building is making sure that individuals, communities, businesses, industries, institutions, governments, and other organizations have the information, knowledge, and skills they need to solve today’s problems and adapt to change in a way that protects resources for future generations.

The Arctic Council

The Arctic Council traces its beginnings to the Arctic Environmental Protection Strategy, which was adopted by Arctic nations in 1991 to promote environmental cooperation. In 1996, foreign ministers from these states signed the Ottawa Declaration, forming the Arctic Council as a way to broaden cooperation to include all aspects of sustainable development.

The Arctic Council is a unique regional forum that creates a bridge between Arctic governments and indigenous peoples of the region, helping them deal with many of the concerns and challenges they share. The Council brings together the eight countries that have territory in Arctic lands — Canada, Denmark (Greenland and the Faroe Islands), Finland, Iceland, Norway, the Russian Federation, Sweden, and the United States of America — for the purpose of protecting the Arctic environment and fostering sustainable development as a way of improving the social, economic, and cultural well-being of people living in the Arctic.

Six international organizations representing many indigenous communities in the Arctic have the status of
Permanent Participants of the Arctic Council and are involved in the work of the Council in full consultation with governments. These organizations are the Aleutian International Association, Arctic Athabaskan Council, Gwich’in Council International, Inuit Circumpolar Conference, Russian Association of Indigenous Peoples of the North, and Saami Council. Non-Arctic countries and organizations interested in the work of the Council can participate as observers.

The Arctic Council does not have a permanent secretariat or headquarters. Instead, each of the eight member states takes a turn at chairing the Council for two years, providing administrative services during this time. Canada served as the first chair (1996–1998), followed by the United States (1998–2000) and Finland (2000–2002). Iceland is the current chair (2002–2004). Ministerial-level Council meetings are held every two years, and senior officials, working groups, and other bodies of the Council meet more often.

The Arctic Council does not have typical committees. Instead, its work is carried out by five working groups (see Box): the Arctic Monitoring and Assessment Program (AMAP); Conservation of Arctic Flora and Fauna (CAFF); Emergency Prevention, Preparedness, and Response (EPPR); Protection of the Arctic Marine Environment (PAME); and Sustainable Development Working Group (SDWG). Two major special initiatives currently being undertaken by the Council are the Arctic Council Action Plan to Eliminate Pollution of the Arctic and the Arctic Climate Impact Assessment (see Box).
Working Groups and Special Initiatives of the Arctic Council

**ACAP (Arctic Council Action Plan to Eliminate Pollution of the Arctic)** develops projects to reduce or eliminate those sources of pollution identified through the monitoring and assessment work of AMAP. Several priority projects are under way to reduce pollution in the Arctic, including projects on PCBs, dioxins/furans, obsolete pesticides, and cleaner production.

**ACIA (Arctic Climate Impact Assessment)** responds to concern over the climatic warming trend by examining the present climatic status, the possible future impacts of climate change and variability and UV radiation on the environment and its living resources; on human health, and social and economic activities, and possible ways of adapting and responding to these changes. The assessment and related policy recommendations will be presented to Ministers in 2004.

**AMAP (Arctic Monitoring and Assessment Program)** monitors contaminant levels in the Arctic environment and assesses the threat these contaminants may pose. It advises Arctic governments on actions that can be taken to reverse the effects of contaminants and prevent further pollution.

**CAFF (Conservation of Arctic Flora and Fauna)** works for the conservation of Arctic species, habitat, and ecosystems, integrating sustainable use and local community knowledge into this work. It coordinates research and the exchange of information and advises Arctic governments on conservation matters. Expert subgroups of this working group include the Circumpolar Seabird Group, Circumpolar Protected Areas Network Group, CAFF Biodiversity Monitoring Support Group, and CAFF Flora Group.

**EPPR (Emergency Prevention, Preparedness, and Response)** exchanges information on best practices for prevention and preparation, and practical response measures for use in the event of a spill. The work is focused mainly on oil and gas transportation and extraction, and on radiological and other hazards. EPPR is not a response agency.

**PAME (Protection of the Arctic Marine Environment)** works to prevent and control marine pollution arising from land- and sea-based activities, complementing existing international agreements.

**SDWG (Sustainable Development Working Group)** works to promote the understanding and application of the principles and practices of sustainable development in support of the economies, cultures, and health of Arctic inhabitants. It suggests steps Arctic governments can take to support sustainable development, including

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**Sustainable Development**

The main purpose of the Arctic Council is to support sustainable development in the Arctic. But what is sustainable development? Sustainable development is a way of doing things that allows people living today to meet their needs without making it difficult for future generations to meet theirs. A simple way to understand the concept of sustainable development is to picture a three-legged stool, each leg equally important in making the stool sturdy and well balanced.

One leg holding up the stool is people. In a sustainable world, people feel safe and secure, comfortable in their cultures. They have enough to eat and adequate shelter to live in. They have access to education and good medical care, and they have the opportunity to work for a fair wage.

Another leg of the stool is the environment. Sustainable development makes as little imprint on the natural
world as possible. Wildlife and their habitats, mineral resources, energy supplies, and the many other gifts the Earth offers are valued properly and used wisely. Care is taken to limit pollution and other damaging effects on our surroundings.

The third leg of the stool is the economy. Economy includes all the activities that individuals, businesses, and governments carry out to make a living and improve the quality of life. Economies are closely connected to people and the environment — people are most secure when they have enough to live on and their countries are prosperous, and economies are most secure when the environment is valued and conserved.

It would be a mistake to think that one leg could hold the stool up by itself. Even two legs could not do the job. All three legs working in balance with each other are needed to give the stool stability and make it useful. The same is true of sustainable development. So perhaps a better picture of sustainable development is a rich, complex tapestry in which the three distinct threads of people, environment, and economy are woven together so tightly and intricately that it is virtually impossible to tease them apart. Only when these threads are seen together can we make sense of the whole. We need all three threads to create the full picture of sustainable development.

Environmental issues have been the main focus of the Arctic Council’s work and will remain a key interest for some time to come. However, the Arctic is much more than just environment. It is home to more than four million people representing more than 40 different people groups, with their astonishing diversity of cultures. The Arctic Council is interested in the full sustainable development equation, directing considerable time and attention to the social, economic, and cultural life of the region.

The Role of Science and Local Community Knowledge

Scientific study and analysis in the natural and social sciences and the field of economics provide the basic data needed to understand how systems work, what their present state is, and how they could be improved to become more sustainable. Science provides information on a wide variety of topics, from climate and weather patterns to human health and social structure, from biodiversity and habitat to ocean currents and marine pollution. Such data may come from scientific measurement in the field or through technologies such as airborne and satellite remote sensing. However it is generated, these data can then be put together using tools like indicators and predictive models to help monitor a system’s progress under various stresses and to predict future performance. Rolled up to this level, these data form the basis for designing new policies and starting new practices that will improve our efforts toward sustainable development.

Various Arctic peoples have built a vast bank of local community knowledge over the centuries, and the Arctic Council is looking for new ways to apply this knowledge to the challenges of sustainable development in the north. For example, community knowledge of an area’s ecology can shed light on wildlife resources, habitat, and ecological processes on land and waters. This type of knowledge, twinned with the findings of modern science, brings a fuller understanding of the systems in which people live and work and enhances the powers of decision making. Using local community knowledge in this way places a high value on the contribution indigenous peoples and other Arctic residents make to society.
Using this Guide
This guide provides a handy reference to the work of the Arctic Council for the many groups and individuals living and working in the Arctic or interested in circumpolar affairs. It is also a useful tool for the Council itself, helping researchers and other project participants to gain a wider view of the work of the Council, and making links between their projects and other activities.

Project entries appear under three headings — Circumpolar/Regional Cooperation, Information for Decision Making, and Community Partnerships. Each entry includes a project title and brief description, a list of the project’s capacity-building elements, the Arctic Council working group or groups involved, and contact information for readers who want to find out more. In some cases a related publication is cited or a web site is given. Readers are also referred to the general web sites of the working groups, listed below. Also included in this guide is a list of acronyms that often come up in publications of the Arctic Council and its partners. An index at the end of the guide can be used to locate entries for specific projects.

This guide has been prepared by the Arctic Council’s Sustainable Development Working Group. For further information, please contact:

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This guide is also available on the Internet at: http://www.sdwg.org
### Commonly Used Arctic Council Acronyms

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<th>Acronym</th>
<th>Description</th>
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<tr>
<td>AAC</td>
<td>Arctic Athabaskan Council</td>
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<td>AC</td>
<td>Arctic Council</td>
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<td>ACAP</td>
<td>Arctic Council Action Plan to Eliminate Pollution of the Arctic</td>
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<tr>
<td>ACIA</td>
<td>Arctic Climate Impact Assessment</td>
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<td>AHDR</td>
<td>Arctic Human Development Report</td>
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<tr>
<td>AIA</td>
<td>Aleutian International Association</td>
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<td>AMAP</td>
<td>Arctic Monitoring and Assessment Program</td>
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<tr>
<td>ARCTIMAR</td>
<td>Radioecological Assessment of Consequences from Radioactive Contamination of Arctic Marine Areas</td>
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<tr>
<td>AVAIL</td>
<td>Arctic Vulnerability to Radioactive Contamination</td>
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<tr>
<td>CAFF</td>
<td>Conservation of Arctic Flora and Fauna</td>
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<td>CCEA</td>
<td>Canadian Council on Ecological Areas</td>
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<td>CPAN</td>
<td>Circumpolar Protected Area Network</td>
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<td>ECORA</td>
<td>Integrated Ecosystem Approach to Conserve Biodiversity and Minimize Habitat Fragmentation in the Russian Arctic</td>
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<td>ENVINET</td>
<td>European Network for Arctic-Alpine Multidisciplinary Environmental Research</td>
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<td>EPIC</td>
<td>Environmental Protection from Ionizing Contaminants</td>
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<td>EPPR</td>
<td>Emergency Prevention, Preparedness, and Response</td>
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<td>ESTABLISH</td>
<td>Study of Heavy Metals and Radionuclides in Russian River Estuary</td>
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<td>FASSET</td>
<td>Framework for Assessment of Environmental Impact</td>
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<td>GCI</td>
<td>Gwich’in Council International</td>
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<td>GEF</td>
<td>Global Environment Facility</td>
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<td>ICC</td>
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<td>ICT</td>
<td>Information and Communication Technology</td>
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<td>IPS</td>
<td>Arctic Council Indigenous Peoples Secretariat</td>
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<td>ISO</td>
<td>International Organization for Standards</td>
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<td>MAIA</td>
<td>Monitoring the Atlantic Inflow towards the Arctic</td>
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<td>NCP</td>
<td>Northern Contaminants Program</td>
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<td>NEFCO</td>
<td>Nordic Environment finance Corporation</td>
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<td>NGO</td>
<td>Non-governmental Organization</td>
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<td>PA</td>
<td>Protected Area</td>
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<td>PAME</td>
<td>Protection of the Arctic Marine Environment</td>
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<td>PAPAR</td>
<td>Pan-Arctic Protected Areas Registry</td>
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<tr>
<td>PCB</td>
<td>Polychlorinated Biphenyl</td>
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<td>POPs</td>
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<td>RADARC</td>
<td>Modeling Radioactive Spreading in the Russian Arctic Coastal Zone</td>
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<td>SDAP</td>
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<tr>
<td>SliCA</td>
<td>Survey of Living Conditions in the Arctic</td>
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SMART – Sustainable Model for Arctic Regional Tourism
SOLAS – International Convention for the Safety of Life at Sea
STREAM – Study of Radioactive Sources and Transport Using Satellite Imagery
T(E)K – Traditional (Ecological) Knowledge
UN – United Nations
UNEP – United Nations Environment Program
UV – Ultra Violet
Circumpolar/Regional Cooperation

With all its social, environmental, and economic potential, the Arctic faces unique challenges and difficulties in the journey toward sustainable development. The diversity of physical landscapes, climates, ecosystems, and biota makes the north an early warning system for the rest of the planet. Northern peoples are diverse and communities are scattered across a vast territory, often reached only by air or seasonal sea and river transport. High unemployment, health problems, and social breakdown have become serious issues in some areas. The Arctic economy struggles with difficult access to distant primary markets, limited transportation infrastructure, lack of capital, high energy costs, and a small population with few industrial skills and little formal education.

In this context, broad-based cooperation is needed to ensure that conservation of the Arctic environment is balanced with development needs. By cooperating on regional and circumpolar scales, policy can be developed that treats the Arctic and its regions as whole entities, recognizing their unique challenges and working with the strength and ingenuity of their many residents. Such cooperation enhances the protection of the Arctic environment while guarding the interests of all Arctic residents, allowing their full participation in the political, economic, and social development of their region.

Analysis of the Adequacy and Effectiveness of Existing Emergency Arrangements – International agreements and arrangements relating to emergency prevention, preparedness, and response in the Arctic regions were reviewed in 2000. Those that are currently in force, agreed to, or under consideration appear to address the present needs for trans-Arctic cooperation in these areas.

Capacity Building:
• the analysis helped provide decision makers with a better understanding of the gaps that exist in current international agreements as they apply to the circumpolar north
• The analysis is available at: http://eppr.arctic-council.org/agreementsfinal.pdf

Group: Emergency Prevention, Preparedness, and Response

Arctic Climate Impact Assessment – The Arctic is feeling the effects of climate change, and the ongoing warming of most of the region may have major consequences for the Arctic. The Arctic Climate Impact Assessment (ACIA), examines the present status and possible future impacts of climate change and variability and UV radiation on the Arctic environment and living organisms, human health, and social and economic activities. It also identifies possible adaptations and responses to these changes. The assessment and related policy recommendations will be presented to Arctic Council Ministers in 2004.

Capacity Building:
• Arctic states will gain a better understanding of the effects of climate change in the Arctic and will be guided in how to respond to the changes caused by atmospheric warming.

Groups: Arctic Monitoring and Assessment Program, Conservation of Arctic Flora and Fauna, and the International Arctic Science Committee
Contact: Robert Corell  
tel. 1-410-827-0998  
fax. 1-410-827-3958  
email: global@dmv.com

**Arctic Guide** – This on-line guide provides accurate and up-to-date information on how each Arctic country responds to emergencies in their regions. It also lists contact points and notification numbers, and gives information on emergency prevention, preparedness, and response.

**Capacity Building:**  
• Arctic countries can use the contact network to consult on emergencies  
• The guide is available at:  
  http://eppr.arctic-council.org/arctic-guide.html

**Group:** Emergency Prevention, Preparedness, and Response

Contact: EPPR Secretariat  
tel: +1 613 478-2020  
fax: +1 613 478-3162  
Website: http://eppr.arctic-council.org/contact.html

**Arctic Marine Strategic Plan** – A strategic plan for the Arctic marine environment is in the early stages of development. A workshop was held in October 2003 to exchange information on causes of change, trends in ocean management, and possible circumpolar responses to Arctic Ocean issues. Important themes of the strategy will be transportation, pollution, the interests and needs of indigenous peoples and other Arctic residents as related to marine resources, offshore oil and gas development, ocean governance, conservation of flora and fauna, partnerships, and emergency response and risk management. The plan will promote cooperation among various international, regional, and non-government groups, and apply a broad-based ecosystem and sustainable development approach.

**Capacity Building:**  
• PAME’s overall mandate and individual land and sea-based activities are brought together into one strategic plan  
• all Arctic Council activities related to the marine environment are better coordinated  
• stakeholders gain experience in strategic planning  
• decision makers have a tool for managing Arctic seas  
• the plan will include strategic measures to improve capacity.

**Group:** Protection of the Arctic Marine Environment

Contact: Soffia Gudmundsdottir  
tel: 354-461-1335  
fax: 354-462-3390  
email: pame@pame.is

**Arctic Monitoring and Assessment Programme (AMAP)** – This program monitors and assesses the status and trends of pollution and the effects of climate and UV/ozone on Arctic ecosystems, identifies possible causes of changing conditions, detects emerging problems and assesses the risk they pose for the Arctic, and recommends actions to reduce this risk. The monitoring work is based, as far as possible, on existing national and international monitoring and research programs. Each country defines its own National Implementation Plan to meet AMAP’s monitoring objectives. Monitoring projects are carried out within each of the participating countries and across borders under bilateral and multilateral cooperation.

**Capacity Building:**  
• harmonization of the methods and quality assurance of new plans with existing plans enhances a regional approach to monitoring and assessing pollution.
**Group**: Arctic Monitoring and Assessment Program

**Contact**: Mr. Lars Otto Reiersen  
tel: +47-2324-1632  
fax: +47-2324-1631  
email: lars-otto.reiersen@amap.no

**Arctic Telemedicine – Phase 2:**  
**Evaluation of Telemedicine** – The Arctic Telemedicine project is aimed at gathering information about the use of modern communications technologies to deliver health care services, training, and education to remote locations in the Arctic. In Phase 1 of the project, experts exchanged information about the successes and lessons that have been learned about telemedicine in Arctic communities. Phase 2 involves an evaluation of Arctic telemedicine. To carry this out, a steering committee has been formed to share past and current evaluation information, identify lessons already learned about telemedicine, and to plan future telehealth evaluation initiatives of common interest to Arctic nations.

**Capacity Building:**  
- this initiative promotes a better understanding of telemedicine methods in the circumpolar north and will inform decision-making in many Arctic communities

**Group**: Sustainable Development Working Group

**Contact**: Karen Perdue  
fax:  
email: karen.perdue@alaska.edu

**Circumpolar Biodiversity Monitoring Framework** – The Arctic has a unique array of plants and animals that contribute to a rich biodiversity. A framework is being developed for a circumpolar biodiversity monitoring program, which includes community-based monitoring. This work is being coordinated with the AMAP contaminants monitoring program and other global monitoring initiatives to support the Arctic Climate and Impact Assessment and other assessments.

**Capacity Building:**  
- a biodiversity baseline will assist circumpolar nations in detecting changes in the natural environment, providing an early warning system when these changes are thought to be negative  
- national monitoring plans can be developed and evaluated based on this framework  
- both Arctic and non-Arctic users will benefit from timely and cost-effective sharing of information through this program.

**Group**: Conservation of Flora and Fauna

**Contact**: Aivar Petersen  
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fax: 354-590-0595  
email: Aivar@ni.is

**Circumpolar Eider Conservation Strategy and Action Plan** – This strategy contains provisions for the conservation and sustainable use of the four eider species found in the Arctic – Common eider (Somateria mollissima), King eider (S. spectabilis), Spectacled eider (S. fisheri), and Steller's eider (Polysticta stelleris).

**Capacity Building:**  
- eider conservation is a significant component in the overall effort to conserve Arctic biodiversity.

**Group**: Conservation of Arctic Flora and Fauna

**Contact**: Kenton Wohl  
tel: 1-907-786-3503  
fax: 1-907-786-3641  
email: Kent_wohl@mail.fws.gov
Circumpolar Infrastructure Task Force – The Circumpolar Infrastructure Task force is an activity of the Arctic Council (national governments) and the Northern Forum (regional governments). A network of aviation experts has been established to study aviation issues and to make related recommendations to Arctic Council ministers. A current issue is improving air service between North America and the Russian Far East. Similar expert groups are being formed for the fields of telecommunications and marine transportation.

Capacity Building:
- standardized terminology and guidelines will contribute to a more unified approach to Arctic infrastructure and transport
- transportation and telecommunication links between Arctic nations and regions will be enhanced
- economic opportunities will open up as regional and global links are improved.

Group: Sustainable Development Working Group

Contact: Walter Parker
tel: 1-907-333-5189
fax: 1-907-333-5153
email: wparker@geci.net

Circumpolar Map of Resources at Risk from Oil Spills in the Arctic – This Geographic-Information-System-based circumpolar map (2002) puts together existing information on sources of oil spills and important biological resources that could be at risk if an oil spill happens.

Capacity Building:
- the map provides a tool for considering special precautions when oil operations are being planned close to biological sensitive areas
- the map identifies resources important to indigenous peoples and other Arctic residents
- emergency response can be targeted at overlap areas shown on the map
- the map has been distributed on CD-Rom and is posted on the Internet at: http://www.akvaplan.niva.no/eppr/

Group: Emergency Prevention, Preparedness and Response

Contact: Kjell Kolstad
tel:+47 7775 0480
fax:+47 7775 0481
email: kjell.kolstad@kystverket.no

Collaboration with the University of the Arctic – One goal of the University of the Arctic is to empower the residents of the circumpolar North by building human capacity through higher education. The university has expressed interest in engaging in cooperative projects with Arctic Council working groups to enhance capacity building.

Capacity Building:
- cooperation will improve the passing of both knowledge and capacity-building ideas that come from Arctic Council projects to the university community
- best practices for capacity building can be shared through dialogue among academics, students, business leaders, community members, and other stakeholders through the Northern Research Forum. The Northern Research Forum is a meeting held every two years to give the opportunity for discussion and the sharing of research on northern issues. A wide variety of scientists, policy makers, and others participate.

Group: Sustainable Development Working Group
Dialogue on Climate Change Adaptation Strategy in Water Management and Flood Preparedness in the Lena Basin – This dialogue was conducted as part of the broader Global Dialogue on Water and Climate. It examined options for policies, adaptation, and coping strategies to reduce the effect of climate change and climate variability on water resource management and to improve flood protection in Russia’s Lena Basin.

**Capacity Building:**
- all participants have heard each other’s views and now have the opportunity to continue networking and cooperating
- concrete recommendations from the project will assist in managing ice jams to safeguard human settlements
- the proposed integrated data and information base on climate, hydrology, and water management will provide a useful analytical tool
- outreach and educational materials, including a popular brochure in Russian and Jacutian, are being used to raise awareness of climate change and water management among decision makers and the public.

**Group:** Arctic Monitoring and Assessment Program

**Contact:** Mr. Lars Otto Reiersen  
tel: 47-2324-1632  
fax: +47-2324-1631  
email: lars-otto.reiersen@amap.no

Ecological and Cultural Tourism – The Sustainable Model for Arctic Regional Tourism (SMART) assists the Arctic tourism sector in expanding their potential based on the cultural and natural environment of the Arctic. As part of the broader sustainable development of the North, this project supports benefits that are economic, social, and environmental. The project’s goal is to create resources, tools, and incentives that can be used directly by small and medium-sized tourism businesses or groups involved in rural or tourism development and to offer professional training in this field.

**Capacity Building:**
- tourism operators will be informed about best practices for sustainable Arctic tourism
- a new marketing approach based on cultural and natural features of the North will expand the sector
- incentives, awards, and other recognition will encourage tourism businesses to use best practices and lay the groundwork to brand sustainable Arctic tourism.

**Group:** Sustainable Development Working Group

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tel: 358-(0)40-5044-539  
fax:358-(0)20-5177-348  
email: mirkka.vaarala@llh.intermin.fi

**Environmental Risk Analysis of Arctic Activities** – In 1998, Arctic countries conducted a self assessment of Arctic activities that may have transboundary impacts on the environment and human safety. They also evaluated the effectiveness of national, bilateral, and multilateral instruments and agreements to prevent, prepare for, and respond to each of these concerns.

**Capacity Building:**
- by undertaking this exercise Arctic states became more aware of the environmental risk associated with various activities being carried out in the Arctic and are better equipped to reduce this risk.
- this analysis is available at:
Group: Emergency Prevention, Preparedness and Response

Contact: Ann Heinrich
tel: +1 202 586 8165
fax: +1 202 586 8272
email: ann.heinrich@hq.doe.gov

Field Guide for Oil Spill Response in Arctic Waters – This field guide, published in 1998, was developed to provide circumpolar countries with guidelines for responding to oil spills in the context of the unique climate and geographical features of the Arctic. It focuses on practical strategies for responding to spills under conditions of open water, and ice and snow conditions in remote areas during cold weather. The guide is aimed at technical managers and decision makers, as well as first responders in the local community, the general public, and the media.

Capacity Building:

- technical managers and decision makers can follow this excellent guide in responding to oil spills under difficult Arctic conditions
- local responders to oil spills, the general public, and the media also have access to this guide
- the guide has been distributed widely throughout the world, and is available in Russian
- this guide is available at http://eppr.arctic-council.org/fldguide/index.html
- a separate first responders guide is available in English and Inuktitut

Group: Sustainable Development Working Group

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fax: 613-944-0758
e-mail: lee-anne.hermann@dfait-maeci.gc.ca

Future of Children and Youth of the Arctic, Health Program – The well-being and potential of children and youth are essential to the future of Arctic communities. The health program under the Future of Children and Youth of the Arctic project seeks to promote and protect the health of Arctic children and youth by preventing and controlling disease and injuries and promoting healthy lifestyles. Existing baseline data on disease and psycho-social aspects of the health of children and youth in the circumpolar region are currently being evaluated. Methods and approaches being used elsewhere at the international, national, regional, and community levels are also being examined to provide models for action in Arctic regions.

Capacity Building:

- Best practice models will be disseminated as a key tool to build community and regional capacity to implement practical, sustainable health initiatives to maintain and improve the health of children and youth living in circumpolar countries.

Group: Sustainable Development Working Group

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Implementing the Regional Programme of Action for the Protection of the Arctic Marine Environment – In 1998 the Arctic Council ministers adopted the Regional Programme of Action for the Protection of the Arctic Marine Environment from Land-based Activities (RPA 1998). Continuing implementation of the program contributes to the
goals of protecting human health, preventing and reducing degradation of the marine environment and coastal areas, remediating contaminated areas, supporting conservation and sustainable use of marine resources, maintaining biodiversity, and maintaining cultural values.

**Capacity Building:**
- the program of action provides circumpolar countries a point of departure for learning how to development programs and policies for the protection of the arctic marine environment from land-based activities.

**Group:** Protection of the Marine Environment

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**Indigenous Sacred Sites** – Sacred sites and sanctuaries of indigenous peoples of selected areas of northern Russia have been mapped and their conservation value assessed. Local people, including elders, reindeer herders, and fishers, were interviewed to identify the sacred sites. The sites were described using standards methods of photography and audio- and video-recording, and classified based on research findings. In the proposed second phase of the project, a conference will be held to present and discuss project findings and recommendations. This project was financially supported by the Danish Environmental Protection Agency, and protection of the sites continues through links with CPAN and Russian PA network.

**Capacity Building:**
- early results have influenced the development of protective legislation in some of the study areas.
- proposals for regional application of the sacred sites approach are being considered by the CAFF Management Board, Canada, United States (Alaska), the Aleut

**International Murre Conservation Strategy and Action Plan** – This strategy contains provisions for the conservation and sustainable use of the two species of murres/guillemots found in the Arctic region – Common murre (*Uria aalge*) and Thick-billed murre (*U. lomvia*).

**Capacity Building:**
- murre conservation is a significant component in the overall effort to conserve Arctic biodiversity.

**Group:** Conservation of Arctic Flora and Fauna

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**Multilateral Co-operative Project on Phase-out of PCB Use and Management of PCB-Contaminated Wastes** – This project assists the Russian Federation in finding ways to phase out the use of PCBs and destroy PCB wastes. Phase 1 (assessment of the problem) and Phase 2 (feasibility studies) have been completed. Phase 3 involves running four pilot projects: cleaning transformers, destroying liquid PCB, destroying capacitors, and collecting and storing electrical equipment that contains PCBs.

**Capacity Building:**
- Russian experts evaluated technologies for the environmentally safe destruction of PCBs
- results of the project will be part of the
Russian National Action Plan on POPs.

Group: Arctic Council Action Plan

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Promoting Use of the Arctic Offshore Oil and Gas Guidelines – These guidelines, produced by PAME and updated in 2002, define a set of recommended practices for offshore oil and gas activities, including transportation and related onshore activities. They are directed to national authorities for use in all stages of planning, exploration, and development of offshore oil and gas projects.

Capacity Building:
• central and regional authorities have an effective tool for managing offshore oil and gas projects
• industry planning for oil and gas activities can also benefit from using this tool
• Arctic residents have gained in their understanding and use of these guidelines through participation in their development

Group: Protection of the Marine Environment

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Shoreline Clean-up Assessment Technology (SCAT) – Canada and the United States worked together to produce a special Arctic SCAT manual that presents material specific to the Arctic region and reflects representative local conditions in Alaska and northern Canada. Contents include a description of physical shoreline characteristics and processes, illustrated with colour photos, and a glossary of shoreline types. A one-page guide for non-technical responders is being added.

Capacity Building:
Information for Decision Making

In a sustainable society based on careful decision making, everyone needs good information, from individual citizens and small businesses to governments and international groups. Much of the information needed to support sustainable development is not yet known or is unavailable to many decision makers. The Arctic Council is working to bridge this information gap for northern conditions and to make information more easily available to, and understood by, a wider range of users.

What kind of information is needed to support our decisions for sustainable development of the Arctic? Decision makers at all levels need information on how sustainable northern environmental, economic, and social systems are now and what it will take to make them more sustainable. They need answers to questions such as:

- How is the system performing now and why is it behaving this way?
- What level of performance is needed to make the system sustainable?
- What will happen if factors affecting the system’s performance are changed?
- How can we monitor our progress to see if we’re improving?

The following project descriptions show how the Arctic Council is working to provide the information needed to answer these questions in the context of northern systems. Information generated through these projects may be used to help develop policy, manage communities, or inform decision making.

**Anderma Station: Monitoring Long Range Transport of PTSs in Northern Russia** – The Russian Anderma atmospheric monitoring station is operational. This station provides important information on atmospheric levels of persistent organic contaminants and mercury.

**Capacity Building:**
- the information provided by the station helps policy developer as well as community leaders, to make informed decisions regarding how to address the issue of persistent organic contaminants and mercury.

**Group:** Arctic Monitoring and Assessment Programme

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**Arctic Clearing House Mechanism** – The Arctic clearing house mechanism is intended to serve as an information and data clearing-house that improves the sharing of experience and expertise in Arctic matters. It includes links to the Global Programme of Action Clearing-house and all relevant Arctic information systems.

**Capacity Building:**
- information sharing will enhance scientific, technical, and financial cooperation, as well as capacity building
- the capacity to respond to requests from governments for information is enhanced
- the clearing house will support the establishment of infrastructures and the development of action programs.

**Group:** Protection of the Arctic Marine Environment

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**Arctic Climate Impact Assessment, Science Document** – Over the past three to four decades, the following trends have become
evident in the Arctic: warming is nearly twice the global average, precipitation has increased, ozone has been lost, the distribution of both sea ice and snow cover has shrunk, most Arctic glaciers have lost mass, the temperature of the uppermost part of the permafrost has increased in most parts of the Arctic, the ice season of Arctic lakes and rivers has been reduced, and runoff of Arctic rivers has increased. Observations of indigenous peoples support these findings. The Arctic will be unduly affected as the world continues to warm, and what happens in the Arctic is likely also to have significant effects on the global climate in various ways.

Capacity Building:
• These findings have been used to project future climatic conditions, future changes in the land and oceans, and impacts on humans and the environment.
• In the coming years, interpretations and projections will be made with greater confidence as additional data are gathered, a better understanding of the complex processes, interactions, and feedbacks is developed, and modeling methods are refined.

Group: Arctic Climate Impact Assessment

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Arctic Conservation Issues: Overview Report – Conservation is ultimately the management of human behaviour. The success of conservation depends on the ability of conservation authorities and organizations to convey information about the true ecological, economic, and social value of biodiversity to decision-makers and the public. CAFF’s overview report “Conservation of Arctic Flora and Fauna: Status and Conservation,” now available at the web site below, provides a rich source of information on the ecological, economic, and social value of Arctic biodiversity, as well as its future conservation. Based on this report, conservation recommendations have been made.

Capacity Building:
• this report provides an overarching look at Arctic conservation and helps to inform decision-making at the local, regional, and national levels

Group: Conservation of Arctic Flora and Fauna

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Arctic Human Development Report – This baseline document is being developed to identify human challenges in the Arctic today, to highlight success stories, and to identify processes to be studied and adapted for the work of building human and social capacity. Borrowing the conceptual approach of the United Nations Development Programme’s Human Development Report, this report will cover Arctic demography, economies, and environments and resource governance; globalization and international cooperation; Arctic political systems and legal issues; cultures, social change, human health, social capital, community viability, and gender issues.

Capacity Building:
• this report will be useful in assessing progress toward human development in the Arctic
• it offers a useful tool for educating students and academics, NGOs, and the media
• it serves as a handbook for policy makers engaged in international cooperation in the Arctic

Group: Sustainable Development Working Group
Arctic Indigenous Peoples Health and Environment – Existing health policies concerning Arctic indigenous peoples have been reviewed, with a special focus on linkages to environmental, socio-economic, and cultural factors. A feasibility study has also been undertaken for a related project, which is the creation of an overview of the general health situation related to northern peoples in the Arctic countries, particularly indigenous peoples.

Capacity Building:
• decision makers can help fill in the gaps identified by the review by addressing various environmental, socio-economic, and cultural issues regarding indigenous peoples health concerns.

Group: Sustainable Development Working Group

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Arctic Waters Oil Transfer Guidelines – These guidelines are intended to make provisions for the transfer of oil in Arctic waters beyond those of the International Convention for the Safety of Life at Sea (SOLAS). These provisions will take into account the climatic conditions of ice-covered water in the Arctic, and will meet the appropriate standards of marine safety and pollution prevention.

Capacity Building:
• the capacity to transfer oil safely in Arctic waters will be strengthened.

Group: Protection of the Marine Environment

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ARCTIMAR – Radioecological Assessment of Consequences from Radioactive Contamination of Arctic Marine Areas – In this project, existing knowledge was used to develop a model that predicts the behaviour and fate of radionuclides in the estuarine and marine environment.

Capacity Building:
- human exposure to radioactivity will be better understood by using this tool
- the project report is available at: http://www.amap.no

Group: Arctic Monitoring and Assessment Programme

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AVAIL – Arctic Vulnerability to Radioactive Contamination – The aim of the AVAIL project was to assess the consequences for humans and the environment of radioactive contamination in the Russian Arctic. A novel method based on the concept of vulnerability was used to assess the transfer of radionuclides through food-chains. The vulnerability of an area is governed by many factors, such as the level of atmospheric deposition of radionuclides, management of the land and the aquatic environment, types of food production, and dietary preferences.

Capacity Building:
- the concept of vulnerability is further refined
- the resulting vulnerability index provides a tool to compare Arctic areas
- the project report is available at: http://www.amap.no

Group: Arctic Monitoring and Assessment Programme

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Circumpolar Arctic Vegetation Mapping – This 1:7.500.000 digitalized vegetation map and database of the Arctic region north of the tree line provides a common legend and language for vegetation types.

Capacity Building:
- this vegetation map and database provides a valuable tool in conserving Arctic biodiversity.
Circumpolar Protected Areas Network (CPAN) Strategy and Action Plan – Protected areas are recognized by all Arctic countries as an effective and necessary way of conserving Arctic biodiversity and supporting the sustainable use of resources. Each country has a system for protecting areas, but gaps exist. The CPAN strategy and action plan recommend future directions to fill these gaps and improve coverage of protected areas in the Arctic. A representative network of protected areas in the Arctic is being developed to ensure adequate protection of all ecosystems and habitat types across their range and diversity. Work is under way to complete country updates on recently established protected areas, management, and legislative initiatives.

Capacity Building:
• the strategy and action plan provide circumpolar countries with a direction and means to address some of the gaps in their protected areas.

Group: Conservation of Arctic Flora and Fauna

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Co-management of Marine Resources in Arctic Areas with Respect to Aboriginal People and Traditional Ecological Knowledge – Information is being gathered about marine resource management in Canada, Greenland, and Alaska, particularly looking at the influence of Aboriginal peoples. This information may be useful in developing a co-management model for coastal and fjord fishing in the Saami fjord areas.

Capacity Building:
• Saami people gain information to assess their potential role as co-managers of fishing resources.

Group: Sustainable Development Working Group

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Community Radiation Information – This joint project between the United States and Russia responds to the public need for information about radiation by developing and distributing a brochure and informational CD. The focus is on the Murmansk and Arkhangelskaya regions of Russia.

Capacity Building:
• the public will become more aware of the issue of radiation and will be better equipped to make decisions related to this issue
• other countries can use and adapt the information products for their own needs.

Group: Emergency Prevention, Preparedness and Response

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Dietary exposure to Marine Pollutants in Faroese Women – Human exposure to marine pollutants through the diet influences the health of Arctic populations in a negative way. Subtle effects have been demonstrated at a sub-clinical
level. In August 1998 the Faroese authorities issued an advisory that women who plan to become pregnant within three months, pregnant women, and nursing women should not eat pilot whale meat. The best way to protect unborn children against the harmful effects of PCBs and other organochlorine compounds is for girls and women to avoid eating blubber until after they have given birth to their children. A dietary survey among pregnant women in 2000–2001 showed a dramatic reduction in eating whale meat and blubber.

**Capacity Building:**
- making the connection between diet and the levels and effects of pollutants in human tissues can build the capacity of Arctic peoples to make healthier choices about the food they eat.

**Group:** Arctic Monitoring and Assessment Program

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**ECORA – Integrated Ecosystem Management in the Russian Arctic** – ECORA will develop and implement ecosystem management strategies in three model areas of the Russian Arctic: Kolguev Island in the eastern Barents region, Kolyma River Basin in Yakutia, and the Beringovsky District in Chukotka. These model areas contain globally important biodiversity that is currently threatened by poorly controlled development activities.

**Capacity Building:**
- the ECORA model will provide valuable information required for better understanding and management of areas affected by development.

**Group:** Conservation of Arctic Flora and Fauna

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**Effects of Contaminants in the Greenland Sea Polar Bear** – As top predators in the Arctic marine ecosystem, polar bears (*Ursus maritimus*) acquire relatively large burdens of POPs because their diet consists mainly of seal blubber and meat. Bears in Svalbard, the Western Russian Arctic, and East Greenland have relatively high concentrations of POPs, enough to raise concern about effects on the health and reproductive success of these bears. This study involved interviews with hunters, as well as anatomical and tissue analysis.

**Capacity Building:**
- understanding the effects of PCBs on polar bears will enhance the capacity to protect this species.

**Group:** Arctic Monitoring and Assessment Program

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**ENVINET - European Network For Arctic-Alpine Multidisciplinary Environmental Research** – The Arctic Council is a member of ENVINET, which is a cooperative network that focuses on multidisciplinary environmental research in northern Europe. Projects cover a broad range of environmental sciences, but fall mainly within the areas of atmospheric physics and chemistry, and marine and terrestrial biology. The goal of the network is to build and refine datasets and methods that can be used to study environmental
changes over time and space. Members cooperate by exchanging experience and information, preparing existing data for research across research stations, identifying needs for new data collection, improving data collection methods, and collaborating with each other on projects.

**Capacity Building:**
- different countries and organizations benefit from having access to a larger database than they could produce on their own; these data will be relevant to the top-ranking issues identified by the network
- standardization of data collection methods ensures that data collected in one area will be comparable to that collected in other areas.
- cooperative research allows participants to bring different sets of expertise to the work, and each will be able to learn from the other.

**Group:** Arctic Monitoring and Assessment Program

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**ESTABLISH – Study of Heavy Metals and Radionuclides in Russian River Estuary** – The aim of ESTABLISH was to model the biogeochemical behaviour and impact on humans of selected heavy metals and radionuclides in the Yenisei Estuary in Russia. This involved measuring contaminant levels in the environment, modelling river transport of the contaminants, identifying the biogeochemical reactions that take place where saltwater meets fresh water in the estuary, determining the long-term fate of the contaminants, and looking at the uptake of contaminants by plants, animals, and humans.

**Capacity Building:**
- a better understanding has been gained of the effects of pollutants that accumulate in river mouths and estuaries before spreading into the Arctic marine basin
- the project report is available at: http://www.amap.no/

**Group:** Arctic Monitoring and Assessment Program

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**Evaluation of Dioxins and Furans in the Russian Federation** – Three areas in the Russian Federation (Murmansk, Arkhangelsk, and Komi) were selected for this project, which aims to identify sources of dioxins and furans and to reduce emissions from these sources. Phase 1 involved completing an inventory of sources, producing a fact sheet entitled “Dioxins in the Russian Federation,” carrying out a workshop on sampling and analysis, and translating the U.N. Chemical Toolkit into Russian. Phase 2 of the project will involve the initiation of cleaner production technologies, beginning with an evaluation of dioxin sources in the shipping industry and cleaner-production training for this sector.

**Capacity Building:**
- Cleaner production training at selected industries (e.g., pulp and paper) will identify opportunities for controlling dioxin and furan emissions in the production process
- plants will be upgraded/retrofitted to reduce or eliminate emissions.

**Group:** Arctic Council Action Plan

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Fact Sheets – AMAP has produced several fact sheets to provide a quick overview of key information contained in its assessment reports regarding issues such as the transport of contaminants to the Arctic, the effects of contaminants on biota and humans, persistent organic pollutants (POPs), and mercury. Also, at the request of the Arctic Council, in 2001 AMAP produced three ACAP Fact Sheets summarizing ministerial decisions taken up to 2000 in relation to AMAP results and advice.

Capacity Building:
• fact sheets make information more understandable and available to new users; people can use this information to make better-informed decisions related to their own health and the environment.

Group: Arctic Monitoring and Assessment Program

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FASSET and EPIC – Protection from Ionizing Contaminants – The Arctic Council was involved in two major projects aimed at improving the protection of plants and animals against ionizing contaminants. FASSET (Framework for Assessment Of Environmental Impact) and EPIC (Environmental Protection from Ionizing Contaminants) took similar approaches, both developing a framework for assessing the environmental impact of ionizing radiation. The frameworks link current knowledge about sources, exposure, dosimetry, and environmental effects for reference organisms and ecosystems, including the Arctic.

Capacity Building:
• the resulting frameworks can be used to regulate waste management practices
• based on the frameworks, relevant standards can be developed to help test compliance
• interested parties have access to information on progress under FASSET through a web site (www.fasset.org)
• the project report is available at: http://www.amap.no/

Group: Arctic Monitoring and Assessment Program

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Freshwater Fishery Management in the Barents Region – Saami College organized a workshop to discuss freshwater fishery management in the Barents Region. To date, freshwater fishery management in Scandinavian has involved fisheries biologists, but not social scientists or anthropologists. Work is under way to arrange for a project leader and to invite the help of scientists, at least some of whom should know the Saami society and speak the language.

Capacity Building:
• the capacity for Saami to become more involved in freshwater fishery management will be enhanced.

Group: Sustainable Development Working Group

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Human Health in the Arctic – AMAP Assessment 2002 – AMAP assessments have a component that addresses the health of Arctic peoples, both indigenous and non-indigenous. The 2002 assessment reports a significant improvement in the health of indigenous peoples of the Arctic and the continued better health of other Arctic residents. Lifestyle-related conditions, such as obesity, diabetes mellitus, and circulatory disease are on the rise. Preventative measures are very important in reducing the burden of these diseases.

Capacity Building:
• systematic health assessments increase the capacity to target health programs effectively
• indigenous peoples will be better informed about steps to take toward better personal health.

Group: Arctic Monitoring and Assessment Program

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Influence of Global Change on Contaminant Pathways – AMAP Assessment 2002 – This report highlights observations and projections of global change that play a significant role in the life history of contaminants as they move to, within, and from the Arctic. The report discusses physical pathways, emphasizing observations made in the past decade. Recent changes in these pathways include changes in winds, sea-ice drift and cover, ocean currents, precipitation, and other environmental pathway components. The effects of these physical changes on biological pathways are also examined, and human responses to global change that are likely to alter contaminant pathways to the Arctic are discussed.

Capacity Building:
• the examination of the impact of global change in the Arctic and its effect on the environment will help in decision making related to policies and programs

Group: Arctic Monitoring and Assessment Program

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Information and Communication Technology in the Arctic – International Conference – The Arctic is a region characterized by small, remote communities, long distances, and general lack of effective infrastructure and communication. Information technology should be seen as an important way to address the economic, social, and cultural circumstances that pertain to the Arctic. This international conference, which took place in October 2003 in Akureyri, Iceland, was aimed at asking and discussing critical questions about the use of ICT, and the associated technical and social issues and benefits to Arctic residents.

Capacity Building:
• a better understanding of existing ICT services in the Arctic is gained
• interaction among participants generates ideas about priority needs for ICT services in the Arctic, as well as means of meeting these needs.

Group: Sustainable Development Working Group

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International Circumpolar Surveillance: Prevention and Control of Emerging Infectious Disease in the Arctic – Increased air travel and international trade exposes Arctic residents to a greater threat of infectious disease. An integrated International Circumpolar Surveillance system for infectious diseases with a network of hospital and public health laboratories throughout the Arctic would allow the collection and sharing of uniform laboratory and epidemiological data between Arctic countries. This network would assist in describing the status of infectious diseases of concern to Arctic residents, and in developing strategies for the prevention and control of these diseases.

Capacity Building:
• health officials gain a reliable tool for tracking the emergence and spread of infectious disease and designing appropriate prevention and control strategies
• an early warning system is put into place to identify emerging threats
• the ability to monitor the effectiveness of public health control measures is enhanced.

Group: Sustainable Development Working Group

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MAIA – Monitoring the Atlantic Inflow towards the Arctic – The overall objective of MAIA is to develop an inexpensive, reliable system for estimating and monitoring the inflows of Atlantic water to the Nordic and Barents Seas. The system is based on coastal sea-level data.

Capacity Building:
• the data collected by MAIA will provide decision makers with the necessary information required to informed decisions regarding the Nordic and Barents Seas areas.

Group: Arctic Monitoring and Assessment Programme

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Management of Stocks of Obsolete Pesticides in the Russian Federation – This project took place in priority areas of the Russian Federation. After identifying an appropriate pilot region, stockpiles of obsolete and prohibited pesticides were inventoried, identified through screening analysis, repackaged, labelled, and properly stored.

Capacity Building:
• Russian personnel participate in defining selection criteria and applying these criteria in identifying priority regions for this project
• Russian personnel receive guidance in carrying out inventories
• better coordination of obsolete pesticide inventories will be achieved among the various Russian ministries responsible.

Group: Arctic Council Action Plan

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Marine Report – Circumpolar Protected Areas Network – All Arctic countries use or plan to use protected areas as a way of conserving marine resources. Their rationales for setting aside areas are similar and include the conservation of habitat, species, and ecosystems. This shift is in keeping with the concept of
“mainstreaming” protected areas. Instead of treating them as conservation islands, they are considered as integral parts of the broader land/marine sustainable development and use strategy. This report provides a summary of the jurisdictional responsibilities and national frameworks for conservation of the Arctic marine environment.

**Capacity Building:**
- this report provides circumpolar countries and northern residents with a central source of information to better understand the various Arctic approaches to the conservation of the Arctic marine environment.

**Group:** Conservation of Arctic Flora and Fauna

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Publication: CAFF Technical Report No. 8

**Mayak Nuclear Plant: Assessment of Radioactivity Risk** – Mayak is Russia’s single working radioactive waste reprocessing plant. It receives shipments of spent nuclear fuel from nuclear submarines and is the new site of a warhead storage facility. This project evaluated the risk of a nuclear accident happening at this plant, assessed the current radioactive exposure to humans living in the area, particularly along the Techa River, and evaluated the long-term consequences for the Arctic population.

**Capacity Building:**
- accurate data on radioactivity levels in the environment and humans in the Mayak area lays the foundation for remedial measures.  
- people living in the Mayak area can make more informed decisions about their personal health  
- the project report is available at: http://www.amap.no

**Migratory Bird Workshop** – About 360 bird species regularly breed in the Arctic region, and 279 of them migrate out of the region and winter in non-Arctic countries. In September 2000 a workshop was held to find ways of enhancing the protection of migratory Arctic birds, in both the Arctic and the countries to which they migrate during the non-breeding season. Enhanced protection calls for improved coordination and collaboration of all countries concerned. The workshop identified research priorities related to Arctic migratory birds and also looked at ways that international treaties, programs, and instruments could be better used to improve protection of these species.

**Capacity Building:**
- workshop results provide a better understanding of the various factors that contribute to the protection of migratory Arctic birds.

**Northern Contaminants Program (NCP)** – The three main contaminant groups of concern in the Arctic are persistent organic pollutants (POPs), heavy metals, and radionuclides. Phase I (1991–1997) and Phase II (1998–2003) of the National Contaminants Program focused on determining the main sources of these
contaminants, their transport pathways and fate in the Arctic, and their levels and spatial and temporal distribution within Arctic ecosystems and humans. The program was also directed toward developing community dialogue and continuing work on international agreements to control contaminants. Phase III, now under way, focuses on protecting the health of Arctic residents from the effects of POPs and mercury, and contributes to Canada’s work to meet obligations under international agreements, such as the Stockholm Convention on POPs. Results of NCP projects make up the main part of Canada’s contribution to AMAP and have formed an integral part of AMAP’s many assessment reports.

**Capacity Building:**
- NCP findings have provided substantiation for the calls for action on international controls of contaminants.

**Group:** Arctic Monitoring and Assessment Program

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**Pan Arctic Flora Project** – The Pan Arctic Flora project aims to harmonize the names and classification of vascular plants in the circumpolar region as a basis for studying the biodiversity, origin, and evolution of Arctic plants. An annotated checklist of pan Arctic flora serves as a standard source for plant names, plant distribution, and rare plant records.

**Capacity Building:**
- standardization of plant names and classification is foundational to improving the capacity to conserve Arctic plant biodiversity.

**Group:** Conservation of Arctic Flora and Fauna

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**Pan Arctic Protected Areas Registry (PAPAR)** – The Pan-Arctic Protected Areas Registry is a database of existing and proposed protected areas, as well as other valuable natural areas.

**Capacity Building:**
- the registry provides circumpolar countries a better understanding of existing and proposed protected areas, allowing for better planning and management in those areas.

**Group:** Conservation of Arctic Flora and Fauna

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**PCBs In Northwest Russia** – The aim of this project is to document the levels and impacts of PCBs in the ecosystems and populations in Northwest Russia in general and amongst the populations of the Arctic in particular, including indigenous peoples living on the rim of the Barents Sea and the Kara Sea.

**Capacity Building:**
- a better understanding of the impact of PCBs in the Arctic will allow countries to better develop processes and initiatives to combat their effects.

**Group:** Arctic Monitoring and Assessment Program
RADARC – Modelling Radioactive Spreading in the Russian Arctic Coastal Zone – Simulation scenarios of potential radioactive spreading from sources in the Russian Arctic coastal zone were performed and its impact on the Barents, Greenland, and Norwegian Seas, and the Arctic Ocean was evaluated. The extensive environmental and pollution data sets collected will be used to update AMAP’s database. Scenarios are generated using a generic model system that includes various atmospheric factors for the 21st century, including global warming.

**Capacity Building:**
- this project contributes to scientific knowledge and expertise related to the Arctic coastal zone
- the new modelling approach assists in assessing the impact of potential radioactive spread under the expected conditions of continued global warming
- results support the radioactive risk management and decision-making system
- the project report is available at: http://www.amap.no/

**Group:** Arctic Monitoring and Assessment Programme

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Reduced Atmospheric Mercury Releases – Arctic nations have completed a mercury questionnaire to help identify the most important categories of mercury sources. These responses will be used to draw up a framework for a regional action plan to reduce the release of mercury into the atmosphere in the Arctic.

**Capacity Building:**
- pilot projects will demonstrate appropriate technologies for reducing the release of mercury
- Arctic nations will cooperate in developing a circumpolar framework and strategy for reducing the release of mercury.

**Group:** Arctic Council Action Plan

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Revised Atlas of Rare Vascular Plants of the Arctic – Arctic plant species are important for their own sake and also for their direct or indirect value to other parts of the ecosystem, including for humans. Rare and endangered species are particularly a concern for conservation. Almost 100 species of rare vascular plants (those with a root system) are endemic or unique to the Arctic region as a whole. This atlas describes and maps these rarest of Arctic plants.

**Capacity Building:**
- this information is the basis for protecting this vital class of species that are unique to the Arctic.

**Group:** Conservation of Arctic Flora and Fauna

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Seabird Bycatch Workshop – Incidental catch of seabirds in fisheries is an issue common to nations fishing in the waters of Arctic countries. A workshop was held in April 2000 for...
seabird and fisheries experts, fisheries managers, fishers, and conservationists to develop ways to reduce seabird bycatch in commercial fisheries. The workshop developed practical recommendations regarding outreach and education, monitoring and assessment, mitigation measures, and ways of implementing the recommendations.

**Capacity Building:**
- co-operation among stakeholders will allow sharing of information and expertise
- conservation of Arctic birds is enhanced through the reduction of accidental harvest in gillnets
- mitigation measures can be tailored to specific fisheries and gear types.

**Group:** Conservation of Arctic Flora and Fauna

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**Publication:** CAFF Technical Report No. 7

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**Seabird Harvest Regimes in Circumpolar Nations: Report Update** – The report “Seabird Harvest Regimes in the Circumpolar Nations,” first presented in 2001 by the Circumpolar Seabird Working Group and now being updated, describes seabird harvest and the impact of this harvest in the Arctic countries. The report includes national recommendations and calls for international guidelines on documenting and reporting seabird harvest and regulatory activities.

**Capacity Building:**
- information on the status of seabird populations and the number of birds and eggs harvested will improve the capacity for seabird conservation.

**Group:** Conservation of Arctic Flora and Fauna

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**Publication:** CAFF Technical Report No. 9

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**Second International Workshop on the Classification of Arctic Vegetation** – The Second International Conference on Circumpolar Vegetation Classification and Mapping will be held in Tromso, Norway, 2-6 June, 2004. The conference will focus on issues related to classifying, mapping, and modeling vegetation in Arctic tundra regions.

**Capacity Building:**
- information arising from this conference will enhance an understanding of the Arctic as a single ecosystem
- assist efforts to model the response of Arctic vegetation to climate and land-use changes

**Group:** Conservation of Arctic Flora and Fauna

**Contact:** Magdalena Muir  
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**Publication:** CAFF Technical Report No. 9

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**Snapshot Analysis of Current and Potential Shipping Activities** – A snapshot analysis of Arctic shipping activities has been carried out by Norway. Activities such as oil and gas exploration and production, cruise ship tourism, and other activities are expected to expand in the Arctic. This expansion will likely increase the volume of shipping and the risk of pollution. A particular concern is the increased potential of introducing exotic species and pathogens in Arctic waters through the discharge of ballast water.

**Capacity Building:**
- information on current and potential shipping activities will increase the capacity of decision makers to plan how to respond to the increased environmental risk associated
with these activities.

*Group*: Protection of the Marine Environment

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**STREAM: Study of Radioactive Sources and Transport Using Satellite Imagery** – Newly available satellite imagery is being used to study selected facilities that have acted as sources of contamination in the environment. This study also looks at their part in damaging the environment, as well as the distribution and transport of radionuclides arising from these sources.

*Capacity Building:*

- a greater understanding of the historical development of facilities that are sources of radioactive contamination is gained through studies of time-series of photographs
- the processes that cause the dispersion of radionuclides in the environment are better understood through studies of sediment transport in the river water and deposition in river channels, both of which are clearly visible in satellite photographs
- the project report is available at: http://www.amap.no/

*Group*: Arctic Monitoring and Assessment Programme

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**Survey of Living Conditions in the Arctic (SLiCA)** – New economic and cultural indicators are being developed to describe the living conditions of Inuit and Saami communities in the Arctic. Current measures show higher unemployment and lower income levels, poorer health, and more social problems among Inuit and Saami peoples than among the rest of the northern population. The new indicators will help to establish baseline information on present living conditions. Any changes in these conditions in the future can then be measured against this baseline.

*Capacity Building:*

- organizations gain skills in project development and implementation by involvement in the project from the outset; individuals receive training in interview skills
- causal relationships between individual resources and between individual well-being and political, economic, cultural and technological settings become better understood
- the basis for decision making related to policy development and implementation is enhanced
- an interdisciplinary network of researchers and research institutions is established
- post-doctoral fellows, graduate students, and undergraduate students receive training under the SLiCA program
- online distribution of the SLiCA questionnaire, progress reports, feasibility studies, and other related reports and articles allows other people to learn from this process

*Group*: Sustainable Development Working Group

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www.arcticliving.gl

**Technical Report on Birds of Arctic Conservation Concern** – Work is under way to complete a report on birds for which conservation is a concern. Migration routes and wintering areas are identified, and applicable conservation interests are noted.
Capacity Building:
• the report will provide the necessary information needed for countries to develop conservation plans for Arctic birds.

Group: Conservation of Arctic Flora and Fauna

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UNEP Chemicals Regionally Based Assessment Of Persistent Toxic Substances – This project is being carried out by the United Nations Environment Programme (UNEP Chemicals with the support of AMAP. It involves the collection, assembly, and evaluation of data on sources, environmental levels, and impacts of persistent toxic substances across the globe. Assessments were made at the regional level based on information gathered through questionnaires completed by participating countries. Regional reports for each of the 12 global regions are now available at the web site below. A global report will highlight major issues from the regional reports, giving a list of priority issues and suggesting interventions to address the problems identified.

Capacity Building:
• recommendations arising from this workshop can inform decisions related to protected areas

Group: Conservation of Arctic Flora and Fauna

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Web site: http://www.chem.unep.ch/pts/regreports/regreports.htm

Wild Places for Wild Life Workshop – The Circumpolar Protected Areas Network and the Canadian Council on Ecological Areas jointly sponsored this two-day workshop in September 2003 in Yellowknife, Canada. The workshop focused on developing criteria for designing areas to effectively protect northern wildlife and habitat. The forward-looking approach taken will help to avoid the habitat fragmentation typical of more southern regions of Canada and elsewhere. Panel discussions and focused working sessions elaborated on the workshop theme and objectives, addressing species area requirements, boundary considerations, and intervening landscape management.

Capacity Building:
• recommendations arising from this workshop can inform decisions related to protected areas

Group: Arctic Monitoring and Assessment Program

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Web site: http://www.chem.unep.ch/pts/regreports/regreports.htm

Women’s Participation in Decision-making Processes in Arctic Fisheries Resource Management – This study looks at the role that women, both indigenous and non-indigenous, play in managing Arctic fisheries. The resulting report will describe the different fisheries and their resource status, the bodies that make decisions regarding fisheries at various levels in the Arctic, and the level of gender equality in fisheries in each Arctic country. Women’s participation in Arctic fisheries is being evaluated at three levels: their ownership and leadership in fisheries and fishery-related businesses; the influence they have in the systems and bodies that determine fisheries quotas; and their ability to overcome the image that fisheries is a “man’s world.”

Capacity Building:
• accurate information on the status of women’s participation in Arctic fisheries will enable decision-making bodies to enhance gender equality at this level of resource management.
• women will be encouraged to play a greater role at all levels of fisheries management.

*Group*: Sustainable Development Working Group

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**Workshop on Circumpolar Marine Ecologically Important Areas** – A workshop was held in Akureyi, Iceland, in October 2003 to produce a Compendium of Circumpolar Marine Ecologically Important Areas. Work was directed at developing a model of databases that could support studies and management of ecologically important areas in circumpolar Arctic mastal and marine waters.

*Capacity Building*:
• the compendium and working model will provide a way for circumpolar countries to share information, support research, and inform decisions.

*Group*: Conservation of Arctic Flora and Fauna

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Community Partnerships

Achieving sustainable development is everyone’s responsibility — no single group can achieve this goal on its own. By working in partnership toward this goal, different groups can bring their own perspectives to the work, pooling resources and learning from each other’s expertise and experience.

Partnerships complement the work of governments, with everyone working toward important global goals. They involve groups of many different types — governments, regional groups, local authorities, non-government groups, international institutions, and private sector partners. All partners are ideally involved in developing the partnership, so that they can participate fully and share responsibility for the results of their work together.

Taking a “bottom-up” approach to partnerships is strongly encouraged, with active involvement of local communities. For example, co-management regimes for lands and resources pair up indigenous peoples and other Arctic residents with governing authorities to manage in a way that meets the needs of both groups while providing broader-based care of the resources. Capacity building through education, training, and on-the-job experience is a vital way to support such partnerships.

The following project descriptions show the various ways in which the Arctic Council is promoting partnerships to achieve the goal of sustainable development.

**Bilibino Nuclear Power Plant Table Top Exercise** – A radiological accident exercise was conducted at Bilibino Nuclear Power Plant in Chukotka, Russia. The emergency scenario considered a worst-case accident at one of the plant’s four reactors that have operated for more than 20 years. It modeled the maximum release of radioactivity to the environment, leading to the most severe radiation consequences. Plant emergency response, protective action decision making, emergency notification procedures, interagency and intergovernmental communications, plume modeling, and radiation monitoring capabilities were all successfully demonstrated during the exercise.

*Capacity Building:*
- this exercise provided essential training as well as model for developing future response to similar situations.
- the project report is available at: http://eppr.arctic-council.org/pdf/bilibino_finalrep.pdf

*Group: Emergency Prevention, Preparedness and Response*

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**Cleaner Production Methodology in the Arctic Zone of the Russian Federation** – By using cleaner production methods, the OJSC Norilsk Mining Company in the Arctic city of Norilsk can improve eco-efficiency and reduce costs. Three training seminars have been completed for managers and engineers. So far, particulate and carbon dioxide emissions have been greatly reduced, and water and natural gas consumption have declined. The estimated cost savings are almost $US 200 million a year. A third seminar will be undertaken by the company.

*Capacity Building:*
- almost 50 managers and engineers have been certified in the skills of analyzing the different industrial processes to reduce both costs and the release of pollutants; they are also now informed of the financial aspects of engineering projects
- 130 project proposals have been developed and 50 are being implemented
Emergency Source Control Management and Spill Prevention Strategies – A document called the Arctic Risk Analysis lists various activities, such as chemical spills, that pose a high risk to the Arctic region. This project aims to reduce the risk of such accidents happening by developing source control management and prevention strategies for high-risk facilities and activities. A series of pilot projects is being conducted to develop a risk assessment methodology and on-site facility risk assessments at selected facilities. The first pilot project is being carried out at a water treatment facility in the Murmansk Region that uses chlorine to treat surface water. This work includes the application of national technical and regulatory standards and the application of the international ISO 14001 Environmental Management Systems Standard.

Capacity Building:
• methodologies being developed in the pilot projects can be transferred to other high-risk activities. These methodologies relate to work planning and organization, accident hazard identification, risk assessment, and documentation.

Group: Emergency Prevention, Preparedness and Response
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Family-based Reindeer Economy and the Status and Management of Wild Reindeer/Caribou Populations – Rapid growth of wild reindeer/caribou herds is a key factor in reindeer husbandry. This project is developing a better understanding of the relation between herd fluctuation and management and its influence on the indigenous communities. Reindeer husbandry is traditionally managed by families, with family members playing different roles in different societies in the circumpolar area. With today’s rapid changes in societal structure, reindeer families use different strategies to respond to external pressures. This project looks at these responses, assessing whether outside pressures are strengthening or weakening the family role.

Capacity Building:
• reindeer herders gain a better understanding of best practices with respect to fluctuations in herd size
• reindeer families learn to recognize the effects of outside pressures on family life and reindeer husbandry and can choose responses to adapt appropriately.

Group: Sustainable Development Working Group
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Future of Children and Youth of the Arctic, Internship Programme – The Internship Programme provides Arctic youth with opportunities to gain practical work experience abroad in areas related to sustainable development in the circumpolar north. It also gives Arctic youth the tools needed to play a leadership role in addressing sustainable development issues in their communities.

Capacity Building:
• youth develop self-confidence and enhance their organizational, time-management, planning, communication, and Internet skills
• youth are exposed to new cultures, values, and attitudes and grow in their understanding of global issues
• a core of young people is being formed who are able to contribute to sustainable development in their own communities.
Future of Children and Youth of the Arctic, Networking Programme – The Networking Programme is designed to educate, engage, and build the capacity of children and youth in the circumpolar north with regard to issues of sustainable development. It also supports educators in their efforts to teach these issues as they relate to the Arctic region, and to create networks and communities of interest among circumpolar children, youth, and educators around issues of sustainable development. Program activities include an international youth program for reindeer herders in Russia, an international summer youth camp in Alaska, a seminar to showcase capacity-building, exchange of information on summer job programs, promotion of outreach programmes (e.g., GLOBE), and the development of Youth Environmental Information Centres in northern Russia.

Capacity Building:
- in receiving tools and mechanisms to become better aware of issues of sustainable development, children and youth gain a greater capacity to become engaged in the dialogue around these issues
- networking projects build the capacity of northern children and youth in the areas of leadership, communication, networking, problem-solving, self-esteem/confidence, technology, and issues management

Group: Sustainable Development Working Group

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NEFCO Fast Track Project – The Nordic Environment Finance Corporation (NEFCO) is a financing institution that supports environmental activities, particularly those that would not otherwise take place. In this line, NEFCO is financed a fast-track demonstration project as part of Arctic Monitoring and Assessment Program’s PCB project in Russia. The project involved emptying, cleaning, and disposing of transformers, and collecting and destroying PCB fluids from the transformers.

Capacity Building:
- The NEFCO demonstration will provide the Arctic Council with a model from which to consider the development of a different financing structure for the Council.

Group: Arctic Monitoring and Assessment Program

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Persistent Toxic Substance, Food Security and Indigenous Peoples of the Russian North – Aquatic food chains provide a major pathway by which persistent toxic substances (PTSs) can affect human health. This joint project included an assessment of local and distant sources of pollution by persistent toxic substances, a study of biomagnification in Arctic food chains, dietary surveys of some indigenous communities, monitoring of PTS levels in humans (especially delivering women and newborns), an assessment of the influence of pollution on the health of indigenous peoples, and development of recommendations to improve health status.

Capacity Building:
- better information will allow Russian federal and local authorities, as well as indigenous peoples, to take remedial action to reduce health risks related to PTS contamination of the environment and traditional foods
- the Russian Federation can strengthen its position on the use of PTSs and be better
equipped for involvement in international negotiations related to their use
• the Russian Federation will be enabled to join existing international agreements related to PTSs and increase their involvement in Arctic Council work to reduce emissions of PTSs.

Group: Arctic Monitoring and Assessment Program

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Product Development and Processing in Sustainable Reindeer Husbandry – This cooperative project is aimed at developing and improving reindeer husbandry in a way that makes the most effective and ecological use of pastures and improves the living conditions of indigenous peoples of the Arctic. Reindeer byproducts (skins, antlers, bones) are developed and promoted. Russia is the focus of the project, but all countries with reindeer husbandry can participate.

Capacity Building:
• training is offered in self-supervising slaughterhouses, slaughtering reindeer, and handling meat
• education in reindeer husbandry is standardized for the whole region
• tourism is promoted as a supplementary industry
• reindeer byproducts are developed
• training is offered in marketing and business management
• learners are further trained through development seminars, excursions, and negotiation trips.

Group: Sustainable Development Working Group

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Sustainable Development in Northern Timberline Forests – A workshop was held to review recent research in the field, and recommendations for sustainable development in the tundra–taiga zone were formulated based on points made in keynote addresses, papers, posters, and structured discussion.

Capacity Building:
• this initiative provided an opportunity to share best practices and information regarding sustainable forest management in the tundra–taiga zone

Group: Sustainable Development Working Group

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Conclusion

Good decisions and appropriate action depend on knowing what to do and how to do it. This means that building capacity — giving people, organizations, and governments the knowledge, information, and skills they need to adapt to change — is an important step in our progress together toward sustainable development. The Arctic Council has a great interest in capacity building, from providing reliable information about the state of the environment and how it is changing under various pressures to working with indigenous peoples to preserve their cultures and improve their living conditions. This guide has described the many projects undertaken by the Arctic Council with its partners to support sustainable development through capacity building.

When nations met at the World Summit on Sustainable Development in Johannesburg, South Africa, in 2002 to discuss their progress toward sustainable development and look at ways of speeding up this process, it was agreed again that the main responsibility for achieving sustainable development lies with each nation. At the same time, it was recognized that nations must work with other nations and groups, especially to tackle the challenges that are unique to certain regions of the world. The Arctic Council has an important role to play in bringing together nations, organizations, and people to find ways of living sustainably in the Arctic, a region of the planet unique in its geography, climate, and wildlife; people groups and culture; and economic opportunities.

The Arctic region is becoming more and more known as an environmental indicator region, informing the rest of the world about the effects of global phenomena such as climate change and long-distance transport of pollutants. Arctic Council endeavours such as the Arctic Climate Impact Assessment could become the world’s first comprehensive regional assessment of the impact of climate change. Such broad-scale projects demonstrate the effectiveness of a regional organization built on the voluntary contributions of its members. The same level of cooperation and expertise has been devoted to protecting Arctic flora and fauna, with a regional assessment of the state of biodiversity now under way, along with an exploration of integrated ecosystem management approaches to conserving biodiversity. On the marine front, development of a single strategic plan for the protection of the Arctic marine environment will go a long way toward ensuring the sustainability of this resource.

Work on the Arctic Human Development Report has raised the profile of social and cultural concerns in the region. When it is completed, it will help both policy makers and people living in the Arctic to understand human living conditions in this region. This is an essential first step toward knowing what measures to take toward improving these conditions.

The Arctic Council is eager to have you involved in the process of capacity building for a more sustainable Arctic. If you have benefitted from reading this guide, or have ideas about how to improve it or share it with other groups, please let us know. You can contact us at:

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Websites of the Arctic Council’s Working Groups

Arctic Monitoring and Assessment Program:  http://www.amap.no

Conservation of Flora and Fauna: http://www.caff.is

Emergency Prevention, Preparedness and Response:  http://eprp.arctic-council.org

Protection of the Arctic Marine Environment:  http://www.pame.is

Sustainable Development Working Group:  http://www.sdwg.org
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