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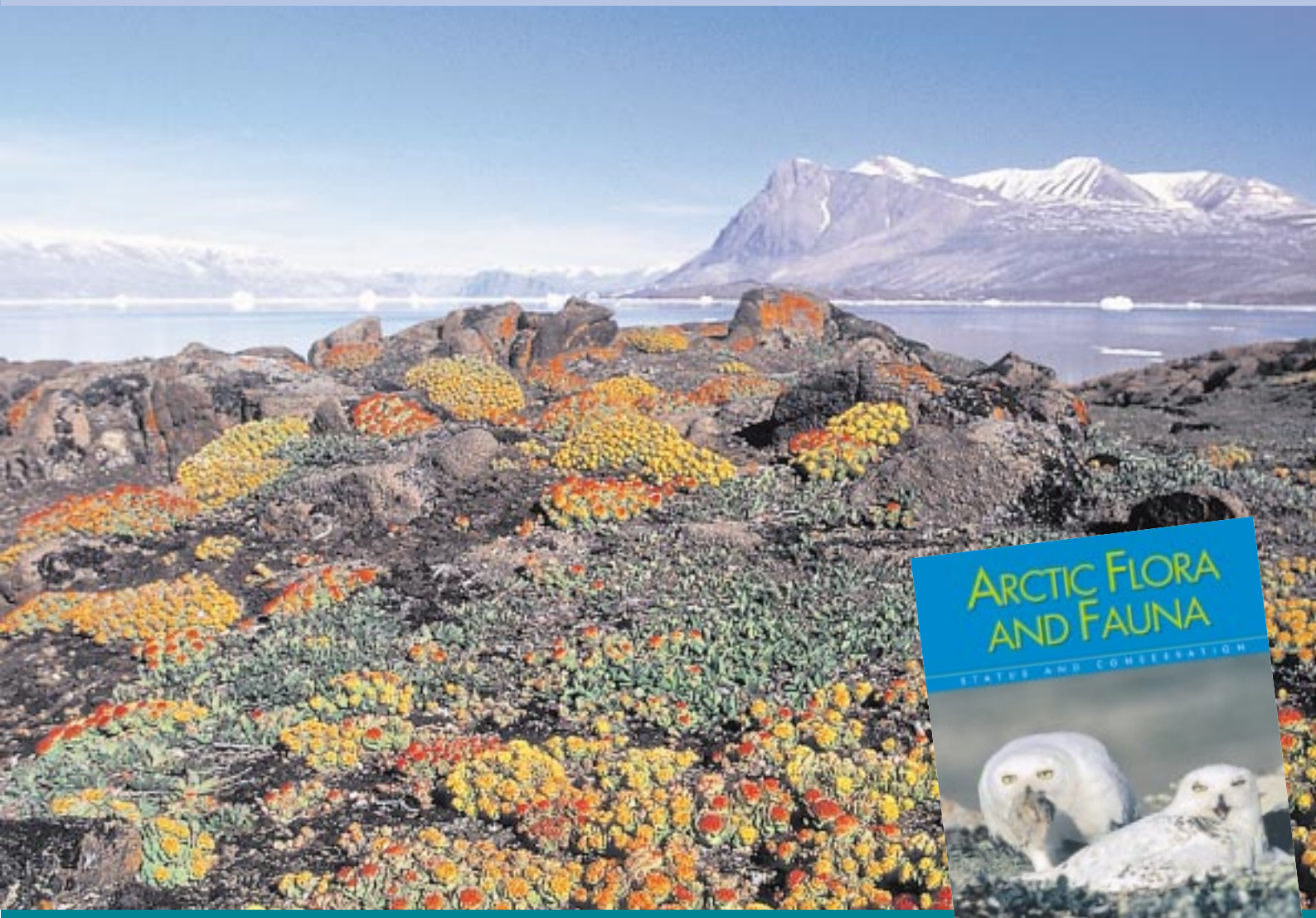

CAFF Delivers Overview Report on Arctic Flora and Fauna

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Publisher:
WWF International Arctic Programme

P.O. Box 6784
St. Olavs plass
N-0130 Oslo, Norway
Tel. +47-22 03 65 17
Fax +47-22 20 06 66
E-mail: arctic@wwf.no
Internet: ngo.grida.no/wwfap

Editor in Chief:
Peter Prokosch

Editor:
Tove Christensen

Design and production:
Ketill Berger

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Editorial

Bad and Good News

Two very different news reports reached our office on August 1. Let's begin with the bad news: the U.S. House of Representatives approved an energy bill that will permit limited oil exploration and drilling in Alaska's Arctic National Wildlife Refuge (AB 2/01). Although it survived the House vote, the proposal to allow drilling faces opposition in the Senate, as several high-profile Democrats have pledged to obstruct any legislation that will open the Refuge to this activity.

Further, the "comprehensive" energy bill calls for only modest increases in fuel economy standards for sport utility vehicles and mini vans (SUVs). A Democratic proposal to introduce tougher standards as a measure to reduce pollution and U.S. reliance on foreign oil imports was defeated by supporters of the auto industry. According to some estimates, improving fuel efficiency to 45 miles per gallon for cars and to 34 miles per gallon for light trucks and SUVs (from an average of 12–14 miles per gallon) would save more oil than can likely be recovered from the Refuge.

The good news: conservationists have won a major battle to save the Icelandic highlands from hydropower development (see below). On August 1, Iceland's National Planning Agency ruled against the construction of the massive Karahnukar Power Plant in eastern Iceland. If approved, the project would have destroyed a vast wilderness containing internationally significant wetlands and unique landforms.There is still a possibility that Iceland's minister of the environment may overturn the decision, however, this is unlikely given the clarity of the position taken by the state's planning agency.

Mobilising greater numbers of people to recognise and protect the outstanding natural values of the Arctic will be key to conserving this vital region, and is an important focus of the work of WWF and others. A new overview report by CAFF (the Arctic Council working group on conservation of arctic flora and fauna) on the overall state of the Arctic's natural environment will be very useful in this respect (see pp. 8–9). The report should help to guide the Arctic Council in developing concrete actions to solve important environmental problems, as did the earlier AMAP (Arctic Monitoring and Assessment Programme) report on pollution issues (AB 4/98, 1/01). At the 10th anniversary celebration of the arctic environmental cooperation in Rovaniemi in June, all good intentions for the future of the Arctic were expressed by politicians (see pp. 4–5). Let us all work together to make sure intentions become reality!

PETER PROKOSCH
WWF Arctic Programme

Icelandic Hydropower Project Overruled

Icelandic and international conservation organisations won a major battle on August 1 when plans to build a massive hydropower project in eastern Iceland were rejected by the state's National Planning Agency. The project would have destroyed one of Europe's largest intact wildernesses, containing unique canyons and internationally important wetlands with a high tourism potential.

The ruling was a major conservation success, with implications that reach far beyond Iceland, according to Arni Finnsson, Chairman of INCA (Iceland's Nature Conservation Association and WWF's partner organisation in Iceland). Although Iceland's environmental minister can still overturn the decision if a formal request is submitted by September 5, it will be quite difficult for the minister to do so, given the extensive argumentation in support of the ruling, adds Finnsson.

The Karahnukar project was among the largest hydropower projects ever planned in Europe, with a capacity to deliver 700 MW to a nearby aluminum smelter owned by Norsk Hydro (AB 3/99, 2/00 and 4/00). It would have dammed two of the three main rivers flowing from Europe's largest glacier, the Vatnajökull Glacier, and destroyed the unique highland wilderness north of the glacier. Instead, it will likely recede into history as the second largest hydropower project on Iceland to be stopped by conservation interests. Last year, environmental groups successfully fought plans for a related hydropower project that would have flooded the Eyjabakkar wetlands, a rich delta on the easternmost of the three rivers (AB 3/99). As an alternative to development, INCA and WWF have pushed for the protection of the entire area as a national park. The cancellation of the project presents a golden opportunity to advance the park, which, if designated, would be the largest protected area in western Europe.

For further information contact:
Arni Finnsson
Iceland Nature Conservation Association
arnif@mmedia.is

Boundaries of national park proposed by INCA north of Vatnajökull Glacier.
Map: INCA

Photo: Snorri Baldursson

Handing over the CAFF report in Rovaniemi. From left to right: Henry Huntington, lead author; Paula Kankaanpää, Director of the Arctic Centre; Satu Hassi, Chair of Rovaniemi celebrations and Esko Jakkola, Finland's CAFF representative.

The Rovaniemi Process:

Celebrating 10 Years of Arctic Environmental Cooperation

The importance of long-term environmental protection to successful sustainable development was an important message of a keynote address by Finnish Prime Minister Paavo Lipponen at the 10th anniversary celebrations of arctic environmental cooperation in Rovaniemi, Finland. In 1991, a Finnish initiative, the Arctic Environmental Protection Strategy (AEPS), was launched in Rovaniemi (AB 2/01). The cooperation involving the eight arctic states – Canada, Denmark/Greenland, Finland, Iceland, Norway, Russia, Sweden and the USA, was strengthened in 1996 with the establishment of the Arctic Council, a permanent, high-level forum. At the celebratory meeting, environmental ministers and other speakers highlighted past successes and the central role that environmental protection has played in the circumpolar cooperation, and recognised the importance of continuing the environmental focus. The achievement of arctic organisations in realising a successful Stockholm Convention on Persistent Organic Pollutants (POPs), the future of the Kyoto Protocol (a global agreement to tackle climate change), and next year's Rio +10 (World Summit on Sustainable Development) were frequently mentioned in the various speeches. A highlight of the event was the delivery of the overview report *Arctic Flora and Fauna, Status and Conservation* by the Arctic Council working group CAFF (Conservation of Arctic Flora and Fauna (see pp. 8–9). In the evening, *Arctic Rings of Life*, an exhibition presented by WWF and UNEP (United Nations Environment Programme) opened in the Arctic Centre, Rovaniemi.

Pride and enthusiasm about what has been accomplished over the past decade was obvious among the high level speakers and approximately 150 participants. Also evident was a spirit of renewed motivation to continue the environmental emphasis of the Council's work. The structure of the cooperation, high level partnerships with indigenous organisations (permanent participants in the Arctic Council), a focus on the environment and concrete political successes were major reasons.

The most important, frequently mentioned and recent success was the Stockholm POPs Convention (see p. 14). David Stone, the Director of Northern Science and Contaminants Research at Canada's Department of Indian Affairs and Northern Development, described the exciting history leading to the signing of the treaty, and why credit can rightly be claimed by all members of the Arctic Council. Mr. Stone stated that the Stockholm

Convention, the Convention on Long-range Transboundary Air Pollution (LRTAP) and a major report of the Arctic Council's Arctic Monitoring and Assessment Programme (AMAP), *Arctic Pollution Issues: The State of the Arctic Environment* (1997) reflect the synergy achieved between the people and bodies preparing these conventions and reports. Mr. Stone referred to a speech given by Sheila Watt-Cloutier, President of the Inuit Circumpolar Conference (ICC) at the Stockholm conference to illustrate how arctic people can gain influence in global issues (AB 2/01).

Satu Hassi, Finland's Minister of the Environment said that almost everyone is looking forward to building on the Stockholm experience to achieve similar success in addressing climate change, one of the greatest threats to our planet. A ratified Kyoto Protocol in the near future is vital, said Ms. Hassi. Ambassador Mary Beth West, head of the U.S. delegation, told participants that the Arctic Climate Impact Assessment (ACIA), a new initiative of the Arctic Council chaired by the U.S., shows promise.

Optimism was also expressed by Iceland's environment minister Siv Fridleifsdottir. A new international focus on the Arctic and increased willingness among arctic states to cooperate means that what could only be dreamed about twenty years ago is possible today, said Ms. Fridleifsdottir. Iceland made an official announcement at the meeting that it is ready to serve as the chair of the Arctic Council following the conclusion of the Finnish chairmanship. It was promising to hear Ms. Fridleifsdottier remark that Arctic nations are the keepers of some of the greatest wilderness areas on earth. The Icelandic government is now presented with an excellent opportunity to demonstrate this responsibility by protecting its central highlands (see p. 3).

The previously mentioned overview report *Arctic Flora and Fauna, Status and Conservation* was widely acknowledged as an important achievement of the arctic cooperation and as another concrete product of CAFF's work. As part of the ceremony, the report was delivered by the chair of CAFF, Sune Sohlberg, to the chair of the meeting, Satu Hassi, Finland's environmental minister. The Arctic Council should now focus on developing actions to follow-up on the CAFF report, as it did after AMAP released its pollution report. Wilderness protection, highlighted in a keynote address by UNEP's Director General Klaus Töpfer, should certainly be one of the leading issues.

Photo: Peter Prokosch

From left to right: Claude Martin, General Director of WWF; Satu Hassi, Environment Minister of Finland and Klaus Töpfer, General Director of UNEP.

The day culminated with the opening of the WWF/UNEP/Arctic Centre exhibition *Arctic Rings of Life* by Paula Kankaanpää, Director of the Arctic Centre and Claude Martin, Secretary General of WWF International. Mr. Martin emphasised the importance of not allowing the World Summit on Sustainable Development (Rio +10) to become an event leading to the further dilution of this environmental concept, which was first presented in the IUCN(International Union for the Conservation of Nature)/UNEP/WWF World Conservation Strategy.

The important dialogue between governments, indigenous peoples, NGOs and researchers continued with red wine and tasty arctic food in the halls of the Rovaniemi Centre. May it continue over the next 10 years for the benefit of all nations.

PETER PROKOSCH
WWF Arctic Programme

Photo: Peter Prokosch

WWF and UNEP presented the exhibition Arctic Rings of Life at the 10th anniversay celebration of the Rovaniemi Process.

New Direction for the Arctic Council? Mixed Success for Finland

Senior Arctic Officials Meeting, Rovaniemi, Finland, June 12–13 2001

The Arctic Council is a high-level forum that addresses arctic environmental and sustainable development issues, and includes the eight arctic countries, indigenous peoples' organisations and observers. When Finland took the chair of the Arctic Council last year, its primary goal was to make the Council more of a player on the regional and global stage. The June 12–13 meeting of the Council's Senior Arctic Officials (SAOs) – senior diplomats representing the eight arctic countries – showed mixed progress towards this goal.

The Arctic Council and the EU

One major change since Finland took the chair has been its interventions on behalf of the Council in several international fora. At the SAO meeting, Finland reversed this pattern and brought a key international player, the European Union, to the Arctic Council. The E.U.'s Northern Dimension initiative has been in existence since 1997; covers Iceland, Fennoscandia and northwest Russia; and includes a developing "arctic window" that focuses on sustainable use of natural resources, environment and indigenous peoples' issues. Nonetheless, this was the first time that the E.U. had appeared at an Arctic Council meeting.

Arctic Council Reorganisation

One of Finland's first acts as chair was to commission a study of the Council's structure by the former Finnish Minister of the Environment, Pekka Haavisto. At present, Arctic Council working groups operate relatively independently. As a result, there has been significant overlap in activities and competition for funding from the same sources.

The SAOs discussed a draft of the

Update: Toxics in the Arctic Council

Pollution has been the Arctic Council's strongest program area to date. The Council, a high-level forum for arctic countries, indigenous peoples' organisations and observers, has no less than four pollution-related working groups and initiatives. One, the Arctic Monitoring and Assessment Programme (AMAP), showed in 1997 that the "pristine" Arctic was contaminated by toxic chemicals from more temperate latitudes. AMAP's research was key to the negotiation of the recently signed Stockholm Convention, which will control and ultimately eliminate 12 of the most toxic of these chemicals (see p. 14).

But the focus on pollution has had less positive sides, among them a lack of clarity as to the responsibilities of the different groups and initiatives. For example, Protection of the Arctic Marine Environment (PAME) and the Arctic Council Action Plan to Eliminate Pollution of the Arctic (ACAP) – are both involved in extensive terrestrial source cleanup projects in northwestern Russia.

Two developments may help to resolve the problem of overlapping pollution-related activities. The coming Arctic Council reorganisation (see article above) will certainly combine some of the pollution-related groups and initiatives, and it may yet produce a single pollution "action" group. In the meantime, the chairs of PAME and ACAP have reached a formal agreement to coordinate their activities.

Russian NPA- Arctic: Government Approval

PAME's mandate is to protect the arctic marine environment from pollution. In 1998, the Arctic Council adopted a Regional Programme of Action for the Protection of the Arctic Marine Environment from Land-Based Activities (RPA). The Russian Federation's national implementation of the RPA is known as the Russian NPA-Arctic and consists of 38 wide-ranging projects. The Advisory Committee on Protection of the Seas (ACOPS), a non-governmental organisation, has contributed technical assistance to the development of the Russian NPA-Arctic and is now working with PAME on funding and implementation issues.

After several years of uncertainty about the Russian NPA-Arctic's status, the Ministry of Natural

Industry in Norilsk, Russia is the single largest point source of pollution in the Russian Arctic.

Photo: Peter Prokosch

study in Rovaniemi and all agreed that it provided an excellent background analysis of the Council. But it sidestepped the biggest organisational issue: how to coordinate the efforts of the pollution working groups Arctic Monitoring and Assessment Program (AMAP) and Protection of the Arctic Marine Environment (PAME), as well as the Norwegian-led initiative Arctic Council Action Plan to Eliminate Pollution of the Arctic (ACAP) (see article below).

The study suggested a permanent secretariat, covering the Council and its working groups, as a long-term solution to many of the Council's institutional problems. This would require defined, longer-term financial contributions from the member states. Perhaps a bigger obstacle is the fear that concentrating the secretariats in one country would give that country too much influence over the agendas of the Council and its working groups.

New Priorities for the Arctic Council?

Meanwhile, Norway and Iceland used the study and the SAO meeting to push for a fresh look at the Council's future priorities. In Norway's view, the Council should focus its work on the environmental and development challenges that the Arctic will face in the coming years. As the study pointed out, this would lead the Council into more of the region's most contentious political and resource management issues – but might at the same time revitalise the Council's work. Iceland saw the overall theme of the Council as sustainable development, and proposed a three-pillar approach consisting of environmental, economic and social priorities. Russia, the United States and Sweden, however, warned against revisiting these issues.

SAMANTHA SMITH
WWF Arctic Programme

Resources and Roshydromet have signed off on it and it appears likely to receive final approval from the Russian Federation's Ministry of Economic Development and Trade. When this happens, the way will be cleared to seek further funding, both from the Global Environmental Facility (where parts of the NPA-Arctic received initial development funds) and through two industry/government/international financing institution roundtables in 2002.

The most interesting aspect of the NPA-Arctic is a potential focus on cooperation with private industry, through aid-funded sale of cleaner technology to polluting industries. If properly coordinated, this form of capacity building can tie in well with a couple of the projects under ACAP, which also have cleaner production technology as a goal.

ACAP – New Funds

Led by Norway, ACAP works to eliminate pollution through international agreements and by cleaning up sources. Current ACAP projects include a survey of mercury sources within the arctic region; a project to identify and clean up PCB sources in the Russian Federation; an inventory of dioxins and furans in the Russian Federation, plus demonstration of less-polluting technology; a project to identify and safely dispose of obsolete pesticides in the Russian Federation; and a project to implement the Russian Federation's Cleaner Production Project at the infamous city of Norilsk, the single biggest point source of pollution in the Russian Arctic.

Initial doubts about funding for ACAP vanished after the April 2001 meeting of ACAP's Steering Committee. Financial commitments by the arctic countries and the Netherlands now total just over $1,000,000 USD. While this is nothing in the international aid context, it is an achievement for the chronically underfunded Arctic Council. U.S. contributions were particularly noteworthy, totaling $435,000 USD plus high-level involvement by the U.S. Environmental Protection Agency. Denmark also deserves special notice, contributing at least $215,000 USD, and possibly as much as $315,000.

SAMANTHA SMITH
WWF Arctic Programme

Photo: WWF Russian Programme Office

WWF representatives V. Nikiforov and A. Shepeleva with RAIPON Vice President P. Sulyandziga.

Survival Strategy for Minority Peoples

On April 12 and 13, the building housing the administration of Russia's president was the venue of the Fourth Congress of the Russian Association of Indigenous Peoples of the North (RAIPON). Over the two days, 700 guests and 350 delegates drafted a survival strategy for minority peoples around the new millennium.

WWF's Russian Programme Office was an active participant in the congress. The importance of a healthy natural environment to the wellbeing of indigenous peoples in Russia was a key message in a special address by Igor Chestin, Director of the Russian Program Office. A WWF display table was set up in the lobby, where several thousand publications about WWF's activities were distributed, including booklets and calendars about joint projects of WWF and RAIPON. A ceremony was held to present a WWF map *"Indigenous and Traditional Peoples in the Global 200 Ecoregions"*.

Photo: Viktor Nikiforov

Rally outside of the House of Government. Slogan: "Indigenous small peoples of the North still exist".

Representatives from WWF organised meetings and talks that were attended by state deputies from northern regions, press officials and congress delegates, some of whom had participated in WWF field projects in Chukotka, Kamchatka, Yakutia and Koryakia. During the congress, WWF and other delegates attended an outdoor rally where indigenous peoples protested by chanting "No to bringing spent nuclear fuel into Russia" and "Indigenous peoples are living nature". Among the social and economic grievances listed in their appeal to the government, the congress delegates demanded restoration of the Tkhsanom area of traditional uses of nature, which was illegally abolished by the governor of Koryakia.

For further information, contact:
Viktor Nikiforov
WWF Russian Programme Office
vnikiforov@wwf.ru

Snowy Owls

Photo: Gilg & Salbard/GREA

What is the overall state of the Arctic's natural environment?

At a meeting in Iqaluit, Canada in 1998, the Arctic Council requested CAFF, one of its five working groups, to provide an overview of arctic ecosystems, habitats and species. On the occasion of the 10th anniversary of the Rovaniemi Process (see p. 4-5), a final overview report was presented to the Council. A collective effort of over 100 scientists and the Council's member countries, permanent participants and observers, the report represents a major step by CAFF to address conservation issues in the circumpolar Arctic.

Photo: Snorri Baldursson

Finnish CAFF representative Esko Jakkola displays new CAFF report at the Rovaniemi celebration (see pp. 4–5).

"What is the overall state of the Arctic's natural environment?" This sweeping question defines the ambitions of *Arctic Flora and Fauna: Status and Conservation*. This plain-language report was delivered by the Arctic Council working group CAFF (Conservation of Arctic Flora and Fauna), in Rovaniemi, Finland, on June 11, at the celebration of the 10th anniversary of the Arctic Environmental Protection Strategy. Although a simple answer to its opening question remains elusive, the 272-page book makes a valiant effort to summarise what is known while also explaining how arctic ecosystems function. This latter aspect of the book provides a context that will help readers understand figures on population sizes or the extent of protected areas.

The idea of producing the report can be traced to a workshop sponsored by the WWF Arctic Programme and the United Nations Environment Programme (UNEP) in Karrebæksminde, Denmark, in September 1997 (AB 4/97). Workshop participants noted that CAFF lacked a visible showcase for its work and recommended a substantial report that could capture the range of issues and concerns covered by CAFF and address the need for circumpolar cooperation on conservation in the Arctic. The CAFF Working Group supported the idea, which was endorsed by the Arctic Council in September 1998.

At that point, a small editorial team got to work. Team members developed an overall strategy for the report and an outline, both of which were refined at the 1999 CAFF meeting in Yellowknife, Canada. As a result, the book's general text, which gives an overview of arctic ecosystems and conservation, is supplemented by 75 boxes that describe specific topics in greater detail, ranging from species to places, from ecological processes to conservation threats. In addition, the book is copiously illustrated in color with photographs, maps, and diagrams. Ideally, the report will be useful and interesting both to those who pick it up from time to time and to those who read it from cover to cover.

"In much of the world, conservation is a matter of protecting what is left, or trying to restore what has been damaged. The Arctic offers a rare opportunity to demonstrate that humans can conserve a region, not as an afterthought, but as a priority."

For the most part, the available information on the state of the arctic environment is encouraging. Geese, for

Drummond's bluebell is a rare plant found on sandy dunes in the tundra of Alaska and Canada.

Photo: Jo Overholt.

example, are thriving with the sole exception of the lesser white-fronted goose and subpopulations of various species in eastern Siberia. In the decade since CAFF was formed, Russia has doubled the total area of its zapovedniks (strict nature preserves) in the Arctic. CAFF has also begun to address the conservation of rare, endemic vascular plants and the threat of seabird bycatch in commercial fisheries.

On the other hand, much remains to be done. Fragmentation and the impacts of roads, pipelines, dams, and transmission wires are serious threats across much of the region. Overharvesting of certain species is a problem in some areas. Climate change may radically alter the structure and functioning of arctic ecosystems, with results that are hard to predict but may include the demise of certain species and populations, such as the Peary caribou. Pollution, the introduction of alien species and diseases, and more intensive human pressures such as uncontrolled tourism must also be addressed if the Arctic is to remain in its current state.

As the report makes clear, conservation in the Arctic depends greatly on national and subnational efforts, but multilateral and circumpolar cooperation are also necessary to protect migratory and shared populations and to address widespread threats. In addition, greater sharing of information on ecological status and on the effectiveness of specific conservation measures will help countries identify problems and take action. The editorial team was surprised at the difficulty of obtaining reliable information from around the Arctic on such basic parameters as population sizes. While a great deal of current information is included in the chapter "Status and Trends in Species and Populations," long-term trend information is in most cases unreliable or unavailable.

Action plan to follow

While the report is attractive and substantive, and thus should draw considerable attention to arctic conservation and to CAFF itself, it does not include recommendations for action. The challenge now facing the CAFF Working Group is to develop specific recommendations for action to be presented to the Arctic Council at its next meeting in the fall of 2002. The book provides the basis for such recommendations, which should demonstrate how CAFF and others can lead the way to realising the hope expressed in the book's final lines: "In much of the world, conservation is a matter of protecting what is left, or trying to restore what has been damaged. The Arctic offers a rare opportunity to demonstrate that humans can conserve a region, not as an afterthought, but as a priority."

HENRY P. HUNTINGTON
Eagle River, Alaska,
hph@alaska.net

Arctic Flora and Fauna: Status and Conservation can be ordered from Earthprint.com (www.earthprint.com);NHBS,com (www.nhbs.com) and the World Conservation Bookstore (www.iucn.org/bookstore). The book costs approximately $30 US or its equivalent in Sterling.

Inuit hunters skinning a seal in Grise Fjord, Ellesmere Island, Canada.

Photo: Gilg & Salbard/GREA

The Mission of CAFF

The Program for the Conservation of Arctic Flora and Fauna is a distinct forum to discuss and address arctic conservation issues. As one of the working groups of the Arctic Council, its primary role is to advise the arctic governments on conservation matters of international significance and common concern.

Since its first meeting in 1992, CAFF has sponsored a variety of research projects and analyses and has launched several circumpolar conservation strategies:

- CAFF's conservation strategies and action plans for murres (guillemots) and the four eider species inhabiting the Arctic are being implemented and have greatly improved the conservation status of these seabirds.
- CAFF has created the unique Circumpolar Protected Areas Network, which aims to maintain in perpetuity the diverse habitats and biodiversity of the circumpolar Arctic.
- A CAFF/Inuit Circumpolar Conference project on traditional ecological knowledge of the beluga whale has paved the way for using indigenous knowledge in conservation work.
- The Atlas of Rare Endemic Vascular Plants is a major step in protecting a vital class of species unique to the Arctic.
- The Circumpolar Vegetation Map, soon to be finished, represents a step towards a harmonised habitat classification system for the circumpolar region on which to base future monitoring activities and assessments.

Several major new initiatives are underway:

- CAFF is developing a program to monitor circumpolar biodiversity. Expert networks have already been established to harmonise monitoring of several key species and species groups, including reindeer/caribou, Arctic char, ringed seals, seabirds, polar bears, waders/shorebirds, geese, and vascular plants.
- In cooperation with its sister working group AMAP, CAFF is involved in the Arctic Climate Impact Assessment, which will deliver in 2004 a major scientific assessment of the impacts of climate variability and change and UV-B radiation on ecosystems and societies in the circumpolar region.
- Together with the Russian Association of Indigenous Peoples of the North (RAIPON), CAFF is assessing the conservation value and status of sacred sites of indigenous people in two regions of Arctic Russia in preparation for a nationwide assessment.
- In collaboration with the United Nations Environment Programme (UNEP) and the Global Environment Facility (GEF), CAFF is working to reduce disturbance and fragmentation of Russia's extensive undisturbed tundra and taiga ecosystems.

In the 10 years of its existence, CAFF has made significant progress. Perhaps CAFF's greatest achievement has been to create working links among arctic scientists, managers, and indigenous peoples who share similar challenges and interests. These links have changed the face of conservation work in the Arctic. They represent the seeds from which future successes will grow.

Alfred Jakobsen, Environment Minister of Greenland:

Greenland to Introduce New Measures to Protect Wildlife

Recently, significant media attention has focussed on wildlife harvest levels in West Greenland, which are a source of concern to biologists (see pp. 15-19). Articles in journals such as *Polarfronten* and the *Arctic Bulletin* (4/00), and the report *"Arctic Flora and Fauna: Status and Conservation"*, produced by the Arctic Council working group on Conservation of Arctic Flora and Fauna (CAFF) (see p. 8-9) have also addressed this issue. In an interview for the Arctic Bulletin, **Tove Christensen** asked **Alfred Jakobsen,** Environment Minister of Greenland, about his views on the situation and how he plans to balance conservation with community needs.

Arctic Bulletin: *"Greenland Destroying its Own Wildlife" is one of several headlines that have appeared recently in Danish newspapers. How would you describe the situation from a Greenlander's point of view?*

Alfred Jakobsen: I found that several of the headlines produced by foreign newspapers had exaggerated the situation. It is important to remember the history of Greenlandic nature management: It began only 20 years ago with the formation of the Greenland Home Rule Government, and bird and mammal research was initiated only six years ago by the Greenland Institute of Natural Resources.

However, there was no doubt that we needed to revise Greenland's bird hunting legislation. The hunting pressure has changed a lot. More and more, people are getting boats which means they can travel further in less time. Human impact has increased significantly in areas which were too remote to reach before.

Local economies in Greenland are now highly dependent on living resources. I think it is very important to reduce the catch capacity to secure a long-term sustainable harvest of resources. This can only be done by creating alternative incomes. Some of our remote settlements have just 100 - 150 residents – you cannot tell these people to stop hunting without providing an alternative.

AB: *What steps are your government taking to ensure that populations of intensely hunted species, such as the Brünnich's guillemot, are sustained at healthy levels, and that Greenland's natural heritage is protected?*

Alfred Jakobsen: Knowledge about our bird populations is continuously expanding thanks to the Greenland Institute of Natural Resources (see p. 18-19).

In February of this year, I initiated the revision of our bird legislation by forming a working group with representation from NGOs (hunters and ornithologists), scientists and administrators. This working group formulated several principles for the management of bird populations. These principles form the guidelines for the revision. To provide an example:

> The new legislation will require drastic reductions in hunting of all bird species"

- uncertainties in knowledge about bird populations and trends must not hamper management;
- wise use of bird populations is also a local concern, so local populations must be harvested sustainably;
- the protection of one species must not lead to increased hunting of another species; and
- restrictions on the collection of bird eggs for consumption has been reduced from 10 species to just four now: the fulmar, little auk, great black-backed gull and glaucous gull. Furthermore, the collection of eggs will be monitored for the first time.

As a result of this work, I am happy to announce that new bird hunting legislation will come into force this autumn. The legislation will contain drastic reductions in harvests of all bird species. Concerning the guillemots, scientists have told us that the Greenlandic breeding population is in serious decline and that it clearly needs special protection during the spring season. The spring hunt will be reduced by several months for this reason.

AB: *Are you confident that new hunting rules being developed by the Greenland Home Rule Department of Environment and Nature will make a real difference? Can you provide any examples where harvest restrictions have been successfully implemented in Greenland in the past?*

Alfred Jakobsen: New regulations are not the only way to address the problem. You must recall that Greenland is a vast country with more than 1,800 km between Thule in the north and the southernmost settlement. The Ministry of Environment and Nature will also be initiating an information campaign to inform Greenlanders about the new regulations – and especially *why* hunting restrictions are necessary. Public acceptance of the laws is crucial in Greenland – as it is in any other country.

It is my general impression that the current hunting regulations are followed. Our nearly 1,000 commercial hunters do have a wide knowledge of the animals and their occurrence. Several local hunters have asked us to impose restrictions and are very keen to ensure that restrictions are respected locally.

The current bird legislation

contains a special protection of 12 important breeding bird areas where human access is prohibited. This is a good example of bird protection legislation that is respected and accepted. Another very good example of the successful use of restrictions is the management of muskox and caribou in Greenland. Strict management of these species during the last 20 years has resulted in large and viable populations today. The caribou herd for example, has grown from 10,000 animals to about 140,000 within just 10-15 years. This year, the hunting quota for caribou reached 23,500 animals.

> …We will also present a new nature protection law

To ensure success in nature management it is very important that all interest groups are involved from the beginning. Active participation from involved organisations and individuals is key to our work, especially with rising awareness of the revised legislation. In 2002 we will present a new nature protection law that will provide up-to-date instruments for protection of species, habitats and areas in Greenland.

AB: *Are there any other measures that can be taken to ensure that wildlife uses are truly sustainable?*

Alfred Jakobsen: We know that Greenland's bird populations are shared with our neighbouring countries. Our breeding guillemots migrate to Canada, and during the winter we host guillemots from Iceland and Norway and some 450,000 common eiders from Canada. So, bird management in the North Atlantic is an international issue and a common concern for several nations. For example, Greenland participates in relevant international fora, such as the Circumpolar Seabird Working Group (CSWG) within the CAFF (Conservation of Arctic Flora and Fauna) framework. Furthermore, we are party to the Ramsar Convention on the protection of internationally important wetlands together with Denmark. Greenland presently has 11 designated Ramsar sites and work has also been initiated to improve protection of these sites. Currently, scientists are updating bird population data in some areas around Disco Bay and this will be used to guide future management of these Ramsar sites.

AB: *The possibility of establishing a Greenlandic conservation NGO has been raised by local environmentalists. Is a viable NGO realistic in your opinion? If so, what type and level of support to such an NGO would you recommend?*

Alfred Jakobsen: A wide selection of NGOs is part of any democracy. In Greenland, the Inuit Circumpolar Conference (ICC), formed in 1977, has been active in environmental issues, and a few years ago a local group of ornithologists was formed. During the last year or so, there has been intense media debate around the management of our living resources. I am sure this makes people reflect on how, lets say, whales and birds are harvested. Furthermore, issues such as waste handling and water quality are also the subject of growing public attention. People are becoming increasingly aware that natural resources are limited and are showing more understanding of the necessity of conserving species and habitats. I believe that Greenland is in a transition in regards to these issues and I am quite sure that soon our young and very dynamic generation will initiate some response to all of this information. I know, for example, that young people from all over the Arctic will come to Nuuk next year to discuss how we can protect the unique environment and nature in our part of the world.

AB: *What can WWF do to help resolve the problem of unsustainable hunting by local communities?*

Alfred Jakobsen: I do not agree that our hunting is unsustainable. Our catch of fin whale and minke whale is authorised by the International Whaling Commission (IWC). The hunting of smaller whales and birds is closely monitored by biologists to ensure the sustainability of the harvest. We do have, I admit, some problems with the harvest of beluga whales and a few bird species but this will be handled by new legislation soon.

There is no doubt that the Greenlander is rather sensitive to outside interference when it comes to issues concerning the use of living resources. The baby seal campaign of many years ago is certainly not forgotten yet! What I think WWF can do is to work locally in co-operation with NGOs, people and authorities. As I mentioned earlier, it is crucial to create alternative incomes.

Initiatives that support development and marketing of products from sustainably harvested wild species could be one idea. Couldn't conservation organisations support and promote the use of products from wild species? As an example, the harp seal, a species that is very common along our coasts, could be used commercially. However, the international market for seal products is still limited. Seal blubber can be refined into pills that prevent cardiovascular disorders, and the fur and meat is from animals that have lived freely in nature and have not been bred in cages!

Photo: Sermitsiaq

Alfred Jakobsen

Also, I think the growing tourist industry can play an important role. Tourists create jobs and they want to experience our beautiful nature and wildlife. So in the end, tourism can create incentives for locals to participate in conservation and secure a clean environment.

Internationally Significant We

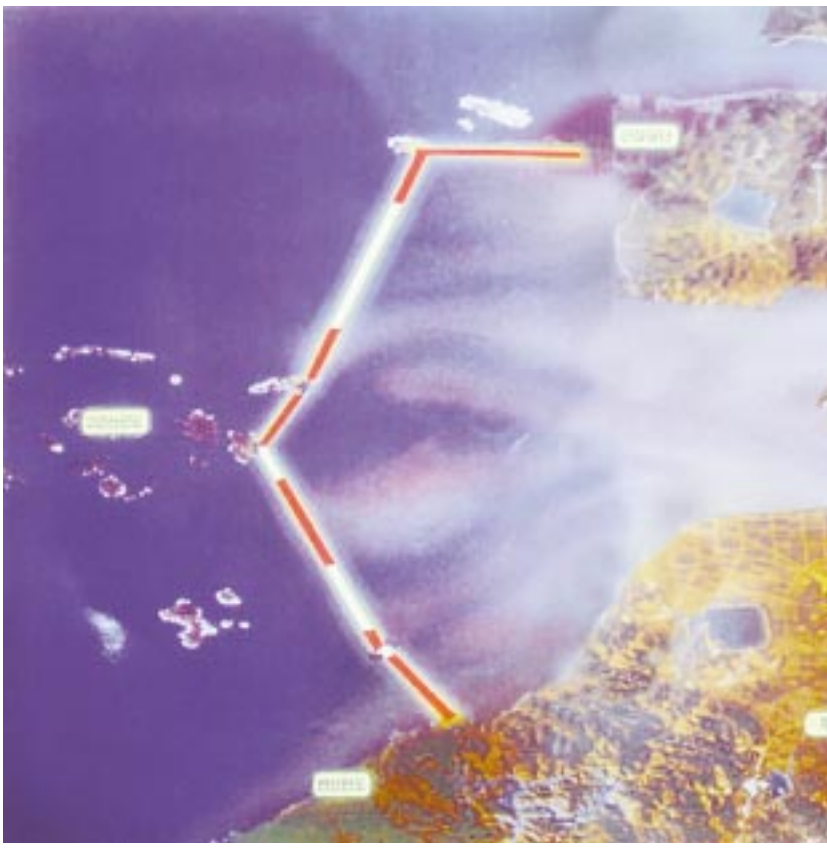
The Yellow Sea Ecoregion, comprising the coastal wetlands and marine areas of South Korea, North Korea and China, is among WWF's Global 200 Ecoregions (AB 2/99), and is a focal ecoregion in Asia. Despite extensive reclamation projects, increasing pollution and unsustainable resource use, the Yellow Sea Ecoregion still contains more than one million hectares of tidal flats, supports a massive fisheries industry and maintains internationally important concentrations of a significant percentage of eastern Asia's migratory waterbirds. In many respects, it can be considered the east Asian counterpart of North Europe's Wadden Sea.

One of the most ecologically important sites known within this ecoregion is located on the west coast of South Korea. Comprising the two free-flowing estuaries of the Mankyeung and Tongjin rivers, the so-called Saemankeum wetland comprises some 30,000 ha of tidal flats and 10,000 ha of shallows, and supports possibly 30 species of waterbirds in internationally important concentrations. No less than eight of these are believed globally threatened (according to the Asia-Pacific Migratory Waterbird Conservation Committee, 2001). Significant arctic nesting shorebird counts include peaks of over 60,000 great knot (about 20% of the total world population) 40,000 dunlin, and up to 200 of the fast-declining and probably endangered spoon-billed sandpiper. Other arctic-nesting species using Saemankeum in internationally important concentrations include grey plover, lesser sand plover, bar-tailed godwit, black-tailed godwit, whimbrel, red-necked stint, and sharp-tailed sandpiper. By 1998, at least 158 species of fish and 64 species of benthos had also been recorded in the area.

With such outstanding importance for biodiversity (Saemankeum is considered the most important known site for shorebirds in the entire Yellow Sea by the region's Shorebird Working Group) it would be expected that the South Korean government, in fulfilling its obligations to both the Ramsar and Biological Diversity conventions, would ensure the area's conservation. This would mirror conservation initiatives in Europe, whereby the Wadden Sea became both an international park (shared by three

Location of Saemankeum wetlands in South Korea.

Source: Wetlands and Birds Korea



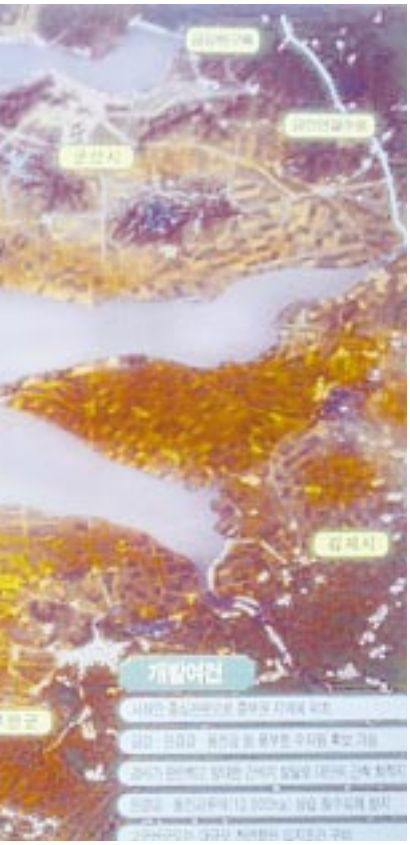
A sea wall 33 km in length is already about 60% constructed, and when finished, wil

Photos: Wetlands and Birds Korea

The Samankeum wetlands support internationally important concentrations of shorebirds such as great knots.

Saemankeum tidal flats.

tlands to be 100% Reclaimed



Map supplied by Wetlands and Birds Korea.

dam off the Saemankeum wetlands.

countries) and a Ramsar site.

In stark contrast, however, the entire area of 40,100 ha is presently being reclaimed, in the world's largest known coastal wetland reclamation project. This will cause the loss of 100% of the foraging area now utilised by tidal flat-dependent shorebirds.

A proposed sea wall 33 km in length is already about 60% constructed, and when finished, will dam off both estuaries in order to create 28,300 ha of rice fields and industrial lands and 11,800 ha of barrage lake. The outer sea wall should be completed by about 2004, and the conversion to rice fields a few years later.

The reclamation, believed opposed by the majority of Korean people, all of the country's environmental groups, the two main ministries responsible for wetland conservation in South Korea, and a significant number of international NGOs, is expected to result in very serious environmental problems, such as increased water pollution, declines in fisheries and impacts on other wildlife, including several Siberian and Alaskan-breeding shorebirds.

Wetlands and Birds Korea, along with all other conservation-related environmental groups, will continue to push for the cancellation of this devastating project. We appeal to the international community to pressure governments to make this reclamation an international issue. For the sake of global biodiversity, we ask you to support the Ministry of Environment, the Ministry of Maritime Affairs and Korean NGOs in putting an end to the Saemankeum project.

NIAL MOORES
International Liaison, Wetlands and Birds Korea
spoonbill@hotmail.com
82-51-554-1769

More details and images of Saemankeum can be found at http://www.wbk.or.kr

Photo: Staffan Widstrand

The likely endangered spoon-billed sandpiper winters in South Korea's coastal wetlands.

Connected to the Arctic

■ Far from a desolate wasteland, the Arctic is an oasis for astounding numbers of breeding birds. Most are migratory, and through their diverse flight paths, connect the Arctic to all corners of the world. Geese and shorebirds are especially prevalent – about 95% of all *Calidris* sandpipers and 12 of the 15 existing species of geese breed in the Arctic.

Obviously, the maintenance of large, intact natural areas and critical habitats in arctic regions is essential to the survival of birds breeding there. Equally important is the protection of stopover or "refueling" sites, often located along coastlines and near shore islands, and important wintering grounds. For instance, the red knot's migration to the Arctic from the tip of South America is timed to coincide with the arrival of spawning horseshoe crabs on certain mid-Atlantic beaches. The knot is critically dependent on crab eggs to build the fat reserves needed to continue its northbound journey – and hence, on the protection of these special beaches.

The perpetuation of one of the Arctic's characteristic features– its abundant bird life, will require far reaching conservation efforts directed at protecting the full spectrum of habitats used by birds connected to this region. This will be an important area of activity for WWF in the Arctic under its Freshwater Programme in coming years. Beginning with this issue, the Arctic Bulletin will profile globally important sites for migratory birds outside of the Arctic, with a focus on conservation concerns and initiatives. The first in this series is an article about South Korea's Saemankeum tidal flats, one of the world's most important – and threatened shorebird wintering areas.

International Agreements Will Combat POPs and Climate Change

The Arctic has played an important role in mobilising the nations of the world to combat two very serious environmental problems – the build-up of persistent organic pollutants (POPs) in food webs and climate change. Studies of the health effects of POPs on arctic wildlife and indigenous peoples have provided some of the earliest and most dramatic evidence of the global transport of these contaminants – even to the most remote and pristine locations on earth (AB 1/01).

Climate research in the Arctic has contributed significantly to the conclusions of the recent Intergovernmental Panel on Climate Change (IPCC) report confirming global climate change (AB 1/01), and has been prominent in international climate negotiations. Slumping permafrost, hot summers and thinning sea ice in polar regions are among growing indications that the Arctic's climate – and hence the world's climate – is becoming increasingly unpredictable. The successful conclusion of the Stockholm POPs Convention on May 22 and the Bonn climate change agreement on July 26 underscores the importance of the Arctic as a barometer of global change.

Stockholm POPs Convention Makes International Debut

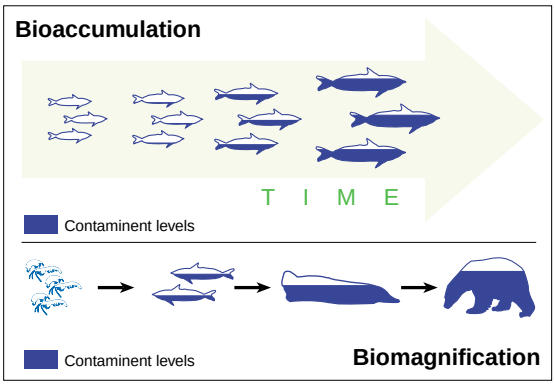
Since its official entry to the global stage on 22 May 2001, 93 countries have signed the Stockholm Convention on Persistent Organic Pollutants (POPs). Already by the end of June, two countries had become parties, Canada and Fiji, out of the 50 required for entry-into-force. With accelerated ratification activities currently taking place, confidence is growing that the convention may enter into force in record time. The arctic nations have much at stake.

Despite urging by the EU/Sweden, Norway, and others, the ceremonies in Stockholm concluded without a clear mandate for an interim POPs Review Committee to begin screening additional POPs. However, delegates authorised the drafting of procedural rules for this body, and states and regional organisations are encouraged to do preparatory work on candidate POPs to be considered as soon as the convention enters into force.

The Stockholm Convention calls for outright banning and destruction of some of the world's most dangerous chemicals. The treaty is designed to eliminate or severely restrict the production and use of 12 POPs; ensure environmentally sound management and chemical transformation of POPs waste; and prevent the emergence of new chemicals with POPs-like characteristics. Some of the most important – and hard-fought for – provisions include its embrace of precaution in the face of uncertainty; funding commitments by developed countries to ensure that all nations can participate; emphasis on preventing new POPs from entering the stream of commerce; and call for substitute products and processes rather than reliance on pollution scrubbers and filters.

WWF is calling on governments to ratify the Stockholm Convention before the September 2002 World Summit on Sustainable Development in Johannesburg, together with three other treaties: the Rotterdam PIC Convention (The Rotterdam Convention on prior informed consent), the Basel Convention and Ban Amendment, and the 1996 Protocol to the London Convention on ocean dumping. These four global instruments, once in force, could contribute enormously to the protection of the arctic environment by banning several persistent chemicals; controlling trade in toxic chemicals and the accumulation of chemical stockpiles; preventing trafficking of hazardous wastes; and halting dumping of hazardous materials at sea. The summit provides a special opportunity to launch these critical treaties so that swift, effective, adequately-funded implementation can begin soon thereafter.

CLIF CURTIS and
CYNTHIA PALMER OLSEN
WWF-US
Clifton.curtis@wwfus.org
Palmer.Olsen@wwfus.org



Graphic: Philippe Rekaciwicz/GRID Arendal

Historic Climate Agreement Reached at Bonn

Photo: Joker

A giant ice sculpture of the earth unveiled by WWF melted while governments grappled with the rules of the Kyoto Protocol.

Between July 16–27, governments from 178 nations concluded and formally adopted an all-important political agreement on the rules of the Kyoto Protocol in Bonn, Germany. The pact, struck in 1997, set reduction targets for greenhouse gas emissions to an average of 5.2% below 1990 levels by 2008–2012 for developed nations. Since the treaty was so complex, the specifics about how to reach this target were not reached at Kyoto. Since then, numerous meetings have been held to decide on the rules and guidelines for implementing the agreement. Last November's climate talks at The Hague, Netherlands failed spectacularly and no deal was reached (AB 1/01).

The Bonn summit (Bonn, Germany) has set the framework for implementation, although the outcome has been considerably weakened by countries claiming credit for the carbon already absorbed in trees and vegetation ("carbon sinks"). WWF estimates that sink credits have lowered the original target of a 5.2 reduction to a reduction of 1.8 percent. Nonetheless, the agreement is a historic breakthrough, and will require most industrialised nations to change considerably to prevent emissions from increasing to the levels they otherwise would have. The summit also sends an important message that the world has effectively rejected Bush's contention that the Kyoto Protocol is flawed. The U.S. has steadfastly opposed the deal, and has clearly isolated itself by not joining the international community in combating climate change. Since the U.S. accounts for a quarter of all greenhouse gas emissions, virtually all other major polluters, the European Union, Canada, Russia and Japan must ratify the protocol for it to take effect. These countries have stated that they are aiming to ratify the agreement in time for it to come into force as an international treaty before the Rio +10 conference on sustainable development to be held in Johannesburg in September 2002.

For further information, contact:
Andrew Kerr
WWF Climate Change Campaign
Ph: +31 6 5161 9462 (mobile)

Jennifer Morgan
WWF Climate Change Campaign
jennifer.morgan@wwfus.org

WWF Arctic Programme Gains Climate Change Officer

In August, Lynn Rosentrater joined the WWF Arctic Programme as a Climate Change Officer for the Arctic Climate Change Focal Project (AB 1/01). The programme is not new to Lynn, who was involved in its early stages while volunteering for WWF in 1992. In addition to working as a climate researcher for the University of New Hampshire, Lynn has made numerous contributions to public understanding of climate and science-related issues through magazine articles, curricula for science education and web sites such as *Secrets of the Ice* and *Oceans Alive!*, hosted by the Museum of Science in Boston. "Having grown up in Alaska, the Arctic is a special place for me," says Lynn. "I'm very happy to be working with WWF again and look forward to raising public awareness of the environmental changes that are being observed throughout the Arctic."

Photo: WWF-Canon/Jean-Louis Klein

Polar Bear Conservation:

Challenged by Climate Change and Pollution

High levels of POPs have been detected in polar bears in Greenland.

The 13th meeting of the IUCN (World Conservation Union) Polar Bear Specialist Group (PBSG) took place in Nuuk, Greenland from June 23–28, under the Chairmanship of Drs . Stanislav Belikov and Scott Schielbe. Delegates representing each of the five circumpolar nations signatory to the Agreement for the Conservation of Polar Bears (Canada, Denmark, Norway, Russia and the U.S.) attended the meeting. The PBSG convenes every 3–5 years to review and exchange information about progress in research and management of polar bears. Also present were invited specialists from the Greenland Home Rule Government, the Alaska Nanuuq Commission (Alaska), the Inuvialuit Game Council, Nunavut Tuungavik Incorporated (Canada) and the Inuit Circumpolar Conference.

New information evaluated by the PBSG shows that climate change and pollution may pose the greatest future challenges to the conservation of polar bears. Observed dramatic changes in sea ice characteristics, which have been linked to global warming, are known to alter the abundance and productivity of this species. Persistent organic pollutants (POPs) from lower latitudes continue to concentrate in arctic regions and may reduce the reproduction and survival of polar bears by weakening their immune functions. Further, in spite of an improved understanding of population dynamics, new methods of analysis suggest that some population parameters are less reliable than previously believed. The complexity and global nature of these issues will require international cooperation and the development of diverse and new approaches to polar bear conservation and management.

For further information contact:
Scott Schliebe
Chair, IUCN Polar Bear Specialist Group
email: scott_schliebe@fws.gov

Churchill Northern Studies Centre Silver Anniversary Celebration

25 Years of Arctic Research and Education

This year marks the 25th anniversary of the Churchill Northern Studies Centre (CNSC); an independent, non-profit research and education facility located 24 kilometres east of Churchill, Manitoba, Canada. Founded in 1976, the CNSC provides year-round accommodation and logistical support to researchers working on diverse topics such as polar bear behaviour and reproductive biology, climate, snow goose population ecology, coastal management and migration adaptations in warblers. In addition to supporting scientific excellence, the CNSC has recently joined forces with the Earthwatch Institute™ to explore aspects of climate change on six long-term study plots. The centre also offers university credit courses and non-credit learning vacations to the general public. These expert-led, educational programs subsidise the operation of the centre, lowering costs for graduate students and researchers. Diverse offerings include whales and wildflowers, northern lights and astronomy and, of course, the always popular fall polar bear excursions.

This significant milestone will be celebrated at the CNSC "Silver Celebration" to be held September 6–9, 2001 in Churchill. Activities include guest speakers, the dedication of Malcolm Ramsay Lake, various tours, a social evening and dance, the launch of Robert Wrigley's book *Polar Bear Encounters at Churchill*, a memorabilia display and much more. All are welcome to attend. Please contact the centre at (204) 675-2307 or cnsc@cancom.net for more information. Contributions of pictures, video or other centre memorabilia would be greatly appreciated.

MICHAEL GOODYEAR
Executive Director,
Churchill Northern Studies Centre

The Churchill Northern Studies Centre, located near western Hudson Bay at 57° N.

Norwegian Carnivore Hunting In 2001:

First the Wolf and Lynx — Now the Wolverine

Photo: Yngve Kvebæk

Female wolf shot from helicopter on February 25, 2001.

The wolf and wolverine are widely distributed in tundra, forest tundra and taiga zones throughout the Arctic. In Norway, intense hunting in recent and historical times has resulted in fragmentary and reduced populations of these species and Norway's other large carnivores, the brown bear and Eurasian lynx. In the early 1970's, legal protection was extended to wolves, wolverines and brown bears in Norway. However, conflicts with reindeer herders and sheep farmers have recently led to the resumption of culling programs.

In 2001, Norwegian environmental authorities are continuing the carnivore extermination traditions of the 18th and 19th centuries. Last winter, the government planned to wipe out two-thirds of all Norwegian wolves, but limited the number to a third in response to sharp criticism at home and from the international community. Undeterred, the government intends to exterminate the wolves remaining in the northern part of Hedmark county next winter. Last winter's hunt was primarily carried out using shotguns aimed from helicopters, with the result that only 16 wolves are left (not including border packs). The same form of "predator control" is being used in efforts to reduce populations of wolverines – also a threatened species in Norway. The total Norwegian wolverine population now numbers about 250 animals.

During the licensed hunt for wolverines last winter, which ended February 15, as many as 31 animals were killed, mostly in northern counties. In an unlicensed spring hunt this year, nineteen animals were killed between April 19 and May 19 alone, often by digging them out of dens. This means that almost one wolverine was killed every day for about three weeks! Of these, four were adult animals and 14 were cubs. However, this was not enough for the Norwegian Labour Party, which obviously wants to impress the districts and sheep farmers before the parliamentary election in the autumn of this year. A license has already been issued to allow the killing of up to 14 wolverines anywhere in Norway between April 1, 2001 and March 31, 2002, if sheep or domestic reindeer kills attributed to wolverines are reported. This permission also includes seven wolves and six brown bears. Also targeted is the Eurasian lynx, which has been reduced by hunting from 600-700 animals in 1996 to around 400 in 2001.

Nothing compares to this and last year's hunt for wolves and wolverines in Norway among civilised countries in recent years, with even the general public reacting to the killing of species which have been placed on the IUCN (International Union for the Conservation of Nature) Red List of Threatened Species. The wolverine population in southern Norway is estimated to be about 50 animals; a level considered too low to be viable by biologists. About 200 wolverines still exist in northern Norway.

VIGGO REE
Information Advisor, The Norwegian Raptor and Carnivore Society
styret@fvr.no
Internet: www.fvr.no

On June 6, Swedish and Norwegian environmental organisations, representing more than 300,000 members together, delivered a letter to the Norwegian Minister of the Environment protesting Norway's plans to further reduce populations of wolves, wolverines and brown bears. The letter expressed strong concern that culling of these species will prevent their recovery to viable levels. The organisations included WWF-Norway, WWF-Sweden, The Norwegian and Swedish Associations for the Protection of Nature, and the Norwegian and Swedish Carnivore and Raptor Societies.

Illustration: Viggo Ree

The wolverine, a threatened species in Norway, is being further reduced by culling.

Barents Sea Ecoregion Project Hosts Biodiversity Workshop

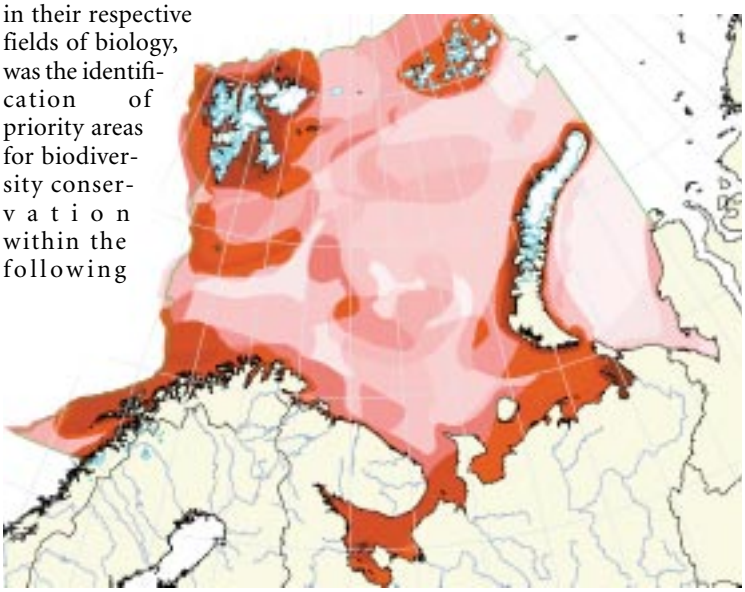
An educational centre in the picturesque village of Pavlovsk outside of St. Petersburg, Russia was the location of a biodiversity workshop hosted by the WWF Barents Sea Ecoregion project on May 13–14. For two full days, 45 conservationists, management officials and scientists from Russia and Norway discussed where and how to best protect the biodiversity of the Barents Sea.

The purpose of the workshop was fourfold: To divide the ecoregion into sensible subregions; to identify priority areas for biodiversity conservation; to identify the most important threats to biodiversity in the ecoregion and to discuss a long-term vision for the ecoregion.

The most imminent task for the workshop, considering that many of the participants were top experts in their respective fields of biology, was the identification of priority areas for biodiversity conservation within the following thematic groups: Sea mammals; seabirds; fish; benthos and plankton/ice edge organisms. Five maps were digitised during the first evening, and presented the following morning, both separately and as overlays. The delineation and overlap of the nominated areas will provide valuable guidance to WWF in setting future priorities for the Barents Sea Ecoregion.

An equally fruitful discussion of threats, abatement strategies and visions for the Barents Sea followed the identification of "hotspots". In short, WWF's Barents Sea Ecoregion project took a great leap forward as a result of this very productive and successful event.

TORE LARSEN
WWF Arctic Programme



The pattern resulting from the overlap of five maps of important areas for plankton, benthos, fish, seabirds and marine mammals in the Barents Sea. Dark shading indicates an area considered of high priority for biodiversity conservation by experts.

Brünnich's Guil

The recent debate in Greenlandic, Danish and international news – including the Arctic Bulletin (4/00) about wildlife harvesting in West Greenland has often attributed reductions in Brünnich's guillemot colonies to previous and current hunting practises. While Brünnich's guillemot has been intensively hunted for many decades in Greenland, the impact of this harvest differs locally due to seasonal differences in the distribution of this species, complex migration patterns in the North Atlantic and local hunting opportunities. In this article, we summarise some of the background data available for managing Brünnich's guillemot populations in Greenland.

Firstly, Greenland is home to 7% of the world population of Brünnich's guillemot, which is distributed all around the Arctic. Locally in Greenland, the distribution as well as the "health" of colonies differs enormously. Often, the pioneers of bird studies in Greenland were limited to crude counts, whereas nowadays detailed photographs taken with high-tech equipment allow for better precision – and provide clearly defined baseline data for monitoring. Although colony extinctions and major reductions can be documented, data incompatibility has so far made it hard to estimate decline rates – though this is often attempted. The most reliable data document that:

- Uummannaq: six small and one previously very large colony are now extinct;
- southern Upernavik: seven small colonies have vanished and five are at the verge of extinction;
- Disko Bay: four small colonies have disappeared, and one colony is in steady decline – and diminished by 20% between 1984 and 1998;
- southwest Greenland: four small colonies have disappeared, and one small colony has been reduced by 37% in just seven years; and
- East Greenland: a reduction of at

llemot in Greenland: the Biologists' View

least 26% in populations between 1973 and 1995.

Data for the remaining colonies are inadequate to verify suspicions about decline or stability. However, in Avanersuaq, where about half of the Greenlandic population breeds, no changes were seen in the single colony monitored, and we consider colonies there to be likely stable.

Since dramatic declines have only taken place where summer hunting has been common, and in colonies closest to towns, there is little doubt that summer hunting is the main cause – despite all attempts to blame other mortality factors.

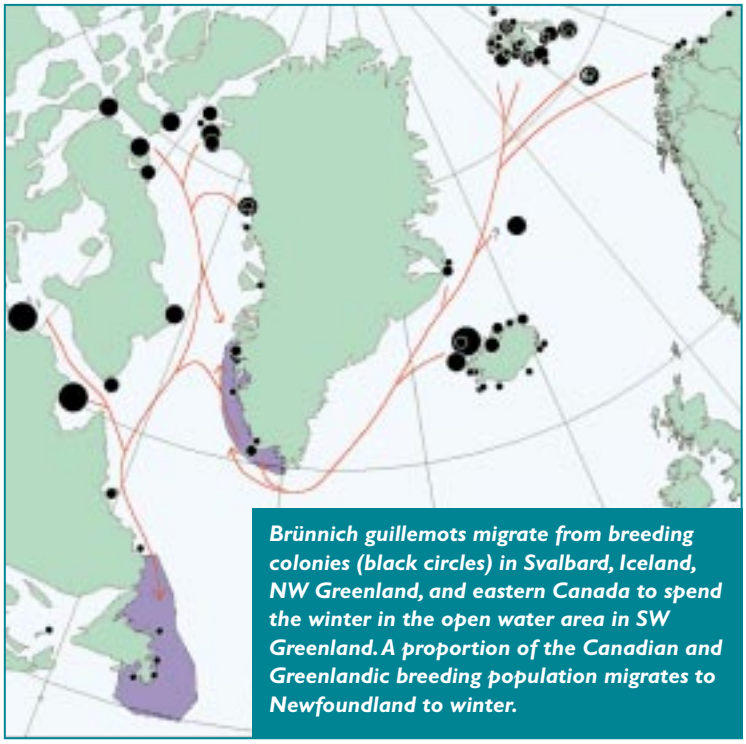
Between October and March, guillemots from large colonies in Svalbard, Iceland and eastern Canada winter in open water along southwest Greenland. Here, they are subject to intensive hunting, which mainly takes young birds early in winter, and an increasing proportion of adults later on. Apart from recent reports of population declines in Iceland, there have been no previous warning signs of possible effects of this winter hunt. Nevertheless, it was recently estimated that the winter hunt could account for up to a third of the loss of adult birds from declining colonies in Upernavik and, possibly, East Greenland.

Photo: Halvard Strøm/Norwegian Polar Institute

Brünnich's guillemot.

Based on current knowledge:

- it would be well justified to reduce the winter harvest, especially in late winter when many of the birds killed are adults;
- spring hunting near colonies in the "problem areas" should be stopped or strongly reduced;
- fall hunting should not commence until September to avoid the take of adults departing from late, northern colonies; and
- industrial use (freezing for domestic distribution) should be stopped, or at least limited to small settlements in the southernmost two municipalities, where the harvest is almost exclusively young birds.



Brünnich guillemots migrate from breeding colonies (black circles) in Svalbard, Iceland, NW Greenland, and eastern Canada to spend the winter in the open water area in SW Greenland. A proportion of the Canadian and Greenlandic breeding population migrates to Newfoundland to winter.

The fate of the colonies must be closely monitored to assess the practical effects of any changes in hunting legislation (see pp. 10-11). To improve the information base for management recommendations, the Greenland Institute of Natural Resources (GINR) has initiated a monitoring plan for selected colonies in all parts of Greenland. A GINR newsletter explaining the methods used in guillemot population monitoring has been distributed to all households to counter widespread rumours of invalid surveys by "desktop biologists".

The Brünnich's guillemot is a resource that requires careful management. A colony can be wiped out quickly, and the low reproduction rate of guillemots means that colonies recover very slowly. A formerly large colony in Uummannaq was reduced from at least 100,000 attending birds to just 100 within 25 years – but its complete restoration would take somewhere between 120 and 350 years.

KNUD FALK
Consultant, GINR
and
FLEMMING RAVN MERKEL
Research Scientist, GINR
merkel@natur.gl

Species Recovery in Greenland Possible

Not all harvested species on the west coast of Greenland are in decline. There are examples where improved management schemes have been followed by population recovery. Further, Greenland's Home Rule Government is developing new regulations to bring wildlife harvests levels to within sustainable limits. The establishment of regional environmental organisations may also change present wildlife management practices for the better.

These are some of the findings of a small WWF-Denmark/Arctic Programme delegation after meeting with several Greenlandic representatives, institutions and organisations in Nuuk and Ilulissat on the west coast of Greenland in June. The *Arctic Bulletin* has reported on the media debate about overharvesting of several bird and marine mammal species in this part of the Arctic (4/00). The purpose of the WWF trip was to learn more about the situation and how to resolve problems related to wildlife use.

We met with representatives of the Greenland Environmental Directorate, the Greenland Hunter's and Trapper's Association (KNAPK), the Inuit Circumpolar Conference (ICC Greenland), Timiaq (a Greenlandic Ornithological Association), Greenland's Nature Institute in Nuuk and a representative of a newly-established Greenlandic environmental NGO in Ilulissat. A positive sign was that most of the people we spoke to were in agreement about whether a problem exists – and believed that action is needed to secure healthy seabird populations and a renewable resource base for Greenlanders. Serious declines in some seabird species found on Greenland's west coast, such as the Brünnich's guillemot and Arctic tern were of particular concern. These issues have been prominently covered by local and Danish newspapers (see AB 4/00). The Greenland Home Rule Government has responded by developing new regulations to limit the harvest of species of most conservation concern (see pp. 10-11).

Whether the new regulations will be successful and whether other solutions should be explored was a question raised by many. KNAPK believes that it is able to manage wildlife sustainably as an independent body, and questions the ability of biologists to understand all aspects of the situation from a local perspective. We were encouraged to learn that formerly over-harvested and declining species such as shrimp and reindeer are thriving today because of introduced regulations.

There have also been proposals to establish Greenlandic conservation NGOs to address wildlife management and other environmental issues. Jens Peter Lange, a Greenlander and teacher in Ilulissat, spoke to us about a local NGO he is establishing to conserve Arctic terns. In an interview with the local media, Mr. Lange told the people of Greenland that "Arctic terns are not chickens", in reference to their low rate of reproduction.

Arctic terns travel to Greenland from as far away as southern Africa or even Antarctica to raise only one or two young each summer. Intensive egg collecting in the past has led serious declines in Arctic terns, and the outright loss of a

Increasing boat travel is contributing to wildlife declines in formerly remote areas of Greenland.

Photo: WWF/UNEP/Topham

colony numbering 50,000 pairs. At one time, the world's largest colonies were located on the "Green Islands", only a few boat hours away from Ilulissat. If Greenlanders such as Peter Lange succeed and convince others, there is a chance that Arctic terns, guillemots and other declining species will recover. The Arctic Bulletin will be happy to report on any success stories coming from Greenland in the future.

PETER PROKOSCH
WWF Arctic Programme

The Peregrine Fund

Established in 1970, The Peregrine Fund (TPF) works worldwide to conserve and study wild populations of birds of prey, including those in the Arctic. In 1993, TPF established the High Arctic Institute at Thule Air Base, Pituffik, Greenland. The facility (labs, billeting, and logistics) is used as a base of operations for high arctic research by TPF and other scientists. In 1997, TPF accepted responsibility for continuing the Greenland Peregrine Falcon Survey in and near Kangerlussuaq, Greenland, established in 1972 by Dr. Bill Mattox. TPF research in Greenland is focused on expanding existing knowledge of falcons and their prey to determine the biological, ecological, and environmental factors that limit populations. Population monitoring programs are also being developed. Special emphasis is placed on populations of gyrfalcons in West, North, and East Greenland and peregrine falcons in North and West Greenland.

For further information about the Peregrine Fund and the High Arctic Institute, contact Kurt K. Burnham at:
Email: pf@peregrinefund.org
Internet: www.peregrinefund.org

Letter to the Editor

Response to Article About Nunavut Wildlife Harvesting in AB 2/01

In the last issue of the Arctic Bulletin, we printed an article about unsustainable harvesting of beluga and narwhal in Nunavut, Canada. Regrettably, we did not research the issue as thoroughly as we should have. The article contained inaccuracies which have been pointed out by Daniel Pike, scientific secretary for the North Atlantic Marine Mammal Commission (NAMMCO) in a letter to the Arctic Bulletin. As Dr. Pike rightly suggests, misleading statements do not further the efforts of indigenous peoples towards developing and implementing sustainable wildlife harvest practices in Canada (and elsewhere in the Arctic). We printed his submission to clarify some of the facts around the issue, and to address the concerns of the Nunavut Wildlife Management Board (NWMB), which also disagreed with some of the statements in the article. We thank the NAMMCO and the NWMB for bringing this problem to our attention.

I would like to point out a number of errors and misleading statements in the article *Nunavut Narwhal and Beluga Reduced by Overharvesting*, WWF Arctic Bulletin 2.01, p. 21.

The low stocks of beluga in Eastern Hudson Bay and Ungava Bay referred to in the article occur in Nunavik, not Nunavut. Nunavut has been a separate territory within Canada since 1999, and has a unique system of wildlife management based on co-management between the Inuit and the federal and territorial governments. Nunavik is the northern part of the Canadian province of Quebec. The beluga management issue in Nunavik is a long-standing situation and is not really anything new. In fact the Eastern Hudson Bay and Ungava Bay beluga populations were reduced by commercial harvesting several decades ago.

The title of the article is very misleading. The article does not present any evidence, and indeed does not even say, that "Nunavut Narwhal and Beluga (have been) Reduced by Overharvesting". With regard to narwhal in Nunavut, there is no evidence that the stock(s) are or have been reduced by overharvesting, now or in the past. The concern is that the narwhal harvests in the three communities mentioned are somewhat higher than they have been historically, and that the present management advice is that harvests should not be increased. This is precautionary advice based mainly on the fact that we do not have very good stock delineation or abundance data for narwhal, so it makes sense to maintain harvests approximately at levels that have proven to be sustainable over many years. The innovative management systems in these communities will be evaluated at the end of the three-year trial period by the communities and the Nunavut Wildlife Management Board, and I am certain they will take whatever action is needed to maintain the sustainability of the narwhal harvest.

I am sure that the people of Nunavut (and Nunavik) have as much and probably more interest in sustainable harvesting as other readers of *Arctic Bulletin*. Misleading and factually incorrect articles such as this do not help to endear WWF and other conservation organisations to Arctic peoples. I therefore hope that you will be more careful with the facts in the future.

DANIEL PIKE
Scientific Secretary
North Atlantic Marine Mammal Commission
Dan.Pike@nammco.no

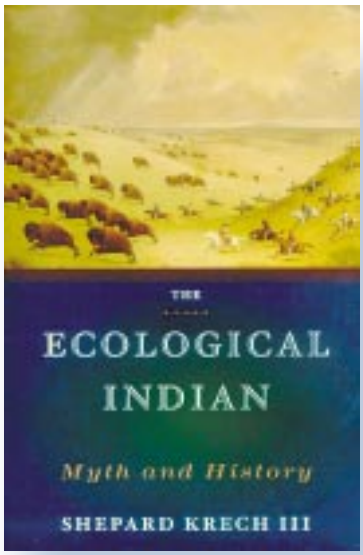
Photo: Helen Trefry, CWS

King Eider Tracking Project

The king eider population that nests in Canada's western Arctic and moults and winters in the Bering Sea declined by more than 50% between 1976 and 1994. The reasons for this decline are unknown, although changing conditions in the Bering Sea are suspected. King eiders spend most of their life on the ocean and come ashore only briefly each year to produce young. Yet, little is known of their at-sea locations, including where they moult and spend the winter. In June of 1997, the Canadian Wildlife Service, the North Slope Borough of Alaska and the U.S. Fish and Wildlife Service began a tracking project to learn more about where the eiders go when they leave their nesting grounds. In the first two years of the study, transmitters were implanted in king eiders on Victoria Island in the Northwest Territories. In year three, eiders were tagged at Prudhoe Bay, Alaska and in June 2000, five king eiders were tagged on Banks Island, Northwest Territories. A king eider website has been established that provides a map for each bird tagged last year and shows all locations obtained until March 28, 2001. The site can be found at http://www.mb.ec.gc.ca/nature/migratorybirds/kingeider/dc21s16.en.html.

LYNN DICKSON
Canadian Wildlife Service
lynne.dickson@ec.gc.ca

■ *The Ecological Indian: Myth and History*
SHEPARD KRECH III, W.W. Norton & Company,
New York, 1999, 318 pp.
ISBN 0-393-04755-5



This is a book long overdue, and yet very timely for those concerned with conservation in the circumarctic. In today's world, where even Arctic regions are facing rapidly mounting pressures and opportunities from major industries such as mining, oil and gas, hydro, commercial forestry, etc., we must take stock of past experiences, and learn from our mistakes and successes. This book is a major review of indigenous peoples' past nature use practices that will be useful to both decision-makers and the general public.

As the fly-leaf states, this is "A startling look at historical truths and romantic falsehoods about Native Americans and nature". Krech is a professor of anthropology at Brown University, USA, and is a leading authority on the history of American and Canadian aboriginal cultures, especially their use of nature. The seven chapters blend global and continental ecosystem perspectives with regional cases of indigenous North Americans' utilisation of wildlife and their environment. Throughout, Krech provides a balanced review, by highlighting rigorous studies indicating overharvesting of wildlife by Paleoindians (based on fossil records and pollen analysis), and by summarising studies showing clear examples of restrained harvesting, in the interest of what we today would call conservation.

The four main chapters cover Paleoindians, pre and post-European indigenous settlements, and their various experiences with managing fire, buffalo, deer and beaver. The voluminous evidence presented by Krech leads to varying conclusions. The rotational burning of forests to create improved habitat for deer and beaver is a good example of conservation in action. However, there are also many examples where Paleoindians drove buffalo over cliffs whenever they could, and did not stop the drive when sufficient numbers had been killed for traditional uses. The carcasses of many animals were simply left to rot. Certainly, the arrival of trade with European settlers led to dramatically increased levels of aboriginal harvesting.

Krech concludes: "Prior to the twentieth century, the evidence for Western-style conservation in the absence of Western influence is mixed". Today we see just this, with the Gwich'in fighting desparately to sustain their culture and their intimate relationship to the Porcupine Caribou herd, while the Inuit of Kaktovik support oil drilling in the Arctic National Wildlife Refuge. For anyone concerned about the role and aspirations of the original inhabitants of the Arctic, this book is a must!

Dr. PETER J. EWINS,
WWF-Canada

■ *Naturguide til Grønland*
Génsbøl, Benny, Gads-Forlag,
Copenhagen, 1999, 448 pps.

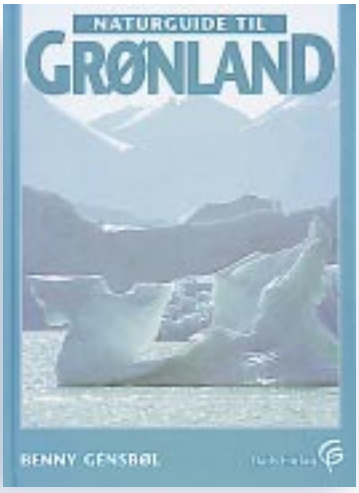
First published in 1994 under the title *Gronlands Natur*, *Naturguide til Grønland* remains a classic among nature guides. With its sturdy "arctic blue" cover, exquisite watercolours, and clear photos and maps, this book a visual inspiration that will quickly dispel any notions about Greenland as a harsh polar wasteland. Concise yet informative, the guide not only introduces the polar traveller to Greenland's geology, plant and animal life (including fish and insects), but also describes self-guided hiking tours in different areas of the island's 18 municipalities. Also included are brief chapters on

Forthcoming Arctic Meetings & Events

Title	Where	When	Contact
Meetings of the Arctic Council and the Rovaniemi Process			
SDWG Meeting	Espoo, Finland	5 November, 2001	Arctic Council Secretariat, Ph: + 1 358 9 1341 6042; Fax: +1 358 9 1341 6120; Email: johann.lammi@formin.fi, http://arctic-council. org
Senior Arctic Officials Meeting	Espoo, Finland	6–7 November, 2001	As above.
ACIA Conference and Workshop: Impacts of POPs and Mercury on Arctic Environments and Humans	Tromsø, Norway	21–24 January, 2002	Polar Environmental Centre, Tromsø, Ph: +47 77 75 02 10; Fax: +47 77 75 02 01; Email: AMAPcon@npolar.no;www.amap.no/news
16th AMAP Working Group Meeting	Faroe Islands	May, 2002	Arctic Monitoring and Assessment Program Secretariat Ph: + 47 22 57 34 00; Fax: + 47 22 67 67 06; Email: lars-otto.reiersen@amap.telemax.no
Senior Arctic Officials Meeting	Oulu, Finland	May 14, 2002	Arctic Council Secretariat, Ph: + 1 358 9 1341 6042; Fax: +1 358 9 1341 6120; Email: johann.lammi@formin.fi, http://arctic-council.org
3rd Arctic Council Ministerial Meeting	Inari, Saariselkä, Finland	September, 2002	Arctic Council Secretariat, Ph: + 1 358 9 1341 6042; Fax: +1 358 9 1341 6120;, Email: johann.lammi@formin.fi, http://arctic-council. org
Arctic Connection: Seminar on Arctic Cooperation	Espoo, Finland	2 October, 2001	Hanasaari Cultural Centre Ph: +358 (0) 9 435 020; Fax: +358 (0) 9 467291; Email: hanasaari@hanaholmen.fi
Bering Sea Summit 2001	Anchorage, Alaska	1–5 October, 2001	Suzanne Marcy, Ph: +1 907 271 2895; Fax: +1 907 271 3424; E Email: marcy.suzanne@epa.gov
Arctic Feedbacks to Global Change Conference	Rovaniemi, Finland	25–27 October, 2001	Dr. Peter Kuhry, Arctic Centre, University of Lapland; Email: peter.kuhry@urova.fi; http://www.urova.fi/home/arktinen/feedback.htm
7th World Wilderness Congress	Port Elizabeth, South Africa	2–8 November, 2001	7th World Wilderness Congress Secretariat; Ph: ++ 27 (0) 31 4622808, Fax: ++ 27 (0) 31 4624656; Email: info@worldwilderness.org, www.worldwilderness.org

Meeting and Event Information on the Web

- Arctic Council – http://arctic-council.org
- IASC – http://www.iasc.no
- Northern Forum – www.northernforum.org/events



Greenland's history, culture, travel options and tips for the traveller. Available in Danish.

TOVE CHRISTENSEN
WWF Arctic Programme

Newsletter Reports on Activities of Co-Management Regimes

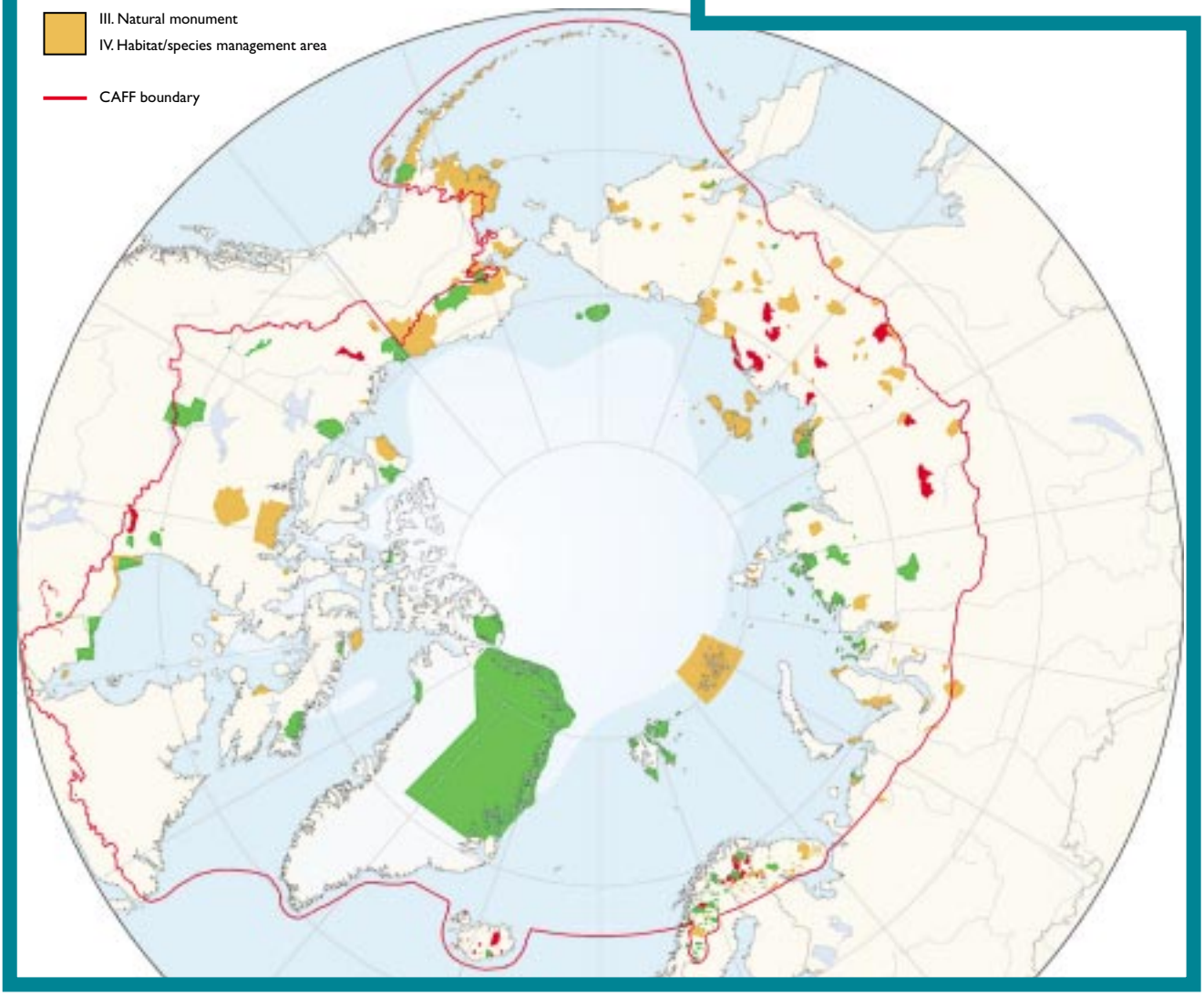
The Inuvialuit Settlement Region in Canada's western Arctic supports diverse terrestrial and marine life. Since a land claim agreement was negotiated between the Inuvialuit and the Government of Canada in 1984, co-management regimes have worked to ensure that wildlife habitat and populations remain healthy and that traditional harvesting practices can continue at sustainable levels. These co-management bodies operate under the Joint Secretariat, an administrative hub for wildlife management in the region. A quarterly newsletter of the

Secretariat, the *JS Bulletin*, is now available. For further information contact the Joint Secretariat at:
Ph: + 1 867 777 2828
Email: adminjs@jointsec.nt.ca

Circumpolar Protected Areas Network (CPAN)

"Protected areas (>500 hectares) in the Arctic by IUCN Categories I-VI (Compiled by UNEP-WCMC)"

I. Strict Nature reserve/Wilderness area
II. National park
III. Natural monument
IV. Habitat/species management area
V. Protected landscape/seascape
VI. Managed resource protected area
CAFF boundary



Source: CAFF (Conservation of Arctic Flora and Fauna) 2001. Arctic Flora and Fauna: Status and Conservation. Helsinki: Edita. P. 80.

WWF ARCTIC BULLETIN

P.O. Box 6784 St. Olavs plass, N-0130 Oslo, Norway

WWF ARCTIC OFFICES AND CONTACTS

WWF-CANADA
245 Eglinton Ave. East
Suite 410, Toronto,
Ontario M4P3J1, Canada
Tel: +1416 489 8800
Fax: +1416 489 3611
www.wwf.ca
Contact: Peter J. Ewins

WWF-DENMARK
Ryesgade 3f
DK-2200 Copenhagen N
Denmark
Tel: +45 35 36 36 35
Fax: +45 35 24 78 68
www.wwf.dk
Contact: Anne-Marie Bjerg

WWF-FINLAND
Lintulahdenkatu 10
SF-00500 Helsinki, Finland
Tel: +358-9 7740 100
Fax: +358-9 7740 2139
www.wwf.fi
Contact: Jari Luukkonen

WWF-NORWAY
Kristian Augustsgate 7a
P.O. Box 6784 St. Olavs plass
N-0130 Oslo, Norway
Tel: +47 22 03 65 00
Fax: +47 22 20 06 66
www.wwf.no
Contact: Rasmus Hansson

WWF-SWEDEN
Ulriksdals Slott
S-17081 Solna, Sweden
Tel: +46 862 47 400
Fax: +46 885 13 29
www.wwf.se
Contact: Lars Kristoferson

WWF-USA
1250 24th St. NW,
Washington, DC, 20037 USA
Tel.: +1 202 293 4800
Fax: +1 202 293 9345
www.worldwildlife.org
Contact: Randall Snodgrass

WWF-UK
Panda House
Weyside Park,
Godalming, UK
Surrey GU7 1XR
Tel: +44 1483 426444
Fax: +44 1483 426409
www.wwf-uk.org
Contact: Ute Collier

CONTACT ICELAND
c/o Iceland Nature
Conservation Association
Thverholt 15
105 Reykjavik
Tel/Fax: +354 551 2279
www.mmedia.is/nsi
Contact: Arni Finnsson

WWF-INTERNATIONAL EUROPEAN PROGRAMME
Avenue du Mont Blanc,
ch-1196 Gland, Switzerland
Tel: +41 22 364 9225
Fax: +41 22 364 3239
www.panda.org
Contact: Magnus Sylvén

WWF-RUSSIAN PROGRAMME OFFICE
■ *mail within Russia:*
P.O. Box 55
125319 Moscow, Russia
Tel: +7-095-727 0939
Fax: +7-095-727 0938
www.wwf.ru
Contact: Victor Nikiforov
■ *mail from Europe:*
wwf Russian Programme Office
Account No. wwf 232
P.O. Box 289 Weybridge
Surrey KT 13 8WJ, UK
■ *mail from the US:*
wwf Russian Programme Office
Acount No. WWF 232
208 East 51st Street
Suite 295
New York, ny 10022, USA

WWF INTERNATIONAL ARCTIC PROGRAMME
Kristian Augustsgate 7a, P.O. Box 6784 St. Olavs plass, n-0130 Oslo, Norway
Tel.: +47 22 03 65 17/18,
Fax: +47 22 20 06 66
www.grida.no/wwfap
Contact: Peter Prokosch

WWF is the world's largest and most experienced independent conservation organisation with 4.7 million supporters and a global network of 27 National Organisations, 5 Associates, and 22 Programme Offices. wwf aims to conserve nature and ecological processes by preserving genetic, species, and ecosystem diversity; by ensuring that the use of renewable natural resources is sustainable both now and in the longer term; and by promoting actions to reduce pollution and the wasteful exploitation and consumption of resources and energy. WWF continues to be known as World Wildlife Fund in Canada and the United States of America.

WWF