

A stylized graphic of a globe at the top of the page, composed of blue and white curved segments.

Strategic Plan for the Conservation of Arctic Biological Diversity



About CAFF

The Program for the Conservation of Arctic Flora and Fauna (CAFF) of the Arctic Council was established to address the special needs of Arctic ecosystems, species and their habitats in the rapidly developing Arctic region. It was initiated as one of four programs of the Arctic Environmental Protection Strategy (AEPS) which was adopted by Canada, Denmark/Greenland, Finland, Iceland, Norway, Russia, Sweden and the United States through a Ministerial Declaration at Rovaniemi, Finland in 1991. The other AEPS programs were the Arctic Monitoring and Assessment Program (AMAP) and the programs for Emergency Prevention, Preparedness and Response (EPPR) and Protection of the Arctic Marine Environment (PAME). The AEPS is now integrated into the Arctic Council.

Since its inaugural meeting in Ottawa, Canada in 1992, the CAFF program has provided scientists, conservation managers and groups, and indigenous people of the north with a distinct forum in which to tackle a wide range of Arctic conservation issues at the circumpolar level.

CAFF's main goals, which are achieved in keeping with the concepts of sustainable development and utilisation, are:

- to conserve Arctic flora and fauna, their diversity and their habitats;
- to protect the Arctic ecosystems from threats;
- to improve conservation management laws, regulations and practices for the Arctic;
- to integrate Arctic interests into global conservation fora.

CAFF operates through a system of Designated Agencies and National Representatives responsible for CAFF in their respective countries. CAFF also has an International Working Group which has met annually to assess progress and to develop Annual Work Plans. CAFF is headed up by a chair and vice-chair which rotate among the Arctic countries and it is supported by an International Secretariat. When needed, CAFF also sets up specialist and experts groups to handle program areas.

The majority of CAFF's activities are directed at conserving Arctic biodiversity—the abundance and diversity of Arctic flora, fauna, and habitats—and at integrating indigenous peoples and their knowledge into CAFF. Some examples are: development and implementation of conservation strategies and action plans for a Circumpolar Protected Areas Network (CPAN), for Arctic biological diversity, for circumpolar Murres and Eiders; work on a Circumpolar Arctic Vegetation Map (CAVM) and Atlas of Rare Endemic Vascular Plants; assessing impacts of climate change and UV-B radiation on Arctic ecosystems; mapping Traditional Ecological Knowledge; developing a program for monitoring Arctic Biological diversity; etc. Most of CAFF's work is carried out through a system of Lead Countries as a means of sharing the workload. Some projects are also assigned to the CAFF Secretariat. Whenever possible, CAFF works in co-operation with other international organisations and associations to achieve common conservation goals in the Arctic.

CAFF PUBLICATIONS:

CAFF Habitat Conservation Reports:

- No.1 The State of the Protected Areas in the Circumpolar Arctic (1994)
- No.2 Proposed Protected Areas in the Circumpolar Arctic (1996)
- No.3 National Principles and Mechanisms for Protected Areas in the Arctic Countries (1996)
- No.4 Circumpolar Protected Areas Network (CPAN) Principles and Guidelines (1996)
- No.5 Gaps in Habitat Protection in the Circumpolar Arctic (1996)
- No.6 Circumpolar Protected Areas Network (CPAN) - Strategy and Action Plan (1996)
- No.7 Circumpolar Protected Areas Network (CPAN) Progress Report 1997 (1997)

CAFF Technical Reports:

- No.1 Incidental Take of Seabirds in Commercial Fisheries in the Arctic Countries (1998)
- No.2 Human Disturbance at Arctic Seabird Colonies (1998)
- No.3 Atlas of Rare Endemic Vascular Plants of the Arctic (1999)
- No.4 Global Overview of the Conservation of Migratory Arctic Breeding Birds outside the Arctic (1998)
- No.5 AMAP/CAFF Workshop on Climate Change, Rovaniemi, 24-25 March 1998 (1998)

CAFF Strategies:

- Circumpolar Protected Areas Network (CPAN) Strategy and Action Plan (March 1996)
- International Murre Conservation Strategy and Action Plan (March 1996)
- Circumpolar Eider Conservation Strategy and Action Plan (June 1997)
- The Co-operative Strategy for Conservation of Biological Diversity in the Arctic Region (June 1997)
- Strategic Plan for the Conservation of Arctic Biological Diversity (1998)

CAFF Program Management and Meetings:

- CAFF Report to Ministers 1996 (1996)
- CAFF Report to SAAOs 1997 (1997)
- Report of the Working Group 1992-1993 (1993)
- Third Meeting of the CAFF International Working Group (CAFF III), Reykjavík 1994: Proceedings (1994)
- Fourth Annual Meeting of the CAFF International Working Group (CAFF IV), Moscow 1995: Summary Report (1996)
- Fifth Annual Meeting of the CAFF International Working Group (CAFF V), Rovaniemi 1996: Summary Report (1997)
- Sixth Annual Meeting of the CAFF International Working Group (CAFF VI), Nuuk 1997: Summary Report (1998)
- Circumpolar Seabird Working Group Bulletin, Vol. 1-2, (1995-1996)
- CAFF Newsletter Vol. 1-2 (1995-1996)

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ISBN NUMER: 9979-9294-8-0

Conservation of Arctic Flora and Fauna
CAFF

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Arctic Biological Diversity

September 1998

Preface

The program for the Conservation of Arctic Flora and Fauna (CAFF) was established under the Arctic Environmental Protection Strategy (AEPS), agreed to by the eight Arctic Ministers in 1991, as a "distinct forum for scientists, indigenous peoples and conservation managers engaged in Arctic flora, fauna and habitat related activities to exchange data and information on issues such as shared species and habitats and to collaborate as appropriate for more effective research, sustainable utilisation and conservation." (AEPS 1991). CAFF's activities have since been governed by Ministerial Declarations in Nuuk, Greenland (1993), Inuvik, Canada (1996), and Alta, Norway (1997). CAFF is now under the auspices of the Arctic Council, which was established in 1996. Other AEPS programs overtaken by the Arctic Council are the Arctic Monitoring and Assessment Program (AMAP), the working group on Protection of the Arctic Marine Environment (PAME), and the working group on Emergency Prevention, Preparedness and Response (EPPR).

Through its work on flora, fauna, and habitats, CAFF's focus has been the conservation of biological diversity in the Arctic region. In recognition of this, CAFF developed the "Co-operative Strategy for the Conservation of Biological Diversity in the Arctic Region" (Biodiversity Strategy) to provide greater coherence to the program. In Alta, the Ministers welcomed the Biodiversity Strategy and also noted the intention of CAFF to give it effect through the development of a long-term plan (Strategic Plan), based on five priority objectives from the Biodiversity Strategy.

This Strategic Plan is based on the work of CAFF's Analytical Group, discussions at the Workshop on Arctic Biological Diversity Conservation¹ in Karrebæksminde, Denmark and at the CAFF VI meeting in Nuuk in September 1997, and other consultations within and between the Arctic countries. Modifications of the priority objectives, which have been suggested as a result of these discussions, are included in the text of the section on Objectives and Actions.

¹The World Wide Fund for Nature (WWF) - Arctic Programme, United Nations Environment Programme (UNEP), and the Ministry of Agriculture, Nature Management and Fisheries of the Netherlands sponsored this workshop.

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Introduction



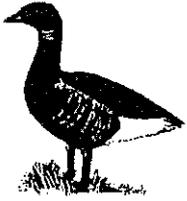
Conserving the biological diversity of the Arctic—the abundance and diversity of flora, fauna, and habitats—is essential for the conservation of ecosystems and the species that inhabit them. From extreme locations inhabited by only a few species to areas rich in plants and animals, from ocean depths to mountain outcrops, the Arctic covers a great range of physical features and biological communities. Arctic flora and fauna and the ecosystems they make up do not exist in isolation, but depend upon a complex web of interactions. Conserving the species that are most visible or valuable to humans requires conserving the entire ecological web—the biological diversity—that supports them. Since many northern societies and cultures are based on the use of natural resources, such conservation is also essential to their long-term social, cultural, and economic well being.

Conserving biological diversity incorporates a wide range of concerns, issues, and activities. Scientists must develop a sound understanding of the dynamics of the ecosystems. Managers must accommodate local and sustainable harvests of natural resources into conservation plans. Residents of the region must balance current needs with those of future generations who will also depend on their environment. Large-scale resource developments must minimise their impacts while trying to remain economically viable. Distant and global threats, such as long-range pollution and climate change, must also be taken into account.

The conservation of biological diversity is an overarching issue to which all of the Arctic Council environmental programs contribute. In addition, it encompasses the efforts of a wide array of indigenous peoples' organisations, non-governmental organisations and non-Arctic states. For CAFF the concept of conserving biological diversity is a very useful one because it incorporates all of these concerns and places them in a cohesive framework. But, clearly, with such a diverse subject, it is desirable to focus the wide array of interests and efforts on certain priority elements.

This Strategic Plan is based on five priority objectives from the *Co-operative Strategy for the Conservation of Biological Diversity in the Arctic Region (1997)*. Through establishing guiding principles and identifying actions which can be undertaken with respect to the five priority objectives, this Strategic Plan is intended to provide overall direction to the CAFF program for the next five years and to serve as the major focus of communication with the Senior Arctic Officials (SAOs) and Ministers of the Arctic Council.

Guiding Principles



Four principles are inherent in all of CAFF's efforts and will guide its work:

- *The involvement of indigenous and local people and the use of traditional ecological knowledge*

Conservation practices can only succeed if those whom they directly affect support them. Conservation policies, in turn, must incorporate the needs and traditions of those who depend on the environment. Numerous indigenous people in the Arctic maintain a close relationship with the natural environment. Their knowledge and values are an important complement to scientific knowledge. CAFF will continue to establish and maintain links with indigenous peoples' organisations and to enhance the use of local and traditional knowledge in its projects and activities.

- *The use of a broad, ecosystem-based approach to conservation and management*

Conservation goals cannot be achieved solely on a species-by-species basis, or by protecting small areas. The health of the Arctic environment depends on conserving the full range of flora, fauna, and habitats. This can only be done effectively if we recognise that activities affecting one component or area of the ecosystem will in turn affect the rest of the ecosystem. While local and single-species efforts are important, they must be considered in the context of conserving the ecosystems of which they are part. CAFF will identify and maintain links with organisations focused on ecosystem research and management to assess ecosystem health and status of biological diversity.

- *Co-operation with other conservation initiatives to minimise duplication and to increase effectiveness*

Conservation in the Arctic cannot be accomplished unilaterally. Species migrate across borders to regions outside the Arctic, and threats to Arctic biological diversity come from distant as well as local sources. While CAFF plays an important role, there are other initiatives with related goals, including the other programs of the Arctic Council. Non-Arctic countries, too, contribute to Arctic conservation, as do non-government organisations (NGOs). Co-operation with such countries, organisations, and initiatives makes the best use of collective expertise and resources, and may range from sharing information to developing joint conservation strategies and action plans. CAFF will identify and maintain links with interested non-Arctic countries and with key regional and international conservation organisations and programs.

- *Effective communication with respect to CAFF programs*

Conservation policies should be based on sound science, but their acceptance and implementation depends on the informed support of the general public and decision-makers. These audiences must be made aware of and understand the goals of conservation and the need for specific conservation measures, taking into account the needs of people. CAFF will ensure that effective communication is a key element of all its programs and activities.

Objectives and Actions



CAFF recognises that the five priority objectives listed below are interrelated. Each action may contribute to other objectives in addition to the one with which it is most closely associated. The objectives and actions are designed to contribute to a holistic understanding of the Arctic environment and to provide the basis for a concerted effort to conserve the full diversity of Arctic flora, fauna, and habitats from the range of threats they face.

Objective 1

Enhance efforts to monitor Arctic biodiversity, paying particular attention to species, populations, habitats, and ecosystems, which are of greatest ecological, cultural, social, economic or scientific value

Rationale

Changes in biological diversity can occur among species, habitats and ecosystems. Monitoring—the long-term assessment of biological and other environmental variables—provides a tool for detecting changes in the environment. It can also help distinguish natural fluctuations from long-term trends caused by development, over-exploitation, pollution, and climate change. In this context, monitoring acts as an early warning system, which can trigger more specific and focused research and conservation measures. In addition to detecting environmental changes, monitoring can play a role in evaluating the effectiveness of conservation policies by determining whether the desired effect is being achieved. In this context, monitoring acts as a feedback system to improve our ability to conserve biological diversity. CAFF's conservation strategies for murre, eiders and protected areas recognise this by including provisions for monitoring activities. A biodiversity monitoring network based on local flora is already under development in the Russian Arctic. These efforts of CAFF and related programs, such as AMAP, could form a significant part of a comprehensive circumpolar Arctic biodiversity monitoring network.

CAFF will enhance efforts to monitor components of Arctic ecosystems to detect changes in species and habitats of particular interest, and to identify and evaluate the causes of such changes.

Actions

1. Review and identify gaps in existing monitoring programs relevant to Arctic species and habitats.
2. Develop criteria for evaluating ecological, cultural, social, economic and scientific values of Arctic species, populations, habitats, and ecosystems, so that monitoring priorities can be established.
3. Co-ordinate implementation of programs, as appropriate, to monitor the circumpolar status of Arctic species and habitats.

Objective 2

Support and implement measures for the conservation of Arctic genetic resources, species, and their habitats.

Rationale

The species of the Arctic are important for their own sake and for their value, directly or indirectly, to other parts of their ecosystems, including humans. Of particular concern for conservation are rare and endangered species. CAFF's inventories have identified 39 species and subspecies of rare and endangered birds and mammals and 96 species of rare endemic vascular plants (i.e., those with root systems) in the Arctic. In addition, several shared species, such as murres (guillemots) and eiders, have been targeted for co-operative action as species of common conservation concern. While these species may not be considered rare or endangered at a global level, some populations may be seriously threatened at the local level in parts of the Arctic. Out of the approximately 360 bird species that breed regularly in the Arctic region as defined by CAFF, 279 migrate out of the region and spend the winter in a non-Arctic country. In addition, many Arctic plant species are also found elsewhere, which may affect their overall genetic diversity. The conservation of these species may require co-operative efforts with non-Arctic countries.

CAFF's current activities include the implementation of the *International Murre Conservation Strategy and Action Plan*, the *Circumpolar Eider Conservation Strategy and Action Plan*, efforts to document and conserve rare endemic vascular plants of the Arctic, and an overview of conservation measures for Arctic-nesting migratory birds outside the Arctic.

CAFF will continue to identify measures and develop strategies for conservation of Arctic species in order to maintain healthy and genetically diverse populations.

Actions

1. Co-ordinate and evaluate national efforts to implement the *International Murre Conservation Strategy and Action Plan* and the *Circumpolar Eider Conservation Strategy and Action Plan*.
2. Identify common conservation concerns with respect to Arctic species and habitats, including those for species that migrate outside the Arctic.
3. Identify actions necessary to conserve Arctic ecosystems, species and habitats of common conservation concern and co-ordinate their implementation.

Objective 3

Establish protected areas in the Arctic region where they contribute to the conservation of ecosystems, habitats, and species

Rationale

Protected areas, such as parks, wildlife refuges and marine sanctuaries and reserves, can help conserve large, representative areas of ecosystems and can also protect sites that are of special significance (e.g., those that contain a large portion of a particular species or a great number and variety of species). In both cases, protected areas directly conserve habitats—the physical and biological conditions upon which plants and animals depend—and indirectly conserve the species that inhabit them, thus contributing to the conservation of ecosystems as a whole. They may also provide protection for certain cultural resources, as indigenous subsistence societies were often closely associated with areas of significant biological diversity. In addition, protected areas can contribute to circumpolar monitoring efforts. They often have site-specific monitoring programs that can contribute to larger-scale programs, and contain pristine areas that can be used as a benchmark for assessing impacts in adjacent areas.

Although, at present, protected areas cover about 15% of the Arctic terrestrial area, they are unevenly distributed across ecosystems and countries. While about 28% of the Arctic desert is within protected areas, only 12% of the lowland tundra and 7% of the northern boreal zone is protected, indicating an inverse relationship between biological diversity and the level of protection accorded in the circumpolar region. Furthermore, only 2% of the Arctic marine area is protected. By country, protected areas range from about 5% to 46% of their Arctic territory. The *Circumpolar Protected Areas Network (CPAN) Strategy and Action Plan* was endorsed in 1996. Its goal is “to facilitate implementation of initiatives to establish, within the context of an overall Arctic habitat conservation strategy, an adequate and well managed network of

protected areas that has a high probability of maintaining the dynamic biological diversity of the Arctic region in perpetuity.”

CAFF will continue to promote the co-ordinated establishment and maintenance of protected areas in the Arctic where they contribute to the conservation of biological diversity.

Actions

1. Co-ordinate and evaluate efforts to implement the *CPAN Strategy and Action Plan*.
2. Evaluate the contribution of the existing protected area system to conservation of circumpolar ecosystems, habitats, and species, and identify the most significant gaps in protected area coverage.
3. Identify actions necessary to enhance the marine component of CPAN in co-operation with PAME.
4. Identify and evaluate impacts on protected areas to ensure their biological diversity.

Objective 4

Manage activities outside protected areas in order to maintain the ecological integrity of protected areas and to ensure the conservation of biodiversity.

Rationale

At present, about 85% of Arctic land and about 98% of Arctic seas are outside protected areas. While additional protected areas may be established, most of the Arctic territory will remain outside protected areas. Proper habitat management and conduct of activities in these areas is a key element in conserving overall Arctic biological diversity, including that within protected areas. Ideally, efforts under this objective should form an overall habitat conservation strategy for the Arctic, of which the *CPAN Strategy and Action Plan* would be one part. Relevant ongoing projects of CAFF include the Circumpolar Arctic Vegetation Mapping Project (CAVM) and a background paper on threats to Arctic biological diversity.

CAFF will identify approaches and develop strategies, in addition to area protection, to maintain the overall integrity of Arctic ecosystems.

Actions

1. Evaluate the potential impacts of climatic change and UV-B radiation on ecosystems, habitats, and species in co-operation with AMAP.

2. Assess other threats to and impacts on biological diversity outside protected areas, and recommend mitigating measures as appropriate.
3. Review land-use planning principles and mechanisms for conservation outside protected areas.
4. Provide an overview of the status and trends in changes to ecosystems, habitats and species in the Arctic.

Objective 5

Enhance integration of biodiversity conservation and sustainable use objectives into sectoral and cross-sectoral² plans and policies. Identify approaches and develop strategies by which information on the conservation of Arctic biological diversity can be made available in an appropriate manner to those making socio-economic decisions.

Rationale

The maintenance of biological diversity is fundamental to the effective functioning of ecosystems. As many Arctic societies have a close relationship to nature, healthy ecosystems are the basis for collective human health and economic prosperity. In addition to ecological value, biological diversity also has social and economic values, which should be factored into decisions, which will have an impact on the natural environment. Full integration of conservation considerations into economic sectors, and into local, national and international plans and policies, will depend in large part on actions outside the mandate or expertise of CAFF. Nonetheless, raising awareness and improving understanding of the relationship between conservation concerns and economic plans and policies is an essential step toward such integration. The rapidly expanding tourism industry is a case in point. The *Guidelines for Environmental Impact Assessment in the Arctic* is one example of how environmental values may be incorporated into economic considerations.

Actions

1. Identify and evaluate opportunities to minimise the impacts of economic development on biological diversity.
2. Develop appropriate ways to communicate information on biological diversity to those involved in different economic sectors and to those making socio-economic decisions.

² "sectoral" and "cross-sectoral" refers to one or more generally recognised foci of economic activity (e.g. agricultural or forestry sector) in a single country.

3. Conduct case studies to examine how conservation concerns and needs are communicated to and integrated into socio-economic and development decisions in indigenous and other Arctic communities.