# Arctic Bulletin

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## Fighting for the Arctic Refuge p. 13–14

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**Cover:** Musk ox (*Ovibus moschatus*) forming a protective circle, Arctic National Wildlife Refuge, Alaska.
Photo: Hugh Rose

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Editorial

# The price of oil

As we go to press, WWF is in full swing with a campaign to get important wildlife areas in the Norwegian Barents Sea protected from oil development. These include the seas around the Lofoten Islands, which are the spawning grounds for the world's largest cod and herring stocks, and home to huge seabird colonies, whales and seals.

According to the oil industry, however, Lofoten also contains oil worth one to two billion US dollars. Though this number is really just an educated guess, nonetheless all oil companies that are active in the northern Norwegian and Barents Seas have targeted Lofoten as their number one priority for exploration and development.

Thus WWF was happy to see that the Norwegian Government stuck to its commitment from 2003, which was to keep oil development out of Lofoten for at least three years, until a comprehensive management plan for the Barents Sea is in place. In the last licensing round, the Norwegian Government did not include Lofoten or areas adjacent to it. At the same time, though, it opened up other areas in the Barents Sea that have high biodiversity value and high sensitivity to the impacts of oil development.

Short-term commitments from the Government aren't going to protect Lofoten in the long run, however. The ultimate goal for WWF and others who care about Lofoten, and areas like it, must be permanent protection from oil and gas exploration/activities. Otherwise, it will only be a matter of time before shifting political winds lead to an irreversible decision – to open up the area.

A good example of the need for permanent protection is taking place on the other side of the Arctic, in Alaska. The US Congress recently approved legislation that may make it possible to open up Alaska's Arctic National Wildlife Refuge for oil drilling (p.13). The Refuge was protected in 1960 as core habitat for polar bears, waterfowl and caribou, including the famous Porcupine caribou herd that migrates back and forth across the Alaska-Canada border. An Act of Congress, however, can remove the Refuge's protected status and allow oil development there. Opinion polls consistently show that a majority of Americans oppose development in the Refuge.

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The resources in the Refuge aren't going to make much of a dent in the US energy supply. The United States Geological Service estimates that there are about 11.6 billion barrels of oil in the Refuge, though most likely only two to nine billion barrels are technically and economically feasible to extract. This translates on average to about seven months of US oil consumption.

The oil industry and its supporters would have us believe that it's possible to drill for oil in sensitive arctic areas without real impacts on wildlife or landscapes. This just isn't correct. If we look at Alaska's Prudhoe Bay and its 1,000 square miles of industrial sprawl, we see that the infrastructure that comes along with oil development has irreversible impacts on habitat, wildlife and landscapes. The industry's record of accidental spills and releases is not reassuring either.

The real question is whether governments, and the public, are willing to pay the environmental price of developing oil in the Arctic's most biologically important areas. No one expects to stop oil development everywhere. But why can't some of the world's richest countries afford to save the most important and most fragile areas?

### CANADA DIAMOND MINE

In an area better known for polar bears and ice floes, Canada's third diamond mine is taking shape on the arctic tundra. Tahera Diamond Corporation said this month it is trucking the last of hundreds of loads of building materials along a 600-km winter road to the out-of-the-way site in Nunavut, Canada's most sparsely populated, newest and largest political jurisidication. The Jericho mine, which is expected to start production next year, will be Nunavut's first diamond mine.

### ANTARCTIC GLACIERS MELTING

*Reuters:* Most of the glaciers on the Antarctic peninsula are in headlong retreat because of climate change according to scientists. An in-depth study using aerial photographs spanning the past half century of all 244 marine glaciers on the west side of the finger-like peninsula pointing up to South America found that 87 percent of them were in retreat – and the speed was rising.

### POLAR BEARS KILLED BY NORTHERN ADVENTURE RACERS

The Hunters and Trappers Organisation (HTO) in Resolute Bay, Canada, is investigating the death of three polar bears killed by participants in two adventure races to the magnetic North Pole. Isaac Kalluk, chair of the Resolute Bay HTO said neither race asked permission to pass through the area and that their actions were disrespectful and wasteful.

### DATABASE ON YUKON BIODIVERSITY

The Yukon Biodiversity Database, which describes more than 4,200 publications and research projects about the biology of Yukon and the Beaufort Sea, is now available at: http://www.aina.ucalgary.ca/yb. The database was created for the Yukon Biodiversity Working Group by the Arctic Science and Technology Information System (ASTIS) at the Arctic Institute of North America, University of Calgary.

# Hollywood stars join Inuit for climate protest

Hollywood stars and politicians joined around 700 Inuit on the ice in Nunavut, Canada to protest global warming. recently. The event was co-ordinated by John Quigley, an aerial photographer and activist, at the request of the Inuit Circumpolar Conference (ICC).

The participants, including actors Salma Hayek and Jake Gyllenhaal, arranged themselves on the ice in the shape of an Inuit drum dancer and spelled out the words 'Arctic' and 'Warning' in English and 'Listen' in Inuktitut. Quigley photographed the event from the air.

The photos were then distributed around the world to raise awareness about the threat of global warming to the Arctic.

Quigley said: "It was a powerful experience for the people here. The landscape is just breathtaking. Hopefully, it sends a message with a ripple effect out there and affects some change."

Gyllenhaal, star of the climate change disaster movie *The Day After Tomorrow,* said: "Global warming is an abstract concept to most people; we know its happening, but we can't really visualise its effect. Unfortunately, the Inuit people put a human face on global warming, they are literally melting away. They are the canary in the coal mine."

The Inuit, led by the ICC, will file a petition with the Human Rights Commission later this year to have global warming declared a human rights violation.

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# Four new toxic chemicals recommended for phase-out

Four chemicals could be added to the list of banned or restricted chemicals under the Stockholm Convention on Persistent Organic Pollutants (POPs).

The European Union announced plans to nominate chlordecone and hexabromobiphenyl, and Mexico recommended lindane. Norway highlighted the need to add a flame-retardant (penta-BDE) that is of special concern in the Arctic. Sweden spoke out about the hazards of a fluorinated chemical (PFOS) that is accumulating in the Arctic.

Photo: IISD

*Clifton Curtis*

The recommendations were made at the first conference of the parties (COP1) of the Stockholm Convention that took place from May 2nd to 6th in Uruguay. A committee will review additional chemicals for addition to the Treaty at the next meeting of the conference of the parties in two years.

WWF participated in the conference and noted its report outlining 20 chemicals suitable for nomination to the Convention.

Clifton Curtis, Director of WWF's Global Toxics Program said: "Many of these chemicals are used in everyday products such as packaging and furniture and they all are contaminating our environment. The sooner they are phased out, the safer we will all be."

Sheila Watt-Cloutier, chair of the Inuit Circumpolar Conference (ICC) made a moving statement about the effects of pollution on arctic peoples and the great importance of the Stockholm Convention to all.

The Stockholm Convention is a global treaty that entered into force in May 2004 and bans or severely restricts 12 of the world's most hazardous chemicals. Envisioned by the international community to be a dynamic, living treaty that responds to current realities, the Convention provides a rigorous scientific process through which new chemicals that meet the POPs criteria can be added to the treaty.

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*Over 700 people gathered on the ice in Nunavut, Canada to issue a warning to the world.*

Photo: John Quigley

## EIGHT OUT OF 10 NWT RESIDENTS WANT MORE PROTECTED AREAS

A new poll released by the Canadian Boreal Initiative shows that NWT residents want to see more of the territory protected from industrial development. The poll found that 83 percent of NWT residents supported the creation of more areas protected from industrial activities, but where traditional activities such as hunting and fishing were allowed.

## CANADA IS MAPPING ARCTIC SEA BED

Canadian researchers will begin mapping the floor of the Arctic Ocean next year as part of an effort to enhance the country's sovereignty rights to the area. The $70 million programme began after Canada ratified the United Nations International Law of the Sea (UNCLOS) in 2003 that allows countries to claim ownership of seabed territory past the traditional 200-mile limit. Russia also made claims to areas around the North Pole after ratifying the UNCLOS convention.

## POTENTIAL LAND DISTURBANCE FROM NORTHERN GAS DEVELOPMENT

A new study by the Pembina Institute and commissioned by the Canadian Arctic Resources Committee and the Canadian Parks and Wilderness Society presents the big picture of what Canada's Northern regions could look like after 30 years of gas development. Previous studies, including the work done by Imperial Oil for the Mackenzie Gas Project, have only looked at the impacts of individual projects. *A Peak into the Future* provides Canadian Northerners with an estimate of the extent and pace of development that could occur if known and potential gas reserves are developed. For more information, visit: www.carc.org

# Climate College plan

Despite polar bears, open water, bad weather and drifting ice, Russian bureaucracy finally stopped two WWF-supported expeditions in their tracks in April.

But Marc Cornelissen, team leader of one expedition, Pole Track, has already started on his next project with help from WWF and Ben & Jerry's ice cream: setting up a new Climate Change College.

Each year for the next three years, six young people will graduate from the virtual College as climate change campaigners. Successful applicants to the College will be fully trained through internships, workshops, and a visit to the Arctic to study climate change.

Both the Pole Track team and the Bancroft-Arnesen team had to abandon their ski-treks to the North Pole when a logistics company, responsible for dropping of supplies en route for the explorers, could no longer guarantee delivery.

Cornelissen said: "It is too bad Pole Track was cut short. We were well underway, making good progress despite the usual challenges like open water, pressure ridges, ice drift and low temperatures. Petter Nyquist and Doug Stoup were very committed to our difficult mission. It was pure joy working with them. We lived through some challenging situations."

Cornelissen recalls one very close encounter. "When I was going to the toilet early in the morning of the third day, a young polar bear sneaked up on me. I only noticed it when it was less than two metres away. I had to fight the bear off with my shovel, buying enough time for Petter to come out of the tent and scare it off with a shot in the air."

For more information on the Climate Change College, visit www.climatechangecollege.org.

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***Marc Cornelissen and Jerry Greenfield (of Ben & Jerry's Ice Cream) in Greenland.***

## Apology

■ In the article *Map shows impact of oil pipeline* in Arctic Bulletin issue 1.05, both the headline and image caption were incorrect. As the proposed Mackenzie Valley pipeline is for gas, the headline should have been 'Map shows impact of gas pipeline'. The Canadian Arctic Resource Committee (CARC) commissioned the maps, which show the cumulative effects of the project. The caption for the map that accompanied the article stated "Terminal Development - 2007", however the pipeline is not scheduled to be built until 2009 and the caption should have read "Terminal Development – 2027". We apologise to CARC and to our readers for this misleading error.

## Inuit leader receives international awards

Sheila Watt-Cloutier, elected Chair of the Inuit Circumpolar Conference (ICC), is the recipient of two highly prestigious awards for her contributions in addressing global climate change and the effects of toxic contamination on arctic people and environment.

The United Nations Environment Programme (UNEP), recently awarded Watt-Cloutier the title of one of seven "Champions of the Earth." Watt-Cloutier received the award at the United Nations headquarters in New York City on April 19.

Photo: UNEP

***Sheila Watt-Cloutier***

The Sophie Foundation has awarded Watt-Cloutier with the Sophie Prize, one of the world's most generous environment and development Prizes (US$ 100,000). Norwegian author Jostein Gaarder and his wife Siri Dannevig established the Sophie Prize in 1997 to inspire people working towards a sustainable future.

Through her ongoing efforts to make states accountable for their emissions of $CO_2$, Watt-Cloutier has continuously given a human face to the effects of climate change. She has also successfully campaigned for a global convention to eliminate persistent organic pollutants (POPs), many of which pose a particular threat to Inuit and arctic ecosystems.

In response to the announcement that she was a recipient of the


Photo: Marc Cornelissen

UNEP award, Watt-Cloutier said: "I am honoured and humbled by this award, which is for Inuit everywhere. This award strengthens our determination, as Inuit, to find our rightful place in the rapidly changing world and to contribute our knowledge and wisdom to make the world a better place."

She added: "The Champions of the Earth award reflects the fact that the Arctic – our homeland – is the world's barometer of climate change. Inuit are the mercury in that barometer."

In November and December 2005, Canada is hosting a Conference of Parties (COP) to the UN climate change convention. Up to 10,000 people from more than 180 countries are expected to attend.

Watt-Cloutier said: "Canada should use the COP to bring together Inuit and all arctic residents and vulnerable peoples in the Small Island Developing States (SIDS) and low-lying areas. Canada has a unique opportunity to help regions particularly vulnerable to climate change to speak loudly and clearly to the world." She urged Canadian politicians to grasp this opportunity.

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# Barents oil and gas report

A new WWF report provides an up-to-date overview of existing and planned oil and gas activities in the Barents Sea.

The 35-page report says that the Russian part of the Barents may hold 20 times more oil, and 70 times more natural gas, than the Norwegian.

However, despite these large offshore oil and gas resources, only two medium-sized projects are currently being developed: the Norwegian Snow White gas field and the Russian Prirarzlomnoye oil field.

According to the report, new large-scale offshore developments are unlikely to take place on either side of the Barents Sea in the short-term, due to a combination of technical, economical, environmental and political factors.

In the near future, the Barents Sea will be of more importance as a transport hub for oil and gas from on-shore fields. In the next decade, Russia may have the capacity to export about 100 to 150 million tons of oil per year via the Barents Sea.

The Barents Sea is one of the most productive marine ecosystems in the world and among the most biologically diverse within the Arctic. It is Europe's last large, clean and relatively undisturbed marine ecosystem.

"The planned exploitation of the hydrocarbons is likely to change the economic, geo-political and environmental situation of the region profoundly," said Dag Nagoda, one of the editors of the report.

The report was also edited by Bjørn Tore Bjorsvik, with contributions from several Russian and Norwegian experts.

The report can be downloaded from WWF's Barents Sea website at www.panda.org/arctic/barents

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# NTI threatens lawsuit over

**Nunavut Tunngavik Inc. (NTI) in Canada is threatening legal action to shut down the federal government's move to list Peary caribou as an endangered species.**

Leaders of Nunavut's land claim organization said they were shocked by the federal environment minister's announcement that he was recommending Peary caribou are listed as an endangered species under the Species at Risk Act.

"There were no negotiations about it," said Raymond Ningeocheak, second-vice-president of NTI. "And today that is not acceptable anymore because we have agreements that are here to protect us."

NTI accuses federal environment minister Stéphane Dion of overriding the process set out in the Nunavut Land Claims Agreement, which describes how decisions are to be made about managing wildlife in the territory.

Ningeocheak is basing his threat of legal action on article 5.3.3 of the land claim. That article states the Nunavut Wildlife Management Board (NWMB) and the minister will only restrict Inuit harvesting rights based on the system set out in the claim. Limits are allowed only for a "valid conservation purpose," and public health or safety reasons.

Ningeocheak believes Dion made a mistake in basing his decision on a report by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC).

COSEWIC, a group of advisors to the government, released a report last spring that recommended the minister protect the Peary caribou with an endangered species listing. Wildlife surveys done over the past few decades show their populations have plummeted by as much as 90 per cent in some areas, such as the High Arctic.

Scientists say many caribou starved to death after unusual ice storms covered the ground with ice, making it nearly impossible for them to eat.

But hunters in Grise Fiord and Resolute Bay argue the surveys are incomplete. They believe the area is too large to be sufficiently covered by wildlife biologists visiting periodically from the South.

They say the scientists haven't counted all the caribou that have migrated to more remote areas.

Marco Festa-Bianchet, chair of the COSEWIC committee that produced the report for the minister, said the hunters need to prove their claims if they want to change the outcome of the Peary caribou's pending designation.

Festa-Bianchet added that Inuit shouldn't assume their hunting rights will be curtailed by the recommended designation. He said hunters aren't blamed for the sharp decline in caribou numbers, which will be considered when government and Inuit decide on a management plan for the caribou.

"They have no reason to be concerned," Festa-Bianchet said. "A SARA [Species at Risk Act] listing doesn't necessarily mean that all harvest must stop. Whatever consultation one does, one is always told one needs to do more."

The NWMB, Nunavut's main wildlife regulator, expected they would have time to meet with hunters from the High Arctic, and compile more information to give to the minister, before he made his decision.

Instead, the NWMB were surprised Dion made the recommendation to the federal cabinet without waiting to hear more from the Inuit.

"It's unfortunate," said Harry Flaherty, acting chair of the NWMB. "He just sort of bypassed the board. But hopefully this won't happen for other species that could come up in the very near future."

The Canadian Wildlife Service (CWS) is a federal agency that also advises the minister on conservation issues. They said they met with the NWMB in April after holding consultations on the Peary caribou in the High Arctic communities, Cambridge Bay and Kuglutuk.

"There was extensive effort made to incorporate local and

## BP failure again

The Alaska Department of Environmental Conservation (DEC) may pursue civil charges against UK oil giant BP for its failure to report large spills in the Prudhoe Bay area of Alaska.

The DEC is currently working to negotiate a settlement with the company to ensure that all future spills are reported.

It's not the first time that BP has been penalised for poor environmental practices.

According to a US Public Interest Research Group (PIRG) report, BP Amoco pleaded guilty in 1999 to a federal felony connected to illegal dumping of hazardous waste at their Endicott Oil Field near Prudhoe Bay. As part of a plea agreement BP Amoco agreed to pay $22 million in criminal and civil penalties.

In 1995, the BP subcontractor working the Endicott Field was found guilty of illegally injecting hazardous waste back into the groundwater. The subcontractor was ordered to pay a $15 million fine for violating the Clean Water Act.

Amongst those expressing concern are oil and gas workers who say that the lack of adequate reporting of spills and accidents could jeopardise worker safety. This latest incident, which involved the failure to report several oil spills, was called in by whistleblowers at BP.

Prudhoe Bay is approximately 100 kilometres west of the Arctic National Wildlife Refuge (ANWR) see story page 13.

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# caribou decision

traditional knowledge into the report," said Trevor Swerdfager, director-general of the CWS.

Swerdfager said more public comment is welcome until mid-June, when the minister makes a final recommendation on the Peary caribou's status.

Greg Younger-Lewis, translated by Itee Akavak. This story first appeared in *Nunasiaq News* and is reproduced with their permission.

Photo: Karen Frey, UCLA

***Many arctic lakes are disappearing due to possible link with climate change.***

# Arctic lakes drying up

Continued arctic warming may be causing a decrease in the number and size of arctic lakes. Researchers tracked changes of more than 10,000 large lakes over 200,000 square miles and compared data from the early 1970s to data from 1997–2004.

Larry Hinzman with the Water and Environmental Research Center at the University of Alaska Fairbanks, said: "This is the first paper that demonstrates that the changes we are seeing in Alaskan lakes in response to a warming climate is also occurring in Siberia."

Hinzman has also compared satellite data of tundra ponds on the Seward Peninsula near Council, Alaska and found that the surface pond area there had decreased over the last 50 years.

In this latest study, comparing data from 1973 with findings from 1997–98, the total number of large lakes decreased by around 11 percent. While many did not disappear completely they shrank significantly. The overall loss of lake surface area was a loss of around six percent. In addition, 125 lakes vanished completely and are now re-vegetated.

In permafrost regions, summer thaw produces meltwater, which is typically unable to infiltrate into the ground because of the ice-rich frozen soils found in permafrost. Data gathered from the latest measurements indicate that warming temperatures lead to increased numbers of surface water bodies in the colder permafrost regions.

Many lakes decreased in size or dried up completely, while other lakes actually increased in size. Researchers say as the climate warms, additional meltwater accumulated in the lakes located in the colder regions of thicker permafrost increase their size; however, if climate warming continues, even those lakes would eventually be susceptible to loss.

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# Southern toxins in northern species

Subtle changes are occurring in the health of arctic species, according to a project conducted by WWF-Canada, with researchers from Trent University.

The Nunavut Wildlife Health Assessment Project (NWHP) investigated the health of arctic wildlife and employed a variety of assessment techniques. These included contaminant analysis, a histological survey (the microscopic structure of animal tissues) and the documentation of observations by Inuit hunters, called Inuit Qaujimajatuqangit (IQ).

Elders and hunters living in three eastern arctic communities participated in the NWHP because they are concerned about the increased rate of physical changes they are seeing in species they rely on to maintain their way of life.

Dr Gordon Balch, research associate at Trent University, said: "Greater attention needs to be directed towards wildlife health issues to determine the magnitude and significance of these changes to the long-term sustainability of arctic wildlife."

Dr Susan Sang, a senior manager with WWF-Canada who headed up the study, said: "This is particularly important in the context of climate change, which has a strong potential to influence the toxicological effects of Persistent Organic Pollutants (POPs)."

Mercury, a potent toxic metal that targets the nervous system and brain development, was detected in various tissues and organs of arctic char, ringed seals and beluga whales. Mercury levels in the kidney and the liver of ringed seals, as well as muscle, kidney and liver in beluga are much higher than 0.5 ppm level recommended by Health Canada for human consumption.

The NWHP results also showed that new contaminants such as polybrominated diphenyl ether (PBDE) known as fire retardants, and the organochlorine insecticide endosulfan, were detected in species submitted for chemical analysis (e.g. arctic char, ringed seal, beluga whale).

The environmental levels of these emerging contaminants are generally one to two orders of magnitude below the levels associated with the more notable legacy POPs. However, these compounds possess many of the same toxicological qualities of legacy contaminants and based on other studies, these levels are rapidly increasing in arctic wildlife tissues. The biological impacts at these concentrations are largely unknown at this point.

These results are of concern given the reliance of Inuit communities on 'country food' – food obtained through hunting and fishing from the sea, land, lakes and river by Inuit hunters.

Moe Keenainiak, acting executive director of Qikiqtaaluk Wildlife Board, said: "I believe that more research needs to be done on animals' (health) to keep track of how things are going because country food is what we depend on to live."

Inuit hunters and elders believe that pollutants from afar, as well as those used locally like oil and gas spills from boats and land vehicles, are contaminating the arctic environment and wildlife. Sixty per cent of those interviewed for the IQ Survey believe that any pollutants in arctic environments would have a negative impact on the health of wildlife.

Thomas Ublureak, president of Hunters' and Trappers' Organisation in Arviat, said: "Country foods are a main source of the Inuit diet. There is great concern about the impact of contaminants on the health of wildlife."

William Nakoolak, president of Hunters' and Trappers' Organisation in Coral Harbour, said: "Continuation of sampling (wildlife) is the only way we are going to know about disease in these animals."

The contamination of arctic wildlife with chemicals, including some no longer used in most industrialised countries and many still used in industrial and consumer

# Arctic leaders spread climate message

**Awareness about the impact of climate change on the Arctic is slowly spreading throughout Europe. Media coverage of the recent Arctic Climate Impact Assessment (ACIA) is partly responsible but more recently a tour by arctic indigenous leaders is forcing the message home.**

People in Berlin, Copenhagen, and Brussels recently heard first-hand accounts of the impacts of climate change on the Arctic. A group of arctic indigenous leaders, part-funded by WWF, visited the three European capitals to spread the message about the impacts of arctic climate change. The leaders met with politicians, policy-makers, researchers and NGOs, and also held public meetings.

Representatives from the Arctic Athabaskan Council, The Russian Association of Indigenous Peoples of the North, and the Saami Council took part in the tour, which represented three of the six international indigenous peoples' organizations at the Arctic Council.

Chief Gary Harrison, representing the Arctic Athabaskan Council, told audiences that changes he is seeing in his home in Alaska are threatening people's lives. "Travel routes that have been tested over hundreds of years are no longer predictable," he said. "We can't tell any more when we take that snowmobile across the lake whether we are going to make it to the other side.

"In the summer, we are also facing problems from changes in

applications, demonstrates the ineffectiveness of health and environmental protection laws in Canada and elsewhere.

European countries have taken a first step towards pollution prevention by requiring scientific data as a precondition for producing and marketing chemicals or products containing chemicals.

The proposed Registration, Evaluation and Authorisation of Chemicals (REACH) system in Europe should lead to the identification and phasing out of the most harmful chemicals. WWF-Canada has urged the Canadian government, in the context of the current review of the Canadian Environmental Protection Act (CEPA), to pursue a similar approach to protect the environment, wildlife and humans from toxic chemicals.The Nunavut Wildlife Health Assesment executive summary and IQ report are available on WWF-Canada's website at www.wwfcanada.org and final results report will be available shortly.

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Photo: Bryan & Cherry Alexander (arcticphoto.co.uk)

***Inuit woman uses her ulu to prepare arctic char for drying. Igloolik, Nunavut, Canada. Harmful toxics have been found in the tissue and organs of some arctic char and other arctic species.***

the water flows in our regions. Some rivers are losing water, making them more difficult to navigate – at other times, the water flow may be higher, making them tough to cross."

The threat to lives, livelihoods and cultures was a common thread that ran through the testimony of the indigenous leaders.

Larisa Abrutina of the Russian Association of Indigenous Peoples of the North spoke of her experiences as a doctor in Chukotka, in the far north-east of Russia. She says that she has seen the health of indigenous people deteriorate as societal changes have moved them away from a traditional diet, and she fears that there is worse to come.

"At the beginning of the 21st Century, indigenous peoples find themselves in a state of shock after so many changes," she said. "Global warming may finish off what man started. The Arctic Climate Impact Assessment says that the animals on which we depend, such as reindeer, birds, fish, and seals, may vanish from our territories, and with them our traditional food."

The indigenous leaders did not only speak of the challenges they faced from climate change; they also offered some potential solutions that may help their peoples deal with those challenges.

Olav Mathis Eira of the Saami Council spoke of the need to reform land and resource management to recognize the changing needs of reindeer herders in northern Europe. "There are already too many people trying to use the same area for reindeer herding," he said. "Mining, tourism, road building, military shooting ranges, all have made inroads to our traditional lands. People from other parts of Norway have moved onto our lands. Climate change is adding more stress to this already stressed system.

"What we need is flexibility to respond to the challenges. Reindeer herding is very restricted by governments. They tell us when we can move from one area to another, they tell us how we must sell our animals. They need to take more notice of traditional knowledge. The people who work with the herds, not bureaucrats from Oslo, know best when and where to move the herds, how many animals should be taken from the herd and when."

The leaders decided to speak out at this time as the European Union is holding meetings this year to decide what actions should follow the greenhouse gas reductions decided on as part of the Kyoto Accord.

Arctic indigenous leaders have previously praised the Kyoto Accord as a 'good first step', but it is widely recognized that further reductions in greenhouse gas levels are going to be necessary if the Arctic is to be saved from the worst effects of climate change.

The leaders who took part in the European information tour are now planning a similar tour to major North American centres later this year. They hope their stories of the impacts of change will help further encourage the ground swell of Americans who are pressuring their government to join the international efforts to curb climate change.

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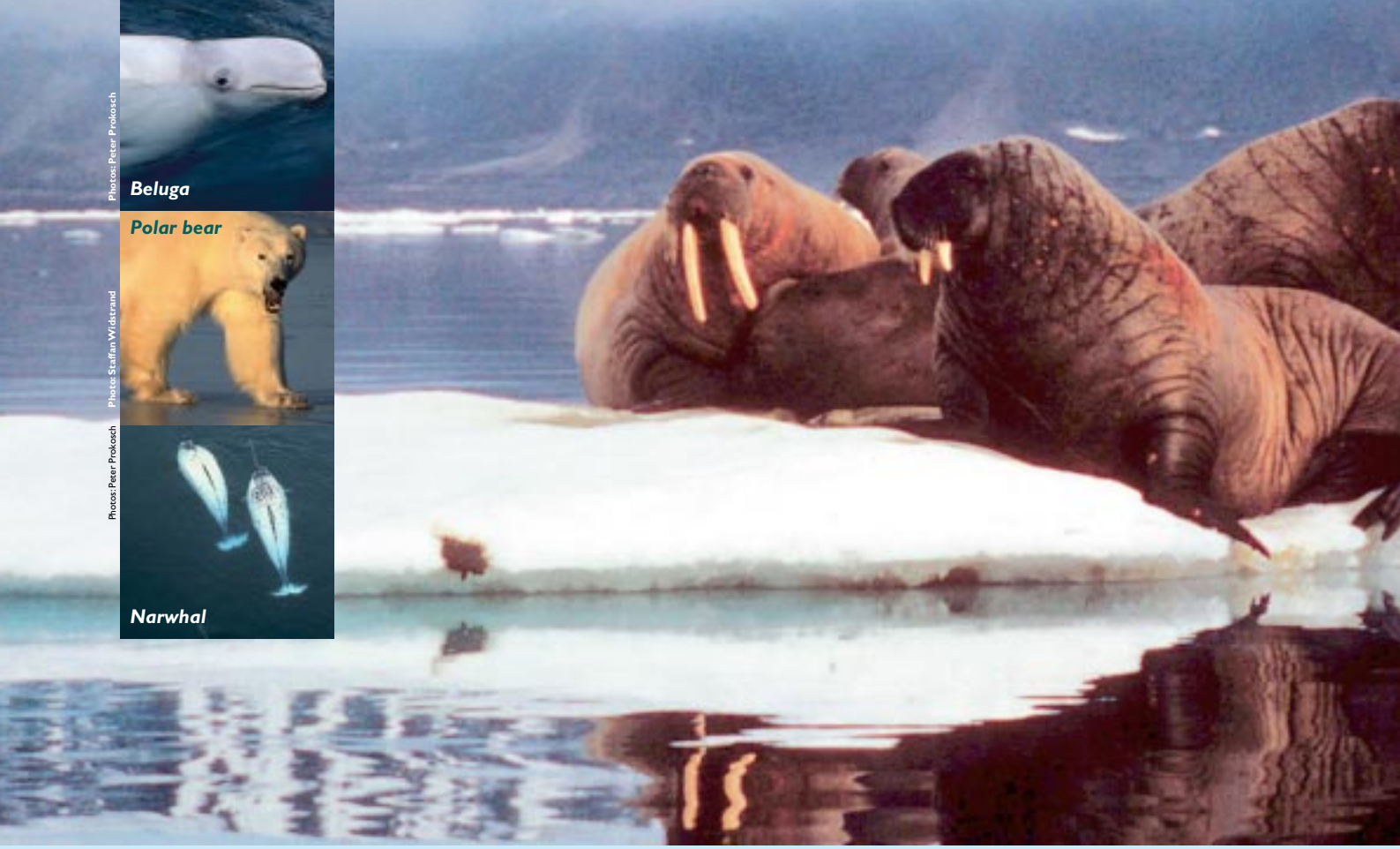


# Greenland's big four – new WWF

**In 2003, WWF published its first report on the state of Greenlandic nature management. Called *Greenland's International Obligations*, the report showed that Greenland did not meet its international environmental obligations and led to strong international criticism of Greenlandic politicians. In April this year, WWF published a second report *The Big Four*, which focuses on the management of four key species in Greenland: polar bear, walrus, narwhal and beluga.**

WWF's new report, *The Big Four*, asks two questions: how has Greenland's Home Rule Government met the challenge of declining populations of the four species? And has implementation of the most important nature conventions (CITES, Ramsar and Biodiversity) improved?

The good news is that Greenland has taken steps forward since WWF's first report. In December 2003, the Home Rule Parliament approved a nature protection act, while in 2004, passed two executive orders improving the legal protection of birds, narwhal and beluga. The Government has also decided to fully implement CITES in Greenland. However, the new report, written by conservation biologist Thor Hjarsen from EcoAdvise, shows that there are still serious gaps in nature management on the world's largest island.

Polar bears and walruses are hunted in Greenland in an almost unregulated way. As a result the populations of both species on the western coast are believed to be in danger. However, population data remains scarce and so recommended harvest levels are necessarily 'guesstimates'. The real effect of current hunting levels in western Greenland (see table 1 and 2) is not known.

The hunting of polar bear is of particular concern. The increasing number of bears killed in the last four to five years may be a result of climatic change: decreasing sea ice cover forces bears towards coasts where contact with hunters is more frequent. Improved protection of polar bears and walruses in Greenland is needed.

Our knowledge of the narwhal and beluga populations in Greenland is much better however. It was possible, therefore, in 2004 to set hunting quotas in western Greenland for the first time. Unfortunately the quotas for the first year were set at a level three times

**Table 1: Regional polar bear harvest in Greenland, 2000–2004***

| | North | Central/ Disco | South | East | Total |
|---|---|---|---|---|---|
| 2000 | 62 | 11 | 10 | 76 | 159 |
| 2001 | 92 | 4 | 14 | 70 | 180 |
| 2002 | 108 | 19 | 13 | 50 | 190 |
| 2003 | 200 | 15 | 20 | 43 | 278 |
| 2004** | 113 | 21 | 39 | 39 | 210 |

** Updated figures according to the Greenlandic Home Rule Ministry for Fishery and Hunting, March 2005*
*** 2004-figures only covers from January to September*

**Table 2: Current average removal a walrus in Greenland**

| Population | Current caus |
|---|---|
| North Water and western Greenland | 35 |
| Eastern Greenland | |

**1997–2003 average incl. losses. **Witting, L. & E. Born (2 Journal of Marine Science, 62: 266–285.*

■ Both reports are available on the web: The Big Four (2005): http://www.panda.org/about_wwf/where_we_work/arctic/news/news.cfm?uNewsID=20110 • Greenland's

Photo: WWF-Canon/Fritz Polking ©

*The walrus on the west coast of Greenland are thought to be endangered.*

# F report

higher than recommended by most biologists.

Another concern is that the trade in narwhal tusk and carved ivory pieces has increased significantly. Better reporting, due to a new permit system, combined with a growth in tourism, has increased the reported export of narwhal from 255 transactions in 2000 to 1550 in 2003. This level warrants a reassessment of the trade and its impact. There is some positive news on this front: on May 21st, the CITES Animals Committee followed WWF's recommendation to include the narwhal in the Significant Trade Review process. The need for such independent assessment is also underlined by the fact that Greenland has issued and is still issuing CITES permits without involvement of a CITES Scientific Authority as required by the Convention.

**nd estimated sustainable harvest of**

| **t annual human ed removal*** | **Estimated sustainable harvest**** |
|---|---|
| 56–379 | 50 (2%) |
| 2–13 | 40 (4%) |

*2005): An assessment of Greenland walrus populations. ICES*

nternational Obligations (2003): http://www.wwf.dk/399000c



# The battle for the Arctic Refuge

**Proponents of drilling in the Arctic Refuge scored a victory in the US Congress recently. However, as** Randy Snodgrass **explains, the fight is not over and the time for action is now.**

The United States moved a step closer to allowing oil drilling in the Arctic Refuge when Congress approved a Budget Resolution in April containing a provision that gives development proponents a clear advantage. The latest move in the long-running battle over the wildlife sanctuary presents a formidable challenge for conservation and indigenous peoples' groups working to protect the area. But the fight is far from over; and is raging on two fronts – in comprehensive national energy policy legislation and in the federal budget process.

Congress has failed to enact an energy bill in recent years in part because a majority of senators opposed development in the Arctic Refuge, a key component of President Bush's energy policy agenda. The political landscape shifted in the US Senate after the 2004 elections. Today, 51 senators are on record in support of development in the arctic reserve. However, under Senate rules, a vote by three-fifths, or 60 of 100 senators, is needed to pass energy policy legislation. One notable exception to this rule is the Budget Reconciliation Act, which only requires 51 votes to pass. Development proponents are using this seldom-used, back-door manoeuvre to open the Refuge through the annual budget process rather than risk losing a vote again on the energy bill.

The stage is being set for a vote on a budget reconciliation bill this fall. The House and Senate energy committee chairmen have been instructed to report legislation by September 16th that generates $2.4 billion in new revenue for the US Treasury. By no mere coincidence, $2.4 billion in ➤

Photo: Subhankar Banerjee/www.wwfphoto.com

*Autumn in the Arctic National Wildlife Refuge.*

revenue is predicted by the Government if oil companies are permitted to bid on leases for the coastal plain of the Arctic Refuge. The chairmen of both energy panels strongly support drilling in the Refuge and have lined up enough votes in committee to pass authorising bills. Once all committee chairmen have acted on instructions in the budget resolution, a comprehensive and far-reaching budget reconciliation bill is patched together and brought to floor of both houses for debate and a vote.

Opponents of oil development in the wildlife reserve are focused on this crucial vote. Public opinion polls repeatedly show a majority of Americans are opposed to drilling in the Arctic Refuge. WWF and other conservation groups are asking individuals to urge their delegation in Congress to vote against the budget package in order to protect this national treasure. This will not be an easy vote for legislators given the scope and magnitude of the budget reconciliation bill. But this is the only remaining legislative option that will prevent development.

For more than 30 years, WWF has been engaged in protecting wildlife in Alaska. In recent years, WWF activists have sent 175,000 letters and made thousands of phone calls to their representatives in Congress urging that the refuge coastal plain be protected in the National Wilderness Preservation System. WWF-Canada and WWF-UK have worked alongside WWF-US to help ensure no harm comes to this internationally significant Global 200 ecoregion.

Now is the time for conservationists everywhere to stand together and speak up for the wildlife who depend on this refuge: the Porcupine caribou herd, a shared resource with Canada and the mainstay of the Gwich'in people; polar bears, musk oxen, wolves, grizzly bears and millions of birds that nest and raise their young there each summer.

If you would like to take action for the Arctic Refuge, go to www.takeaction.worldwildlife.org. You can make a difference.

*Randall D. Snodgrass*
*Director, Government Relations*
*World Wildlife Fund-US*

# US largest mercury source in North

**A survey of mercury sources in countries around the Arctic shows that the United States is the largest polluter, based on both total and per capita emissions.**

As a part of the Arctic Council Action Plan to Eliminate Pollution of the Arctic (ACAP), a new survey on mercury emissions from eight countries around the Arctic has now been completed. It is the first detailed collation of mercury releases using official data from both the US and Russia.

The survey reveals that:

- The US has the highest emissions
- The countries with the lowest emissions are Sweden, Finland, Norway and Iceland
- Canada, Denmark and Russia comprise the middle layer countries around the Arctic

The study is focused on the countries around the Arctic. On a global basis, the emissions from the US account for around five percent of the global anthropogenic human made emissions, whereas Asia contributes with more than 50 percent.

Coal-fired power plants are the greatest problem, particularly in the US and Russia. In addition, waste processing and the extraction of metals are significant sources.

Mercury exists in many different products and consumer items. It is also found in ore that other metals are extracted from. Other sources of mercury are crematoriums, amalgams from dentistry and various measuring instruments.

### Mercury in the Arctic

■ The Danish Environmental Protection Agency (DEPA) is the project coordinator in the Arctic Council for ACAP's mercury project. All the Arctic countries participate in the implementation.

■ The project supports the work of the UN's environmental programme (UNEP) towards a global agreement for mercury, as well as the EU's work on reducing mercury emissions.

■ Several of the Nordic countries have launched national action plans for mercury, including banning most mercury containing products. A major objective is to establish a global agreement on mercury.

Estimates (1999–2000) show that in the US a total of 107 tons of mercury are emitted each year, or 0.38 grams per inhabitant. In Russia, the total emissions are estimated to be 39 tons annually, or 0.26 grams per inhabitant.

Total Norwegian emissions have been estimated at 600 kilos per year – the same as in Sweden. Per inhabitant, the Norwegian emissions were 0.14 grams per year. Updated figures show that the actual emissions were a bit higher during this period. Sweden had the lowest emissions per inhabitant at 0.07 grams.

### International Co-operation

■ Long-range transport via air currents, and bio-magnification in the food chain, make the problem particularly large in the Arctic.

■ Mercury compounds can cause kidney damage and motor and mental disturbances as a result of damage to the nervous system, even in very small concentrations.

■ Mercury is particularly harmful for foetuses and for nursing infants.

■ In some areas in the Arctic, neurological effects due to mercury have been documented in children even though there are no local emissions.

Photo: Bryan & Cherry Alexander (arcticphoto.co.uk)

*Coal-fired power station at Anadyr, Chukotka, Russia. The greatest source of mercury in the Arctic is from coal-fired power plants in the US and Russia.*

The survey will now become the basis for proposals for mercury-reducing measures. Pilot projects will also be carried out in Russia, where there is a large potential for cost-effective actions to reduce emissions.

Enterprises involved in the pilot projects, including coal-fired power plants and waste processing facilities, will be selected in cooperation with both the owners and the Russian authorities. The projects must give both financial as well as social benefits, and have value in terms of transfers to other countries.

*Julian Woolford, jwoolford@wwf.no*

**References**:

*Arctic Mercury Release Inventory* (ACAP, 2005), *Assessement of Mercury Releases from the Russian Federation* (ACAP, 2005)

■ For further information see ACAPs web site (http://www.acap.arctic-council.org/projects.cfm?pageID=4 ) or contact Danish Environmental Protection Agency by Senior advisor Mikala Klint, email: mkl@mst.dk or : Senior Advisor Morten Olsen: mso@mst.dk

# Big year ahead for arctic research

**In less than two years, the official observation period for the International Polar Year (IPY) 2007–2008 will start. IPY 2007 – 2008 will be an intensive campaign of internationally coordinated, multidisciplinary scientific research and observation that will target the Earth's polar regions.** Melissa Mooza **reports.**

With its short timeframe – observations will take place in a pulse of concentrated activity from March 1, 2007 to March 1, 2009 – the upcoming IPY will capture information about environmental and social change taking place in the polar regions. It will also address long-term practical needs through the creation of facilities to support polar research in the future. No less important will be the initiative's role in attracting and developing a new generation of polar researchers.

By pooling the intellectual and material resources of nations worldwide, the initiative aims to address polar research challenges, the resolution of which is beyond the capacities of individual nations; it is, in the words of Chris Elfring, the point of contact for the US IPY National Committee, "a case of the whole being greater than the sum of its parts."

And how are the parts adding up so far?

Earlier this year, the IPY Joint Committee, which oversees IPY planning and coordination on the international level, announced a call for Expressions of Intent (EoI) ➤

# History of the International Polar Year

Although IPY 2007–2008 is truly outstanding in its scope and scale, it is not entirely without precedent. Over the last 125 years, scientists from around the world have participated in three internationally coordinated scientific endeavours, or 'years', to advance knowledge of the Earth's polar regions. The upcoming IPY is timed to mark anniversaries of the previous initiatives, each of which left long-lasting legacies, many enduring to the present day.

### The First International Polar Year (1882–1883)

The First International Polar Year was based on the idea that geophysical phenomena could not be surveyed by one nation alone. Eleven countries participated in 15 polar expeditions—12 to the Arctic and three to the Antarctic. The initiative was sponsored by the International Meteorological Organization (IMO), a predecessor of the World Meteorological Association (WMO).

### The Second International Polar Year (1932–1933)

The Second International Polar Year was proposed and promoted by the IMO as an effort to investigate the global implications of the newly discovered 'jet stream'. Forty nations participated, primarily in the fields of meteorology, magnetism, aurora, and atmospheric science, and in the mapping of ionospheric phenomena.

### The Third International Polar Year (1957–1958)/ International Geophysical Year

The Third International Polar Year, later re-named the International Geophysical Year, was based on the earlier IPYs, but included research outside of the polar areas. The International Council for Science (ICSU) and the WMO sponsored the initiative. Sixty-seven nations participated and 12 nations maintained 65 stations in Antarctica. Scientists used technologies developed during the Second World War, such as rockets and radar, in conducting research, particularly in the upper atmosphere. Among many other accomplishments, scientists participating in the IGY confirmed the theory of continental drift; launched the world's first satellites; discovered the Van Allen Radiation Belt encircling the Earth; and made the first estimates of the size of Antarctica's ice mass. The IGY also resulted in the ratification of the Antarctic Treaty in 1961.

➤ proposing activities during the IPY. The submission of close to 900 proposals exceeded expectations and served as an indication of the enthusiasm for IPY within the polar community. A total of 36 countries contributed to the proposals that were submitted, including Egypt and Greece, countries without polar research traditions, and Malaysia, which is only just beginning polar research. Among contributing nations, the United States and Canada stood out with the greatest number of EoIs led by or involving their scientists – close to 400, and more than 200 proposals, respectively. Researchers from the United Kingdom and Norway were involved in around 120 to 150 EoIs, while Russia, Germany, and Denmark also contributed to a substantial number of proposals.

The Joint Committee evaluated the submitted Expressions of Intent for compliance with criteria drawn from IPY objectives and characteristics and, as appropriate, issued recommendations for improvement. Project proposers will incorporate this input into the development of fuller proposals, to be submitted by June 30, 2005.

The Joint Committee will then review the full proposals, and will make decisions about which activities will become part of the official IPY 2007–2008 programme. Once these identifications are made, Project Steering Committees will assume responsibility for project implementation, including securing funding for their activities.

Already, a number of countries have committed funds to support IPY activities. China currently leads all nations with $64 million confirmed for polar infrastructure that will contribute to the IPY. The United Kingdom has contributed close to £1million for the IPY Programme Office and another £5.5 million for UK environmental scientists to work in the Arctic during the IPY. Other nations have pledged support to restore polar facilities; Belgium, for instance, plans to re-open a base in Antarctica that was active during the period 1930–66, while Russia intends to re-establish some historical observing systems and drifting stations.

Many countries, though, are still considering their contributions, including the United States and Canada. Planning by US federal agencies is still evolving. For the most part, they will initiate funding for research to be conducted during the IPY in fiscal year 2006, although several funding agencies, including the National Science Foundation, have already specifically mentioned IPY as a part of their regular call for proposals. Meanwhile, the Canadian IPY community continues efforts to identify funding opportunities for its program, after having learned this past February that dedicated resources for IPY were not allocated in Canada's federal budget for 2005. Although this is a major concern for leadership of the Canadian IPY program, there is hope that Canadian IPY activities will gain indirectly from funds allocated to other programs and initiatives. Such indirect support may come through the Northern Strategy and the National Satellite Initiative, as well as through money earmarked for the improvement of northern infrastructure in the three territories.

The former interim director of the IPY International Program Office, J. Cynan Ellis-Evans, did, however, caution against measuring nations' contributions to IPY 2007–2008 in financial terms at this point. He noted that countries have different and particular approaches to science and its funding, and are consequently proceeding at their own pace. According to Ellis-Evans, financial contribution will really become more pertinent later in the year. As 2006 nears, then, it will be clearer which countries have distinguished themselves in their commitments to IPY. In the upcoming months, eyes will certainly be on the United States and Canada – both polar nations and nations with established histories of polar research – to demon-

# Protecting aboriginal culture

**Growing international interest in sacred places and cultural landscapes may provide some hope for the permanent protection of Sahoyúé-Ehdacho, an aboriginal cultural landscape on Great Bear Lake in the Northwest Territories of Canada.** Anne Jane Grieve **reports.**

Sahoyúé (pronounced 'saw-you') and Ehdacho (pronounced 'eh-da-cho') are two large peninsulas on Great Bear Lake that are of extreme cultural importance to the aboriginal community of Deline. These lands are key areas of Canada's boreal forest that the Federal Government committed to protect in 2001. The urgency for completing the protection of these lands increases as industrial development pressures escalate in the Mackenzie Valley.

Research has shown that many places that were once thought to be 'pristine' natural landscapes in Canada were in fact long occupied by people. These are cultural landscapes, and sometimes far more ancient than those in Europe, bearing the imprint of thousands of years of human activity.

Sahoyúé-Ehdacho, the first cultural landscapes to receive National Historic Site status in Canada through the Parks Canada Agency, are sacred places to the Sahtu Dene and have a central place in Dene cultural history, with physical evidence of human habitation that dates back 5,000 years. Combined, they span 5,900 square kilometers of sub-arctic boreal forest at Canada's tree line.

However, National Historic Site status does not mean protection. Despite lobbying efforts by the community of Deline, years of rigorous scientific and cultural assessment, and a stated commitment in 1999 by Parks Canada, Sahoyúé-Ehdacho's permanent protection continues to be delayed by lack of funding and action on previous commitments on the part of Canada's federal government. According to Leroy Andre, Deline community coordinator for the Sahoyúé – Ehdacho Working Group, the Sahtu Dene will continue lobbying for the needed legislative tools to protect the lands.

The Northwest Territories Protected Areas Strategy (NWT PAS) is uniquely suited as a process for the protection of Sahoyúé-Ehdacho. The Strategy is a guide to establishing and protecting significant natural and cultural areas and it includes a component to protect the cultural values of the land. Sahoyúé-Ehdacho is the first cultural landscape to be going through the NWT PAS process. As the end of the process nears, however, the lands still need a legislative 'home' to provide protection.

According to Tom Andrews, chief archeologist at the Prince of Wales Northern Heritage Centre in Yellowknife, Northwest Territories, landscapes like Sahoyúé-Ehdacho may have a hard time finding a 'home' for such protection within existing legislative frameworks. "Laws designed to protect culture often deal only with small places," says Andrews. "Laws designed to protect natural places allow for the protection of larger places, but by definition have little to do with recognising cultural values."

Susan Buggey, a heritage landscape consultant in Ottawa, Canada and former director of Historical Services, Parks Canada, sees an architectural bias in the frameworks for heritage evaluation and management as one impediment. Buggey says: "They largely derive from architecture and focus on cultural and historic resources. ➤

*Paying respects at a sacred pool on Sahoyúé-Ehdacho, NWT, Canada*

Photo: Anne Jane Grieve

➤ Most are therefore not well positioned to address either the interconnectivity of traditional aboriginal worldviews or the intangible values by which aboriginal peoples identify significance in cultural landscapes."

Denis Byrne, Cultural Heritage Division of Environment and Conservation, Australia, says that we tend to think about aboriginal cultural heritage in terms of 'sites,' (e.g. the remains of a campsite) rather than landscapes. Byrne says: "One by-product of this thinking is the environmental impact assessment rationale, that you can isolate cultural heritage sites and then develop around them. We need to provide models showing how cultural landscapes can be described and recorded."

Canadians have documented such a model in the Sahoyúé-Ehdacho Report on Cultural Values. It was developed from interviews with Sahtu Dene elders allowing the documentation of place names, legends, stories and the significance of various locations. Physical (cultural and archeological) resources also contribute to the national significance of Sahoyúé-Ehdacho, as they are manifestations of stories on the land. They include campsites, tent rings, teepee poles, cabin sites, implements and tools, gravesites, portages and trails, and precontact sites.

Daryl Sexsmith, newly appointed executive director of the NWT Chapter of the Canadian Parks and Wilderness Society (CPAWS), says: "Cultural landscapes are complex. We are dealing with historic mindsets that left people out of the 'landscape' equation. Up here we have land claims and aboriginal self-government negotiations that recognise the rightful role of Aboriginal peoples in land management. Yet despite this, and national recognition of the importance of these lands, permanent protection continues to be delayed. I will personally push for permanent protection through strong Federal tools as Deline has continually requested."

*Anne Jane Grieve*

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# The Barents Sea – a case for oil-free zones?

**The Barents Sea is home to the world's largest cod and herring stocks, some of Europe's largest seabird colonies, rare whale species and the world's largest cold-water coral reef. Yet this year, the Norwegian Government issued new licences for oil and gas development there.** Maren Esmark **argues for oil-free zones.**

The oil industry's claims to be able to prevent any negative environmental impact from their activities are false. Since 1990, there have been more than 2,500 acute oil spills on the Norwegian Shelf. Searching, drilling and transporting oil is inherently risky. There is always the chance of an oil spill. The consequences for nature and the people that depend on that nature for their livelihood could be disastrous should there be a large spill. We must protect the most critical areas before oil and gas exploration and production goes ahead.

The Norwegian Government's own experts say that the environmental risk linked with petroleum exploration in the Barents Sea is significant. The environmental science institutions in Norway, the Institute of Marine Research, The Pollution Agency, The Directorate of Nature Management and the Polar Institute have all recommended that no petroleum exploration should be allowed in the most sensitive areas of the Barents Sea. Indeed based on the Environmental Impact Assessment relating to all-year round petroleum exploration in the Lofoten Islands, the Norwegian

# Witnessing climate change

**WWF's 'Climate Witness' projects allow people from around the world to tell stories about how climate change is affecting their lives. Last winter, high school students in Huslia, a small Athabaskan village in Alaska, began work on a four-part radio series about climate change impacts on their community.** Tonje Folkestad**, the WWF International Arctic Programme's climate officer, visited Huslia.**

I arrive in Alaska on a sunny Saturday morning in April. As WWF International Arctic Programme's climate officer, I'm here to see how our first arctic climate witness project is progressing. My visit is timed to coincide with a triannual spring carnival, and, with an invitation to stay as a personal guest at the home of legendary dog musher George Attla jr. My four-day visit is set to be a crash course in Athabaskan culture, traditions, and relationships with the land.

I travelled to Huslia with Kathy Turco who is our main contact for the project. Kathy runs Alaska's Spirit Speaks, an audio production company, in Fairbanks and has been teaching the Huslia students how to make interesting radio programs. After a one and a half hour flight over Alaska's beautiful floodplains and sparsely populated lands, we're met at the airport by George Attla and Orville Huntington. Huntington is co-chair of the Alaskan Native Science Committee, a wildlife biologist, and responsible for the project.

Government decided not to allow petroleum exploration outside the Lofoten Islands in 2003.

Since then, WWF has been waiting for the Norwegian Government to keep the promise it made in 2001 that it will present a proposal for petroleum-free zones in the Barents Sea. So far, this has not happened. There is now significant pressure from oil companies, conservative political parties and sections of Norway's Labour Party and Labour Union, to open the whole of the Barents Sea to petroleum exploration, including the Lofoten Islands and other sensitive areas that are critically important for fisheries and wildlife in the Barents Sea.

In June a small victory was won: the most valuable areas around Lofoten were once again saved from the risk of oil drilling. Unfortunately, some new areas of the Barents have been opened for oil and gas development, including blocks near the coast of Finnmark where millions of seabirds breed and the Barents main capelin stock spawns.

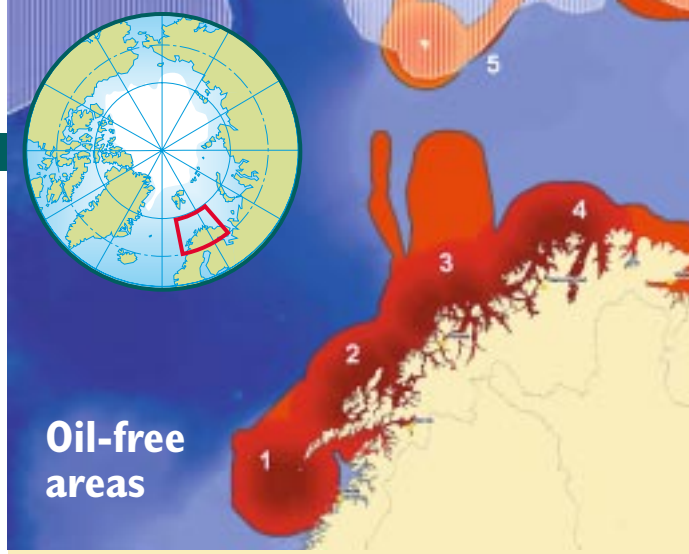
In order to motivate the Norwegian Government to act before licences for further development are issued, WWF has produced a new report which proposes five key areas which should be permanently closed to petroleum development. They are the areas around Lofoten, Vesteraalen, Lopphavet, Nordkapp, the coast of Finnmark, Bear Island and the seas northward to the polar ice cap.

The proposal is based on two scientific reports that identify the most valuable and vulnerable areas in the Barents Sea: one by Det Norske Veritas (DNV) and one by the Norwegian Institute of Marine Research. Both are based on the best available knowledge about the marine environment.

WWF now wants the Norwegian Government to permanently protect these areas and are very disappointed that there were new licences for oil exploration announced this June, before any areas are formally protected. .

WWF is not a lone voice in this fight for petroleum free areas. In a recent survey a majority of Norwegians said the most vulnerable areas in the Barents Sea should be protected from the risk of oil spills.

*Maren Esmark, mesmark@wwf.no*




**(1) Lofoten Islands:** Lofoten is unique and is the spawning area for the world's largest cod stock and huge herring stocks. There are large seabird colonies on the islands of Røst and Værøy, while the nearby continental shelf supports the world's largest cold water coral reef. All of Norway's killer whales spend the winter feeding and breeding in the Vestfjord.

**(2) Vesteraalen** has corals, seabird colonies and is an important spawning area for haddock and herring. Fish eggs and larvae drift pass Vesteraalen from Lofoten on their way out to sea. It is an important feeding area for sperm whales in the summer.

**(3) Lopphavet and the Tromsoeflak** have large seabird colonies and most of the fish larva from Lofoten and Vesteraalen is concentrated on the Tromsoeflak parts of the year.

**(4) Nordkapp and the coast of Finnmark** have important bird colonies, are the wintering grounds for rare birds and the spawning areas for capelin, a key species in the Barents Sea ecosystem

**(5) Bear Island to the arctic ice edge** are very productive areas and important for the sea's ecosystem. Plankton blooms at the ice edge in the summer, and the area provides food for seabirds, polar cod, whales and seals. Bear Island holds enormous seabird colonies.

We drive to Attla's house, which turns out to be the right place to be between the dog races, dances and communal meals that constitute the carnival. Old and young drop in, and, with a foreign visitor at the table, discussions are wide and varied. I hear about growing up in a native Indian community when white men were still 'discovering' Alaska, about the old subsistence ways of life, and how knowledge about nature has passed down through the generations.

One thing I'm reminded about is that nature is in constant change, though not only because of climate. "I shot my first moose back in 1929," says Sidney Huntington. Ninety-years-old, this natural story-teller has been trapping, hunting and fishing his whole life. He's seen big changes in traditional ways of life and nature itself. "Before the end of the 1920s, there weren't any moose in this area; they came down from Canada," says Sidney. Nowadays, the moose population is the densest in the State. Wolves have followed.

On Monday morning, I meet teacher Sharon Strick and her journalism class. They have spent the winter interviewing elders and are now starting to make radio programmes with Kathy's help. In a week, the group is going to Fairbanks to see a real radio studio and meet scientists working on climate change at the University.

I'm curious to hear what the students think of the project. They tell me there has been a lot of tedious work as they transcribe every word they've recorded. I want them to know that they're part of something bigger so I tell them about other Climate Witness projects in Fiji and Nepal. We also talk about what climate change means for them in the Arctic: warmer summers, less snow in winter and less safe river ice in the autumn are just two of the issues.

One of the students Sheila Esmailka, says: "People here in Huslia can't do much about the problem. They've just got to get used to the changes." I try to explain that it must seem difficult, but that they can actually do something. These students' stories will hopefully inspire a lot more people to change the way they live.

During an afternoon outing, Orville Huntington shows us how spruces have wilted following the warm and dry summer last year. The temperature hovered around 30 degrees Celsius for three months: spruces don't adapt well to such long hot periods. This winter has been more normal, with lots of snow. But there haven't been any really cold periods I'm told, and a snow-rich winter happens only once in ten years now.

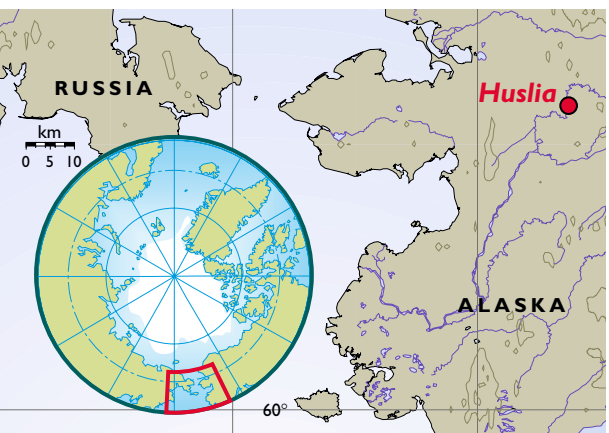


Photo: Tonje Folkestad/WWF

*Climate witnesses.*

➤ In the evening, we visit another Huslia elder Catherine Attla. I admire the traditional beadwork she's busy with, and listen to more wonderful stories. She ties climate change to the Athabaskans' old spiritual beliefs, believing that new technologies are tied up with a changing climate. She's right.

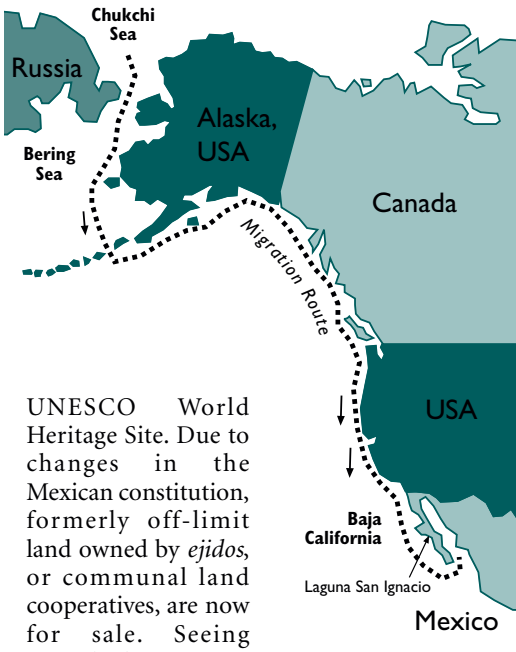
When I leave Huslia, I'm pleased. Our Climate Witness project has many benefits. The radio programmes and an accompanying slide show mean the students are producing tools which will motivate people in other parts of the world to take action to reduce $CO_2$ emissions. But to the students themselves, it's as important to learn the skills of producing a radio programme. It's an experience that could come in handy when applying for a job or admission to college. One radio station in Fairbanks offers internships to native students. And, of course, the elders have had yet another chance to share their knowledge with their young people. Along the way, some youngsters have hopefully learnt quite a bit about climate change.

Four radio programs and an audio-slideshow from Huslia will be accessible on the WWF arctic website later this year: www.panda.org/arctic.

To read about Climate Witness, see the section People Power at www.panda.org/powerswitch

# Gray whales of Laguna San Ignacio

**Each year the gray whales of the eastern Pacific Ocean migrate from their summer feeding grounds in the Beaufort Sea to the calving lagoons of Baja, Mexico. Dr.** Serge Dedina**, executive director of Wildcoast reports on his ongoing work to protect the lagoons.**




On a sunny, windswept day in October 1993, my wife Emily and I arrived in San Ignacio Lagoon in Baja California, Mexico, with our dog Chip and a 14-foot travel trailer to study gray whales for our doctoral research at the University of Texas at Austin. The lagoon is famous for friendly gray whales that are known for seeking out hugs and kisses from tourists.

During the months we lived at the lagoon, we came to know a group of fishermen-turned whale-watching guides attempting to build a future in which local livelihoods depend on preserving local wildlife.

That group eventually formed a groundbreaking locally-based ecotourism company, Kuyimá, and led a successful effort to prevent Mitsubishi from destroying the lagoon. Mitsubishi proposed building a 500,000-acre industrial salt harvesting project on the edge of the world's last undeveloped gray whale lagoon. After taking his children to San Ignacio Lagoon to pet gray whales, former Mexican President Ernesto Zedillo cancelled the project in 2000. Zedillo experienced the wonder of San Ignacio Lagoon and the whales that live there accompanied by guides from Kuyimá.

**Connected to the Arctic**

I have always been haunted by the fact that the world came close to losing a unique natural treasure because Mitsubishi could lease land from impoverished *campesinos*, even if that land is part of a UNESCO World Heritage Site. Due to changes in the Mexican constitution, formerly off-limit land owned by *ejidos*, or communal land cooperatives, are now for sale. Seeing Mitsubishi in action gave me an idea: if large corporations could lease or purchase land from poor *ejido* members to develop it, why couldn't conservationists work with them to preserve those lands?

So when the leaders of Kuyimá, who are also members of the Ejido Luis Echeverria, a *campesino* association that owns a significant portion of San Ignacio Lagoon, asked for help in protecting their coastal lands from development in a way that would allow local people to make a living from ecotourism and sustainable fishing, I gladly accepted the offer.

Thanks to assistance from Pronatura, Mexico's leading conservation organisation, the Natural Resources Defense Council and San Diego's International Community Foundation, we are on our way to protecting 120,000 acres of unde-

*Eastern pacific gray whale.*

Photo: Wildcoast

veloped lagoon coastline and watershed, as well as providing a sustainable future for the 44 members of the Ejido Luis Echeverria.

Under the Laguna San Ignacio Conservation Alliance, the interest earned from a trust fund managed by the International Community Foundation, will be reinvested back into the rural community of Laguna San Ignacio. In return, the Ejido Luis Echeverria will sign a conservation easement over all their communal use lands. This will ensure that in the future local people will not be under pressure to sell their lands to foreign corporations for shady, ill-conceived development projects.

Last month, residents of San Ignacio Lagoon informed us that speculators were offering to purchase lagoon lands from *ejido* members in order to develop a future industrial salt project there. Even though Mitsubishi has denied any interest in renewing the salt project, Leonel Cota, the new head of Mexico's Revolutionary Democratic Party and the former governor of Baja California Sur is a strong proponent of industrialising the lagoon. Cota is an ally of future presidential candidate Manuel Lopez Obrador, the current mayor of Mexico City. Homero Aridjis of Mexico's Group of 100, an environmental organisation, believes that if Obrador is elected president next year, he will immediately move to develop San Ignacio Lagoon. These development rumors have only fueled our effort to preserve the lagoon and the way of life of local residents before it is too late.

For those who work in the developing world, conservation is as much about social justice as it is about protecting wildlife. Unless the social needs of rural people are met first, there will never be that much wildlife around to preserve. In the conservation field, we have to be as entrepreneurial as our private sector competitors. Because unless we move quickly and strategically, we will wake up one day and find out that our coast and ocean—vital habitat for the wildlife who depend on us for survival, has been transformed into an industrial park.

Serge Dedina is the executive director of Wildcoast and the author of *Saving the Gray Whale: People, Politics and Conservation in Baja California*, published by University of Arizona Press.

# Interview: Arctic challenges

Nigel Allan **spoke with the six chairs of the Arctic Council working groups to see what they consider to be some of the biggest challenges facing the Arctic.**

## BOB DYER

Arctic Council Action Plan to Eliminate Pollution of the Arctic (ACAP)

From the ACAP perspective, the biggest problem right now is trans-boundary pollution. Currently we are focussing our efforts in Russia, and cooperation with Russia to address arctic pollution problems has been very productive. A big advantage for ACAP is that we have a mandate to be "action-oriented". We also have the Stockholm Convention on Elimination of Persistent Organic Pollutants and the Convention on Long-range Transboundary Air Pollution to focus and motivate our work.

Other major challenges for ACAP include the safe management and destruction of PCBs and obsolete and prohibited pesticides and the reduction of mercury contamination from activities such as coal combustion, and mercury-containing products. An emerging problem is brominated flame retardants.

One of the biggest strengths has been the close cooperation between ACAP and AMAP. AMAP works to identify and monitor the magnitude of the environmental problems after which ACAP develops actions to address and solve the problems. This is a working partnership. We are also strengthening the work of ACAP and the Arctic Council by developing closer cooperation with the Barents Euro-Arctic Council's Working Group on Environment to eliminate contaminant "hot spots" in the Arctic.

■ Website: www.acap.arctic-council.org

## JOHN CALDER

Arctic Monitoring and Assessment Programme (AMAP)

I think the arctic region as a whole is going to have its biggest challenge in dealing with the climate change issue. This will be the biggest challenge over the next 15 to 20 years. I think that from among other things we need to make sure we develop an adequate research and monitoring program on this issue because we need to be very certain that we are going to be able to say how widespread and how fast change is occurring. Hopefully in 20 years we will have the information needed to not only detect change, but also to have a solid understanding of the role of all of the anthropogenic forcing factors, i.e.greenhouse gases and aerosols, and of the other factors that control climate and be able to project the path of climate over the following 100 years.

Then people who live in the Arctic and people who might be affected who live outside the Arctic need to learn how to cope with whatever ➤

## Arctic Council working groups

The scientific work of the Arctic Council is carried out in six expert working groups focussing on such issues as monitoring, assessing and preventing pollution in the Arctic; climate change; biodiversity, conservation and sustainable use; emergency preparedness and prevention; and the living conditions of the arctic residents. For more information, visit the Arctic Council website: www.arctic-council.org

changes do occur and my expectation is that coping strategies need to be from the bottom up. People might think there is a governmental responsibility to care of you because of climate change, well I think that is just the wrong viewpoint. The governments can't take care of you, even if they wanted to. Each organisation and each individual will have to learn how to prosper in a changing climate. However, governments can set policies that enable coping to be more feasible and successful.

■ Website: www.amap.no

## FRANK SONNE

**Protection of the Arctic Marine Environment (PAME)**

The challenge for the Arctic Council is whether we will be able to make a difference and make policy changes, or whether the Arctic will still be a region on the edge, living at the mercy of others and suffering from pollution generated by others. I think it is safe to say that the peoples of the Arctic have survived through history because they have been willing and able to adapt to harsh and changing living conditions. The Arctic Council with its unique construction with representatives from indigenous peoples, NGOs, IGOs and science representatives has an obligation to follow that tradition of adaptation and to ensure the possibility for future generations to make choices and exercise influence on their future living conditions. Options that should be available on equal terms with other citizens in each of the individual sovereign arctic states. We all know that this is hardly the case in all parts of the Arctic now and that there can be an understandable wish for those directly affected to take refuge in a mythological good and unchangeable past.

I am convinced that the Arctic Council can and will make a difference. I know the commitment and the constructive work done in the working groups and at SAO- and ministerial level. It is my hope that the Arctic Council Participants at all levels will have the courage to always address the needs for changes. That in itself can be a challenge.

■ Website: www.pame.is

## ESKO JAAKOLA

**Conservation of Arctic Flora and Fauna (CAFF)**

The big overall challenge is to cope with all the changes taking place in the Arctic. After the Arctic Climate Impact Assessment (ACIA) project we have a fairly good understanding of impacts of a warming Arctic. From the point of view of fauna and flora conservation one of the biggest concerns is the habitat fragmentation and degradation resulting from road construction, resource development (particularly petroleum and mineral development), and other human activities. Quoting the ACIA summary report "climate change is taking place within the context of many other ongoing changes in the Arctic including the observed increase in chemical contaminants entering the Arctic from other regions, overfishing, land use changes that result in habitat destruction and fragmentation, rapid growth in the human population, and cultural, governance and economic changes". The guidance for CAFF to deal with the conservation related challenges are described in the document "Arctic Flora and Fauna; Recommendations for Conservation, 2002".

■ Website: www.caff.is

## DR IGOR VESELOV

**Emergency Prevention, Preparedness and Response (EPPR)**

I think the biggest challenge will be from climate change, which was outlined by the Arctic Climate Impact Assessment (ACIA). This means the seaway could be open along the coast of Siberia, from Europe to the Far East and so there will be changes in the transport infrastructure. There is the potential for environmental emergencies from petroleum and maybe chemical accidents as these seaways open. Therefore we are planning more effective systems in the case of an emergency and we are planning to have enough people and rescue plans and techniques in the event of some difficulties with these vessels, which will be transporting goods from the east to the west and back.

There is also the issue of radiological hazards. Russia, the United States and some other countries have some objects with radioactive materials in the Arctic and we must build a system for dealing with this.

We are currently working on a Russian initiative to deal with these issues, which is an agreement between all of the arctic countries to build a system of international rescue and international monitoring.

■ Website: www.eppr.arctic-council.org

## BORIS MORGUNOV

**Sustainable Development Working Group (SDWG)**

In my view, one of the most important objectives is the transition to sustainable development in the arctic region. This means we have to minimise the negative effects of increased natural resource development and maximise the positive aspects of this activity. It is well known that the largest deposits of non-living natural resources such as gas, oil, and non-ferrous and rare minerals, such as diamonds are accumulated in the Arctic. As these natural resources are gradually exhausted in regions with favorable climate conditions their development in the arctic regions, including the arctic shelf will inevitably increase.

Positive aspects include establishing new working places, increasing tax revenues for federal and regional budgets, meeting the needs of national economy in raw materials, expanding export opportunities, as well as capabilities for solving many social problems of local people. Negative aspects include new and dangerous threats to the arctic environment and possible violation of the traditional lifestyle of northern indigenous peoples. As noted in the Arctic Human Development Report, multinational corporations that are more responsive to global forces than to local concerns generally control extractive industries.

■ Website: www.sdwg.org

## Forthcoming arctic meetings & events

### Arctic Council events

**AMAP Oil and Gas Symposium**
WHERE: St Petersburg, Russia • WHEN: 13–15 September • CONTACT: amap@amap.no

**PAME II Working Group Meeting**
WHERE: Copenhagen Denmark. • WHEN: 19–20 September • CONTACT: pame@pame.is

**Senior Arctic Officials Meeting**
WHERE: Khanty-Mansyisky, Russia • WHEN: 5–6 October • CONTACT: www.arctic-council.org

**Sustainable Development Working Group meeting**
WHERE: Khanty-Mansiysk, Russia • WHEN: 10–11 October • CONTACT: Bernard Funston email: bfunston.ncc@rogers.com

### Conferences and workshops

**International Geoscience and Remote Sensing Symposium**
WHERE: Seoul, Korea • WHEN: 25–29 July • CONTACT: www.igarss05.org/

**IV International Conference on Cryopedology – "Cryosols: Genesis, Ecology and Management"**
WHERE Arkhangelsk, Russia • WHEN: 1 – 8 August • CONTACT: www.igras.geonet.ru/cwg

**Ecosystem-based Fisheries Management: WWF conference in Murmansk**
WHERE: Murmansk, Russia • WHEN: 18-19 August • CONTACT: Maren Esmark email: mesmark@wwf.no

**Circumpolar Arctic Social Sciences Phd Network**
WHERE: Shetland and Faroe Islands • WHEN: 12–28 August • CONTACT: www.geo.ruc.dk/NORS/Phdnet.htm

**Arctic Climate Workshop: Global Implications of Arctic Climate Processes and Feedbacks (Glimpse)**
WHERE: Potsdam, Germany • WHEN: 5–7 September
• CONTACT: Klaus Dethloff Alfred Wegener Institute dethloff@awi-potsdam.de

**Summer School Aboard Russian Icebreaker – Climate Change in The Arctic Ocean**
WHERE: Kirkenes, Norway • WHEN: 6–28 September • CONTACT: www.frontier.iarc.uaf.edu/NABOS/summer_school/

**22nd International Polar Meeting – German Society of Polar Research**
WHERE: Jena, Germany • WHEN: 18–24 September • CONTACT: Hans-Ulrich.Peter@uni-jena.de

**6th International Conference on Environmental Radioactivity in the Arctic and the Antarctic**
WHERE Nice, France • WHEN: 2–6 October • CONTACT: www.iur-uir.org/news.cgi?id=54

**Second International Conference on Arctic Research Planning (ICARP II)**
WHERE: Copenhagen, Denmark • WHEN: 10–13 November • CONTACT: www.icarp.dk

**For more on these events and other meetings, please visit:**
http://www.arcus.org/Calendar/upcomingEvents.shtml • http://www.iasc.no/SAM/samtext.htm

*Arctic National Wildlife Refuge: Seasons of Life and Land*
By Subhankar Banerjee
Foreword by Jimmy Carter
The Mountaineers Books, Seattle, WA USA, 2003
178 pp
ISBN 0-89886-909-9

Photographer Subhankar Banerjee spent two years documenting the landscape, wildlife and people of the Arctic National Wildlife Refuge. Banerjee shares his journey with us in *Arctic National Wildlife Refuge: Seasons of Life and Land,* an amazing collection of images and writing.

Landscape photography at its finest has the ability to help us see places in this world with more than just our eyes. This kind of work reminds me of the importance of wilderness to the human imagination. It also helps me see a place that is much more important than cheap oil.

Through Banerjee's lens we see the Refuge for what it is. Not a cold and empty wasteland as proponents of oil exploration would have us believe, but an immense landscape that is wild, alive and beautiful.

We see herds of caribou and muskox moving across white plains, and flocks of snow geese heading north across the tundra. Close-up images show the detail of arctic flowers and the colourful lichen and vegetation on the tundra. A closer look at a picture of a polar bear den reveals claw marks around the outside of the den where a mother and her cubs have been playing. The landscape is alive.

These pictures are timeless. This is what the land looked like when the first humans arrived. Banerjee documents the time he spent with the descendants of these first people and their connection with Refuge.

In his foreword for the book, former president Jimmy Carter presents the facts. He says, "At best, the Arctic Refuge might provide one to two percent of the oil our country consumes each day. We can easily conserve more than that amount by driving more fuel-efficient vehicles, instead of tearing open the heart of our greatest refuge.

The book includes six essays by authors, Peter Matthiessen, George B. Schaller, Fran Mauer, David Allen Sibley, William H. Meadows and Debbie S. Miller. They discuss a different aspect of the Refuge and the relationships that each has had with the area.

The book concludes with a poem by Terry Tempest Williams who writes, "we have it within our power to create merciful acts". Banerjee's hope is that we will have the moral fortitude to protect this "jewel of the circumpolar north" so that humanity will continue to have places where we can "meet nature in its wildest form".

*Nigel Allan*
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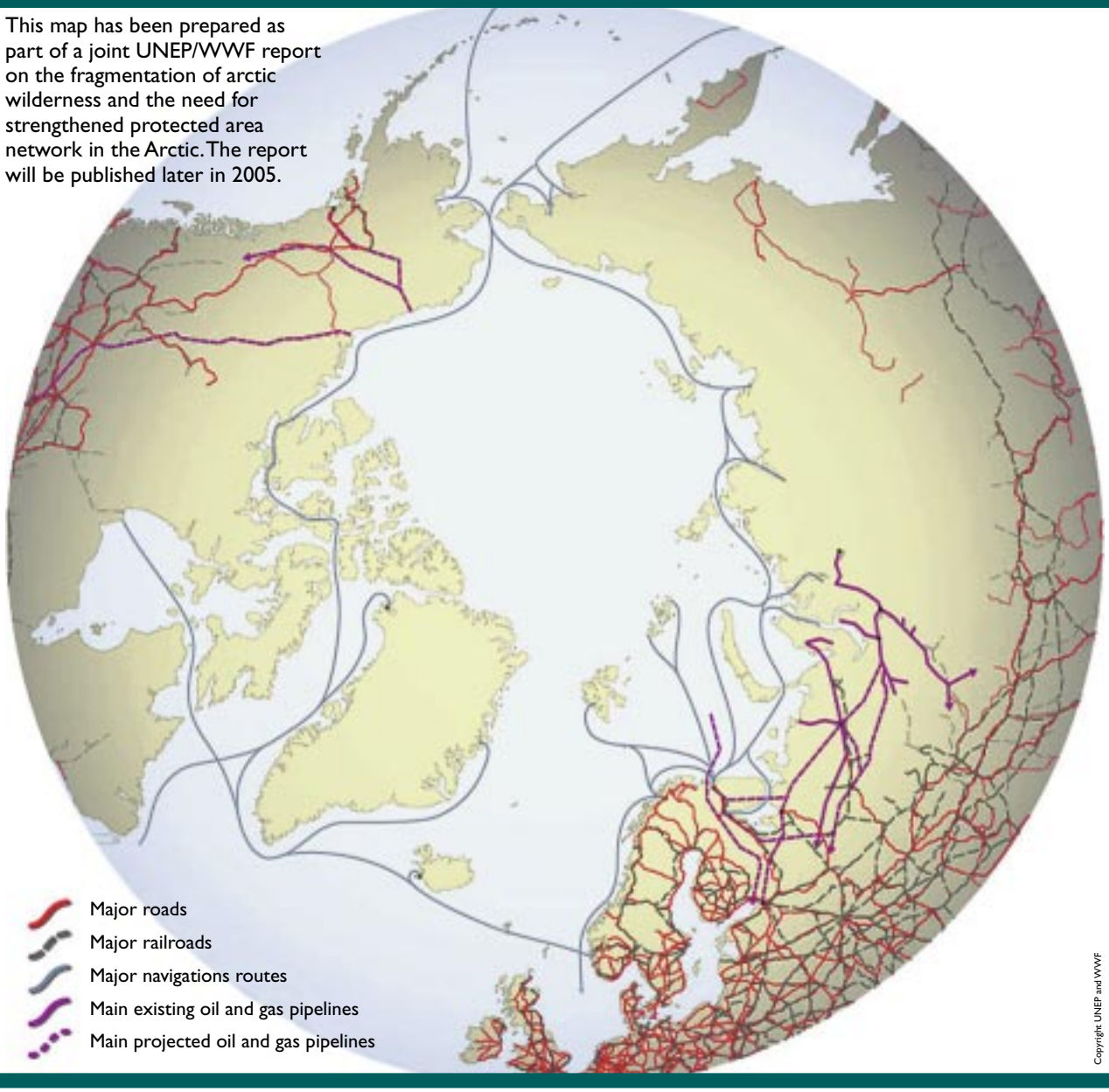
# Existing transport routes and major pipelines in the Arctic

This map has been prepared as part of a joint UNEP/WWF report on the fragmentation of arctic wilderness and the need for strengthened protected area network in the Arctic. The report will be published later in 2005.



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WWF is the world's largest and most experienced independent conservation organisation, with almost five million supporters and a global network active in 90 countries. WWF's mission is to stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature. WWF continues to be known as World Wildlife Fund in Canada and the United States of America.

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