Arctic Flora and Fauna:
Recommendations for Conservation

Annotated Outline #5, 4 October 2001

Key considerations

Purpose: *to present a set of recommendations with respect to the conservation of circumpolar flora and fauna which will be a springboard for further collective action by the Arctic Council both within the Arctic Council and at other international fora where Arctic Council member states participate.*

Audience: *The Ministers and SAOs of the Arctic Council, senior national officials who may address these recommendations in other fora (RIO + 10, EU, etc.)*

Scope: *issues relating to the CAFF mandate, in particular those raised in the Overview*

The product: the format (cover, layout, etc.) of the recommendations should be consistent with the Overview Report to reinforce the notion that both products are closely linked. However, the Recommendations should also be a "stand-alone" document that will provide sufficient context for the reader to understand and accept the recommendations. The product should be very similar (format, scope) to the brochure that was presented to the ministers at the Barrow meeting.

Length: *24 pages total (4 pages cover/inside cover; 20 pages text, etc.)*

Cover – 1 page
Title & format like brochure & report

Inside front cover – 1 page
Text like the brochure, with an introduction to the Arctic Council
Suggested citation for report
CAFF contact information; AC website

Introduction – 3 pages (including full-page map)

- ?? The Arctic is an ecosystem, must be considered as a unit
- ?? The Arctic is connected to every part of the globe and many environmental issues extend beyond national borders
- ?? Conservation must be both a national and international undertaking
- ?? Growing number of conventions and international agreements reflect this

?? Arctic people are closely connected to and an important part of the region's heritage
?? Northern societies are facing change within the context of four major themes: global change, globalisation, the development of the information society, and sustainable development:
    ?? globalization means that the market economy is becoming more international, and that countries are becoming ever more interdependent.
    ?? many of the environmental issues facing the circumpolar arctic originate from elsewhere in the globe
?? The Arctic Council recognizes these principles through its focus on sustainable development and environmental protection
?? CAFF addresses biodiversity & conservation
?? Conservation accommodates various human needs, including those of user groups, but must ensure that any use is sustainable for the benefits of future generations
?? CAFF advocates ecosystem-based approach for conservation, which considers ecological boundaries, the complexity of natural processes, social systems and resource use. It emphasises collaborative decision-making to deal with a landscape owned by many individuals and organizations with different values, interests and capabilities.
?? The CAFF overview report on "Arctic Flora and Fauna: Status and Conservation" was the first circumpolar examination of the status and conservation of Arctic biodiversity
?? The purpose of this report is to:
    ?? highlight the themes and general conclusions of the overview report
    ?? define the actions needed to address the priority conservation issues impinging on the Arctic
    ?? provide a basis for future CAFF activities.
    ?? provide a resource for other organizations working on Arctic conservation

The Arctic – 6 p (includes maps, etc.)

?? Arctic flora and fauna are dominated by climate, which is variable
?? Ecological relationships are critical to understanding how the system functions, what it is vulnerable to
?? The Arctic is connected to every part of the globe through e.g. migratory animals
?? The Arctic can be considered in 4 major regions: forest-tundra, tundra, freshwater, marine
?? Each region has its own characteristics and concerns
?? Humans have long been part of the Arctic system, and Arctic cultures are an important part of the Arctic
?? Human activities, however, also threaten the Arctic in many ways
?? Describe main features of Arctic biodiversity and natural resources and their value to circumpolar societies
?? Cultural diversity is dependent upon biological diversity - social/cultural/economic value of natural resources

?? Illustrate the complexity of biodiversity conservation
?? Conservation requires many approaches, from species protection to habitat protection to the mitigation of diffuse threats such as pollution and climate change
?? Many international actions have been taken, but are neither coordinated nor comprehensive

Conservation Issues and Opportunities – 10 pages

Introduction

?? Although the Arctic is relatively undisturbed, threats are intensifying and spreading.
?? Conservation requires respecting and cooperating with Arctic residents, especially indigenous people whose cultures reflect their continued relationship with the natural world.
?? Conservation takes many forms and requires a solid foundation in education, research, and sharing of information.
?? Many aspects of conservation discussed below are closely related to economic and other spheres of human concern.
?? Conservation includes sustainable use and is essential for sustainable development
?? The focus of CAFF is on biodiversity, but the Arctic Council and others who receive these recommendations should consider the implications of conservation in other sectors and the ways in which competing, conflicting, or complementary aims can be reconciled.
?? Conservation actions can be considered in five categories: conserving species, conserving ecosystems and habitats, assessing and monitoring biodiversity, global issues, and engaging society.

Conserving Arctic Species

Main issues (inter alia from overview)

?? Arctic fauna provide food, income, and cultural inspiration to Arctic residents
?? Circumpolar species are the shared responsibility of the Arctic Startes
?? Many animal populations and stocks in the Arctic have been seriously depleted or driven to the brink of extiction by over-exploitation in the past
?? Overexploitation is still ongoing for some animal populations in the Arctic (ex. Fish stocks, seabirds in Greenland, etc.) and others are hurt by habitat loss, pollution, etc.
?? Flora are the base of the food web and provide food, medicines, and materials for Arctic residents
?? Many plant communities have been badly damaged through over-grazing by lifestock, erosion, irrigation of wetlands, damming, mining and other human activities.
?? The overall status of Arctic plant communities is poorly known.
?? Sustainable use is a common goal of conservationists and users
?? Anthropogenic impacts from other sources such as development activities, alien species, and pollution threaten Arctic flora and fauna

Ongoing activities

?? CAFF is implementing circumpolar conservation strategies and action plans for murres and eiders
?? CAFF has documented information on seabird bycatch, including workshop with the fishing sector looking at ways to address the issue
?? CAFF has documented and mapped rare endemic vascular plants in the Arctic and is supporting the completion of a Circumpolar Arctic Vegetation Map

Constraints

?? Status and trends information for Arctic flora is poor and there are no common definitions of important plant areas.
?? Many circumpolar species are of common conservation concern, but circumpolar conservation strategies have not been explored yet for such species and groups as shore birds, Arctic fox, wolf, wolverine, caribou/reindeer, walrus, and ice seals

Recommendations

In cooperation with relevant resource users and stakeholders, the Arctic states should:

? ?Assess priorities for, and develop and implement conservation strategies and action plans to ensure healthy populations of Arctic wildlife species of common concern for which existing international initiatives are inadequate.
? ?Assess priorities for, and develop and implement conservation strategies and action plans for Arctic plant species and communities in need of specific protection (e.g., diverse, rare, threatened, or endemic plant assemblages), including protection of important plant areas.
? ?Prepare a circumpolar strategy and action plan to promote sustainable fisheries management, including the reduction of bycatch.

<u>Conserving Arctic Ecosystems and Habitats</u>

Main issues (inter alia from overview)

?? Species cannot be conserved in isolation from the physical and biological environment they live in
?? Undisturbed habitats are essential for healthy animal populations
?? Indigenous people's traditional lifestyles require large streches of undisturbed nature
?? The Arctic region boasts some of the largest stretches of undisturbed ecosystems and habitats on earth
?? Habitat disturbance and fragmentation caused by development activities is an increasing threat.
?? Protected areas are the conventional way to protect landscapes, ecosystems, habitats and geological phenomena
?? Protected areas are increasingly designated to protect *cultural heritage*
?? Protected areas cover only a fraction of the Arctic – there is a further need for conservation measures outside protected areas
?? Recent report by UNEP forecasts that 50-80% of the Russian Arctic will be affected by human land-usev activities by 2050
?? An integrated ecosystem approach to conservation is the way forward.

Ongoing activities

?? CPAN Strategy and Action Plan
?? Sacred sites project
?? Integrated management strategies in Arctic Russia (GEF)
?? WWF Ecoregions
?? UNEP/WWF mapping and description of 25 of the largest wilderness areas in the Arctic

Constraints

?? CPAN is still far from being representative, particularly in the marine environment
?? The proportion of protected areas is inversely related to ecosystem productivity (glaciers and polar desert 37%, coastal areas and shallow seas 2%)
?? A strategy needs to be developed for conserving large wilderness areas using both protected areas and other approaches
?? No overall picture is available of the impacts of land-use changes or climate change in the circumpolar Arctic
?? Managing ecosystems, rather than single species, needs more attention both in concept and in practice.

Recommendations

In cooperation with Arctic residents and other relevant stakeholders, the Arctic states should:

? ?Complete the development of a circumpolar network of ecologically and culturally representative protected areas in the terrestrial, freshwater and marine environments.
? ?Develop a strategy for preventing fragmentation of the remaining unfragmented natural habitats and ecosystems in the Arctic.
? ?Review land- and resource-use mechanisms and changes around the Arctic region and establish common guidelines that reflect an ecosystem approach to conservation

<u>Assessing and Monitoring Arctic Living Resources</u>

Main issues (inter alia from overview)

?? Conservation needs to be based on sound assessment of the status of the natural environment
?? Existing data sets are useful but typically limited in time and space
?? Tracking conservation status is complicated, in part because the system is highly variable and in part because we have relatively few data to work with

Ongoing activities

?? All Arctic countries have some monitoring programs in place for key aspects of their biodiversity

?? Several international organisations and programs monitor aspects of Arctic biodiversity on a regional or circumpolar scale (e.g. NAMMCO, ICES, PICES, Polar Bear Agreement, ITEX)
?? CAFF has initiated a program to monitor Arctic biodiversity, is working with AMAP to coordinate with AMAP's activities in this area
?? As a first step, CAFF is establishing expert monitoring networks for key species and species groups such as; caribou/reindeer, Arctic char, seabirds, waders, geese, ringed seals, vascular plants.
?? There is also a need for a common data base for ecological monitoring information in the circumpolar Arctic.

Constraints
?? Information on the circumpolar status of many species and populations of animals is still insufficient
?? Information on status and trends of Arctic flora is fragmentary
?? Ecological processes that govern life in some Arctic environments (e.g., ice edge, marine, soils) are still poorly understood thus constraining conservation actions.
?? Identification and classification of Arctic species, especially invertebrates and microorganisms, is at a rudimentary stage.
?? Long-term monitoring is expensive

Recommendations
The Arctic States should:

? ?Establish a circumpolar monitoring network to detect impacts of large-scale changes - including climate, land, and resource-use changes - on Arctic biodiversity, with an associated common database
? ?Promote programs that identify and classify Arctic species to develop a better understanding of their roles in ecosystems and thus a better understanding of how to conserve ecosystems effectively

<u>Global issues</u>
Main issues (inter alia from overview)
?? Many big conservation issues (e.g. climate change, long-range pollution, alien species) transcend national boundaries and must be addressed on a regional or global basis
?? The polar regions will be most heavily impacted by climate change
?? Invasive non-indigenous species are considered one of the most serious threats to biodiversity worldwide
?? Invasive species are already present in the Arctic region, though their impacts are not well documented in most cases
?? Much of the threat to Arctic-nesting migratory birds occurs outside the Arctic.
?? The AC can deal with certain conservation issues within a circumpolar context but other issues must be addressed in global fora

?? The circumpolar countries can be more effective in global fora if they carry a common message

Ongoing activities

?? The Arctic Climate Impact Assessment is a joint program by CAFF and AMAP in collaboration with IASC to examine the impacts of global change in the Arctic
?? CAFF has prepared an overview of international conservation instruments relevant for Arctic-breeding migratory birds

Constraints

?? There are no circumpolar risk assessment available for key or endangered species and habitats in relation to climate change.
?? A circumpolar overview on invasive non-indigenous species or their impacts is lacking.
?? There is a need to establish a priority list of circumpolar Arctic migratory bird species and asess their conservation status throughout their migratory range.
?? Through strengthened cooperation, Arctic States could more effectively secure their common conservation interests in global conservation agreements and conventions

Recommendations:

? ?Develop tools for assessing the consequences of global changes to Arctic biodiversity and strategies for preventing or mitigating such threats.
? ?Assess the impacts of introduced (non-indigenous) and genetically modified species on Arctic biodiversity and develop response strategies to mitigate and prevent such impacts.
? ?In cooperation with non-Arctic states, assess priorities, and strengthen conservation measures for those migratory species that lack adequate international protection, including conservation of their wintering and staging areas.
? ?Assess priorities relevant to transboundary conservation of Arctic biodiversity under international agreements and conventions, and develop common approaches between Arctic and non-Arctic states.

<u>Engaging Society</u>

Main issues (inter alia from overview)

?? Effective long-term conservation depends on public awareness, both in the Arctic and globally, which means providing scientific and other information in comprehensible forms
?? Emphasis should be placed on preventing ecological problems, particularly in the Arctic, rather than the less effective and more costly attempts to restore what has been damaged.
?? Education, training, and research are of great importance for conservation.
?? Decision-makers should have appropriate information to help them make responsible decisions.

?? Arctic indigenous peoples and other residents have amassed vital knowledge about their local environments which can be put to more effective use in gathering status and trends information
?? The true value (ecological, economic, social) of natural resources should be considered when making management decisions relating to their long-term sustainability.

Ongoing activities
?? *Arctic Flora and Fauna: Status and Conservation*
?? Publicizing CAFF activities
?? CAFF seminar on documentation and application of indigenous knowledge
?? Beluga mapping project

Constraints
?? Currently, world attention tends to focus on environmental issues in the tropics (e.g., deforestation of rainforests) – this is an area of very high biodiversity, high human population
?? Preparing plain-language reports and other publicity material is expensive and can be time consuming
?? Reaching Arctic residents and reaching residents of non-Arctic countries often require very different forms of communication, and the messages need to be tailored to the specific audience
?? The use of traditional knowledge still faces some resistance in the scientific and management communities
?? The conservation community has not engaged those in different economic sectors (e.g., reindeer herding, fisheries, forestry, agriculture, oil & gas, mining) in the Arctic

Recommendations:
The Arctic States should:
? ?Assess the full value (environmental, cultural, and economic) of Arctic natural resources as a basis for sound decision-making on land and resource use.
? ?Promote education about the value, conservation, and sustainable use of Arctic natural resources as an integral part of school curricula in the Arctic region
? ?Encourage greater participation of Arctic communities and schools in gathering information on Arctic species and ecosystems to assist in detecting global change.
? ?Promote programs to educate the public, both in the Arctic and in non-Arctic countries, providing key messages about Arctic conservation and its importance on a global scale.

Looking to the Future – 1 page
Repeat/paraphrase the last three paragraphs of the Conclusions, as an inspirational message

Inside Back Cover – 1 page
Credits

Back Cover – 1 page
CAFF Publication list, photo(s)