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Living with carnivores p. 11

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Editorial

Climate policy or climate politics

In 2000, the arctic countries agreed to produce an assessment of arctic climate change, the Arctic Climate Impact Assessment (ACIA). ACIA will consist of three parts: a scientific assessment of current and projected climate change in the Arctic; a popular summary; and a set of policy recommendations for arctic governments. ACIA is a product of the Arctic Council, a high-level forum for the eight arctic countries and arctic indigenous peoples' organisations.

ACIA will be delivered to arctic ministers of foreign affairs in November 2004, at the next Ministerial meeting of the Arctic Council. The scientific assessment is essentially completed, and paints a compelling and dramatic picture of sweeping and rapid change in the arctic region. But if you think that this evidence of arctic climate change will come as a surprise to governments, think again – everything in the scientific assessment is tried and true, peer-reviewed research.

Thus it is all the more surprising that the Bush Administration in the US is now taking the position that the Arctic Council should not develop policy recommendations until a) the scientific assessment is done, and b) it has had time to review and consider the assessment. In practice this would mean delaying production of policy recommendations until after next fall's Ministerial meeting – and after next fall's elections in the US.

Discussions are ongoing as we go to press. Nonetheless it seems clear that the other arctic countries still intend to produce policy recommendations for the Ministerial meeting next November. Whether these come as a separate document, as an attachment to the Ministerial declaration or as a set of recommendations in the declaration itself is less clear, and less important. What is important is that governments provide a strong and convincing response to what is certain to be a dramatic picture of a region undergoing wrenching – and often negative – changes.

SAMANTHA SMITH
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Failure to produce any significant government reaction to climate change impacts in the Arctic would be a shocking failure of leadership. In the final analysis, governments must drive the deep and rapid cuts in greenhouse gas emissions that are necessary to keep average global warming below a 2°C threshold, past which scientists believe that major changes in the Arctic will be irreversible. Arctic governments have a responsibility for their citizens, including indigenous and other arctic communities; for the global processes that will be amplified by arctic climate change; and for the arctic environment.

"We want the Arctic Climate Impact Assessment to be completed in time for the next Ministerial meeting. We invite others to do their best to support this objective – first in producing the scientific document and then in preparing both the scientific study in layperson's terms and the policy recommendations."

PAULA DOBRIANSKY,
United States Undersecretary of State for Global Affairs, at the 2000 Arctic Council Ministerial Meeting in Inari, Finland

Lofoten safe — for now

Henningsvær, Lofoten

Conservation in the Norwegian Arctic was given a massive boost in late December as the Norwegian Government announced that it would not open the Lofoten Islands to oil development.

The decision is a U-turn for the Norwegian Government which offered the seas off the islands for oil development after oil companies expressed an interest in drilling there. The Government has decided not to allow exploration in the area despite claims by the oil companies that there was as much as one billion US dollars worth of oil beneath the seas.

A campaign by WWF, and pressure from fishermen and tourist operators in the last two months, and deep unease in political and social circles in Norway, forced the Government to decide "No" to oil drilling in Lofoten, until 2005. WWF expects that in 2005 the Government will fully protect the Lofoten Islands on completion of its Barents Sea Management Plan.

The Lofoten Islands are home to the world's largest cod and herring stocks, shoals of sperm whales and killer whales, some of the largest sea bird colonies in Europe, including puffin and cormorant, and the world's biggest cold water coral reef, which was only discovered last year. The island community is almost entirely dependent on fishing and tourism for survival.

Samantha Smith, director of WWF's Arctic Programme, said: "This is a landmark decision which oil companies planning to explore in the Arctic should take note of. Some things are more important than short-term oil and gas profits.

It is no longer acceptable to explore for oil in biologically vulnerable and valuable areas. We have seen this happen in the US over the Arctic Refuge and now we have seen it in Lofoten."

However, WWF was surprised and disappointed by the Government's decision to allow exploratory drilling in the Goliath field off northern Norway. The area is very close to major seabird colonies and fish spawning grounds. Samantha Smith said: "The Norwegian Government is producing a management plan of the Barents Sea and the idea that it can somehow open up areas of that sea – like Goliath - for oil and gas development before this is completed is crazy and totally inconsistent. WWF will not allow full scale development to take place in Goliath without a major battle."

WWF has issued its own report this month, *The Barents Sea Ecoregion Biodiversity Assessment*, which maps the vulnerable and valuable areas of the Barents. It shows that areas where the oil industry wishes to drill for oil are in some of these most vulnerable areas.

The Barents Sea is still one of Europe's last large, clean and relatively undisturbed ecosystems. Among its most spectacular features are the world's highest density of seabirds, some of the world's richest fisheries, and diverse and rare communities of marine mammals.

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Greenland fails – again

Greenland is failing to meet its environmental obligations according to a new report by WWF.

The report looks into the "green" conventions and agreements of which Greenland is either a direct member or is included in through its membership of the commonwealth of Denmark, Greenland and the Faeroe Islands.

The report concludes that Greenland lacks relevant legislation and management capacity in a number of crucial areas. Greenland has:

- Failed to introduce domestic legislation to implement large parts of the legally binding conventions and agreements.
- Failed to build a nature and wildlife management system to meet the goals and implement the recommendations put forward by the conventions and agreements, eg regarding the size of quotas or protection of nature.
- Failed to report back violations of legislation in spite of this being a demand in several conventions.
- Failed to report back inadequate management in spite of this being expected under certain agreements.
- Failed to sufficiently monitor populations and protected areas, in spite of this being a condition in a number of the agreements, among others to provide the ➤

basis for relevant recommendations from international scientific working groups.

For example Greenland has promised the International Whaling Commission that it will curb the use of rifles for hunting of minke whales. Nevertheless, the amount of minke whales killed by rifles has grown to 44 percent of all minke whales killed in Greenland.

The obligation under the Ramsar Convention to protect wetlands of international importance has not been implemented in Greenland, and only a small fraction of the identified Ramsar sites in Greenland are under protection.

Trade in endangered species and parts are regulated by the CITES. (Convention on International Trade in Endangered Species of Wild Fauna and Flora) Greenland is a member of this convention, but nevertheless Greenland continues to export parts of endangered and declining species like walrus, beluga and narwhal – without any controls.

On several occasions Greenland has promised to solve the problems. Several legislative initiatives have been taken, documents have been prepared, and public hearings have been held, all dealing with the protection status of species such as guillemot, eider, walrus, beluga, narwhal and polar bear.

The report was written by Thor Hjarsen, biological consultant, EcoAdvice.

A new Nature Protection Act has been discussed in parliament for several years. But so far none of this has been approved.

In the report, WWF presents a series of recommendations. Anne Marie Berg from WWF, said: "It is our hope that the report will be used by politicians and authorities to identify gaps and to act accordingly."

Conventions and agreements which Greenland has signed up to include The Convention on Biological Diversity, The Washington Convention/CITES, The International Whaling Commission, The Ramsar Convention, the International Agreement on the Conservation of Polar Bears, and UNESCO's World Heritage Convention.

The lack of implementation for legally binding conventions and agreements is not Greenland's responsibility alone. As the leading nation in the commonwealth of Denmark, Greenland and the Faeroe Islands, Denmark must take its share of responsibility.

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Gone for a song.

Photo: Thor Hjarsen

Anniversary

Thirty years after arctic countries signed a landmark agreement to protect polar bear habitat and ban commercial hunting, the world's largest land carnivore now faces a far tougher test – climate change – say two of the world's leading polar bear scientists and WWF.

While the polar bear population in the Arctic is estimated at around 25,000 polar bears, there is growing evidence to indicate that the greatest future challenge to the conservation of polar bears may be ecological change in the Arctic as a result of climate change.

In Oslo, Norway on 15th November 1973, the International Agreement on the Conservation of Polar Bears, which identified the need to protect entire ecosystems to ensure conservation of a key species, was signed by the governments of Canada, Denmark, Norway, the former Soviet Union and the United States.

Prior to that polar bears had been heavily hunted in several areas, including by aircraft in Alaska and large motorised boats on Svalbard. Little was known about the status of polar bear populations and there was international concern that the levels of hunting taking place were not sustainable.

Since the Agreement was signed and ratified, the threat from hunting has been greatly reduced in most areas. However, polar bears in southern populations at least are now facing an increasing threat from climatic warming over the next 30 years says Dr. Ian Stirling, a biologist with the Canadian Wildlife Service.

Research carried out by Drs Stirling and Nick Lunn in Canada's Western Hudson Bay has already shown that there appears to be a link between the physical condition of polar bears and their reproductive success and observed changes in sea ice due to global warming.

Dr. Ian Stirling said: "The single greatest threat to polar bears in the Arctic over the next 30 years is likely to be climate change. The polar bear population in the Arctic has recovered from the excesses of

sees climate as risk to polar bears

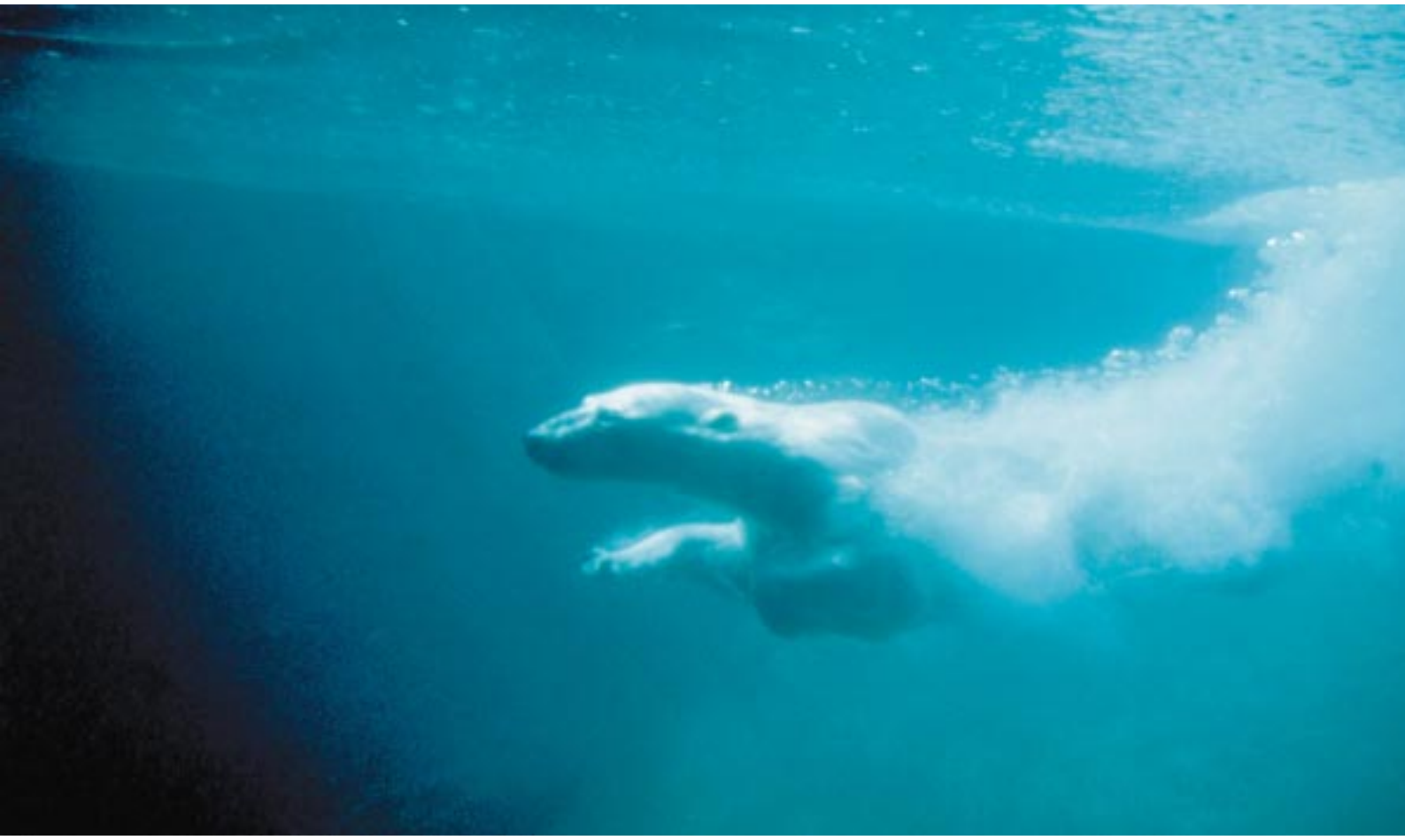

Photo:WWF-Canon/Terry Domico

commercial hunting but now a new threat is emerging. We must do all we can to understand how climate change is affecting polar bears in the Arctic in order to be able to do what we can to enhance their chances of long-term survival."

WWF is funding a new three-year study with Drs Stirling and Lunn to help identify trends at the population level in western Hudson Bay as a result of global warming.

Lynn Rosentrater, WWF's climate officer, said: "Air temperatures in the region have been rising which has resulted in the sea ice melting two weeks or more earlier than it did 30 years ago. As a consequence, polar bears have less opportunity to hunt seals during springtime, are forced ashore earlier, and have to fast for longer periods through the summer and fall."

She said climate change can be slowed and possibly halted, but only by immediate and large scale cuts in the burning of fossil fuels which cause global warming. WWF is now campaigning to persuade the world's largest power companies – the largest emitter of greenhouse gases which cause climate change – to use renewable energy.

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Ursus maritimus ***Polar bear diving, Hudson Bay, Canada.***

Arctic warming says NASA

Recently observed changes in arctic temperatures and sea ice cover may be a harbinger of global climate changes to come, according to a recent NASA study. Satellite data – the unique view from space – are allowing researchers to more clearly see arctic changes and develop an improved understanding of the possible effect on climate worldwide.

The arctic warming study, which appeared in the November 1 issue of the American Meteorological Society's *Journal of Climate*, showed that compared to the 1980s, most of the Arctic warmed significantly over the last decade, with the biggest temperature increases occurring over North America.

"The new study is unique in that, previously, similar studies made use of data from very few points ➤

➤ scattered in various parts of the Arctic region," said the study's author, Dr. Josefino C. Comiso, senior research scientist at NASA's Goddard Space Flight Center, Greenbelt, Maryland. "These results show the large spatial variability in the trends that only satellite data can provide." Comiso used surface temperatures taken from satellites between 1981 and 2001 in his study.

The result has direct connections to NASA-funded studies conducted last year that found perennial, or year-round, sea ice in the Arctic is declining at a rate of nine percent per decade and that in 2002 summer sea ice was at record low levels. Early results indicate this persisted in 2003.

Researchers have suspected loss of arctic sea ice may be caused by changing atmospheric pressure patterns over the Arctic that move sea ice around, and by warming arctic temperatures that result from greenhouse gas build up in the atmosphere.

"Warming trends like those found in these studies could greatly affect ocean processes, which, in turn, impact Arctic and global climate," said Michael Steele, senior oceanographer at the University of Washington, Seattle. Water absorbs the Sun's energy rather than reflecting it into the atmosphere the way ice does. As the oceans warm and ice thins, more solar energy is absorbed by the water, creating positive feedbacks that lead to further melting. Such dynamics can change the temperature of ocean layers, impact ocean circulation and salinity, change marine habitats, and widen shipping lanes, Steele said.

In related NASA-funded research that observes perennial sea-ice trends, Mark C. Serreze, a scientist at the University of Colorado, Boulder, found that in 2002 the extent of arctic summer sea ice reached the lowest level in the satellite record, suggesting this is part of a trend. "It appears that the summer 2003 – if it does not set a new record – will be very close to the levels of last year," Serreze said. "In other words, we have not seen a recovery; we really see we are reinforcing that general downward trend." A paper on this topic is forthcoming.

According to Comiso's study, when compared to longer term ground-based surface temperature data, the rate of warming in the Arctic over the last 20 years is eight times the rate of warming over the last 100 years.

Comiso's study also finds temperature trends vary by region and season. While warming is prevalent over most of the Arctic, some areas, such as Greenland, appear to be cooling. Springtimes arrived earlier and were warmer, and warmer autumns lasted longer, the study found. Most importantly, temperatures increased on average by 1.22 degrees Celsius per decade over sea ice during arctic summer. The summer warming and lengthened melt season appears to be affecting the volume and extent of permanent sea ice. Annual trends, which were not quite as strong, ranged from a warming of 1.06 degrees Celsius over North America to a cooling of .09 degrees Celsius in Greenland.

If the high latitudes warm, and sea ice extent declines, thawing arctic soils may release significant amounts of carbon dioxide and methane now trapped in permafrost, and slightly warmer ocean water could release frozen natural gases in the sea floor, all of which act as greenhouse gases in the atmosphere.

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Murmansk office for WWF

WWF is set to open a new office in Murmansk, Russia, to boost its work on conservation in the Barents region. The office will be opened in early 2004.

To prepare for the opening of the office and identify priorities, WWF has had rounds of discussion with local, national and international NGOs; research institutions; regional and national government officials; and other stakeholders. The office will enable WWF to network more effectively with regional stakeholders as well as increase its effectiveness in influencing the way petroleum, shipping and fisheries development take place in the most vulnerable areas of the Barents Sea.

Initially, two new staff members in Murmansk will be responsible for establishing a platform and network for WWF's presence and activities in northwestern Russia. They will join a team of colleagues in Moscow and Oslo who already are working on Barents Sea issues.

A substantial part of the work of the new office will be to stimulate public awareness and debate around the increasing, environmental challenges in this area.

In the near future, WWF will also establish field projects in the region. Issues being considered include pollution, tourism and education.

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Nunavut whale project a success

Photo: B.Wheeler, 2002

A juvenile bowhead spy-hops amidst the ice at Isabella Bay.

A unique conservation study on the east coast of Baffin Island in the Canadian arctic has led to new insights into an endangered population of bowhead whales.

In a first for Nunavut, Inuit from a small hamlet on the east coast of Baffin Island have completed a large scale, Inuit staffed community conservation field study of the bowhead whales.

The three-year project, formally known as the Igaliqtuuq Critical Bowhead Whale Habitat Stewardship Project, was jointly initiated in 2001 by WWF and the Hamlet of Clyde River (Loseeosee Aipellee).

Monitoring design, on-site operation, and training of the all Inuit crew was administered by Ben Wheeler of the Northern Environmental Marine Organisation.

The focus was Isabella Bay, known in Inuktitut as Igaliqtuuq, which is a pristine late summer and fall feeding and resting stopover for a large proportion of the endangered Baffin Bay/Davis Strait bowhead whale population.

Thought to once number in the tens of thousands, this group was reduced to its current level of 3–500 whales through the unregulated commercial whaling of the 18th and 19th Centuries.

Based from a newly constructed monitoring station, the Igaliqtuuq crew members combined science and Inuit traditional knowledge to accomplish their objectives.

Tasks included Inuit elder interviews, recording whale numbers and habitat preference, collecting samples of zooplankton (bowhead prey), and photographically recording whale identity from kayaks.

Highlights over the three seasons include a rare visit by the 'bowhead leader' Naluaqtaliq in 2001 (a fabled and uniquely marked large whale) and the recording of 145 whales in 2002: the most Baffin Bay whales ever observed together in one place.

Observations of a whale attempting to extricate itself from a net, and reports of several cruise ships at Isabella Bay in 2003 unfortunately confirm net entanglement and tourism as direct threats to the recovery of this population.

Coupled with such direct threats, scientists fear that indirect impacts to this habitat, such as climate change, may be large.

Biologist Ben Wheeler points to recent findings in the Atlantic which suggest that due to climate change, more southern zooplankton species are shifting northward: "As zooplankton are the basis of most marine life in the Arctic, including the bowhead, projects such as that at Isabella Bay, which closely monitor zooplankton composition, are essential if we are to know what is happening in this unique ecosystem." said Ben Wheeler.

Capitalising on the principals of co-management this project successfully garnered financial and administrative support from governmental and non-governmental organisations.

Matching funds to the principal federal Habitat Stewardship Project were supplied by WWF, the Nunavut Wildlife Management Board, the Nunavut Department of Sustainable Development and the Kakivak Association, demonstrating that Nunavut too is interested in working together to promote the recovery of its most valued natural resources.

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Oil plans for US Arctic

Another year of fierce political battles over drilling for oil in the Arctic Refuge has ended with the area's fragile wilderness still intact and off-limits to oil company development.

An attempt by the Bush Administration and their allies in Congress to enact legislation authorising development was thwarted once again by strong public opposition to drilling in the wildlife sanctuary.

Development proponents, however, have pledged to re-double their efforts to open the Refuge next year before the presidential election in November 2004.

When Congress reconvenes in January 2004, negotiations on national energy policy legislation are expected to resume. Some Members of Congress will use the energy debate to keep drilling in the Arctic Refuge under consideration.

A bipartisan group of US senators has defeated legislation to allow Refuge development twice in the past two years, but they have done so only by a narrow margin.

With President Bush running for re-election, there will be intense pressure on Republican law makers to side with the party's President and authorise drilling.

WWF and other conservation groups again will work with religious organisations, native American groups and others to stop a development bill from passing Congress.

Elsewhere in America's Arctic, federal and Alaskan state agencies are moving ahead with plans to expand oil and gas development both on-shore and off-shore. Oil companies are being offered development rights on public lands at an accelerating pace in the Beaufort Sea off the coast of the Arctic Refuge, and in the National Petroleum Reserve-Alaska located west of the giant oilfields at Prudhoe Bay.

Public interest conservation groups including WWF have filed comments with the management agencies to raise concerns about development in sensitive wildlife areas.

Polar bears, grizzly bears, caribou, and millions of migratory birds use the on-shore areas, and bowhead whales and other marine mammals are found in the area proposed for development.

Agencies are ignoring the potential negative impact on wildlife as well as indigenous people who are raising concerns about the effects oil development will have on subsidence hunting and fishing activities. Lawsuits are pending and more are expected to force agencies to reconsider their development plans.

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Report boosts Barents conservation

Environmentalists working to protect the most vulnerable and valuable areas of the Barents Sea will have a new report to help them when the new year begins.

For the first time comprehensive data on biodiversity and priority conservation areas in both the Russian and Norwegian Barents Sea has been brought together in one report.

Published in December by WWF, the 150-page report collates new and existing information on biodiversity in the Barents Sea and is supported by more than 40 maps.

The report describes the ecology of the Barents Sea and its vulnerability to major threats. It maps valuable habitats for seabirds, benthic communities, plankton, fish and marine mammals and identifies priority areas for conservation.

The Barents Sea Ecoregion covers 2.2 million square kilometres, stretching north from the coasts of northern Norway and north-western Russia into the Arctic Ocean.

The ecoregion has extraordinary biodiversity values and is one of the most productive oceans of the world.

Among its most spectacular features are the world's highest density of seabirds, some of the world's richest fisheries, diverse and rare communities of marine mammals and the largest deep water coral reef in the world.

The Barents Sea is still one of Europe's last large, clean and relatively undisturbed ecosystems. However, its biodiversity is increasingly threatened by overfishing, petroleum development, shipping, toxics, radioactive waste and climate change.

Dag Nagoda, WWF's Barents Sea co-ordinator, said: "As part of WWF's ecoregion conservation strategy, it is our hope that the Biodiversity Assessment of the Barents Sea Ecoregion will contribute to a long term and holistic management that balances human development with the need to protect biodiversity."

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Wager Bay photographs: an apology

In the last issue of the *Arctic Bulletin*, we forgot to caption the superb photograph of a polar bear in Wager Bay correctly in the article on Ukkusiksalik National Park on page five. They were taken by Rebecca L Grambo. You can see more of her pictures at: www.wildthreads.com/wagerbay.html. Our apologies to Rebecca.

Living with large carnivores

In March 2001, Sweden adopted a national predator policy which set out to conserve brown bear, lynx, wolf and wolverine on a long-term basis. WWF's Lotta Samuelson **reports.**

In countries where large carnivores still live, there are few debates that arouse as much passion as those about whether or not wolves, bears, lynx or wolverine are a good or a bad thing.

During the last century, in many parts of Scandinavia, people became used to living without large carnivores and developed ways of life which paid little attention to their existence. Now, if these animals are to survive, people need to learn to live with large carnivores once again, developing ways of life which diminish the risk posed by them.

Clearly problems do arise when populations of large carnivores increase, such as increased risk of attacks on domestic animals, sheep and reindeer. There is also increased competition for prey between human hunters and large carnivores. Hunting is more than simply a way to get food for human hunters, it is a way of life for many people in Sweden. Large carnivores are sometimes seen as a threat to this way of life, either because they are believed to reduce the number of prey, such as moose and roe deer, to the extent where there are none left for human hunters, or simply because they spread an atmosphere which disturbs the pleasure of hunting.

In Scandinavia, hunters are also very anxious about the risk of hunting-dogs being attacked and killed by wolves although only ten to 15 dogs are actually attacked each year.

In March 2001, Sweden adopted a national predator policy which set out to conserve brown bear, lynx, wolf and wolverine on a long-term basis. The WWF view is that viable carnivore populations are natural and positive features of nature. The large carnivores are a resource and not simply a problem. Predators have an emotional as well as an economic value. A sustainable population would allow hunting to continue and can bring in tourists. Seeing lynx tracks in the snow, listening to a pack of wolves howling, or catching a glimpse of a bear is a dream for many people.

Respecting worries and problems

WWF is well aware that large carnivores cause problems, and that their management is a balancing act between biological, legal and practical issues. This is not a reason to give up. It means we have to find solutions.

The worry and anger that some people feel when living with large carnivores should not be ignored. It has to be dealt with if we want to achieve long-term acceptance for brown bear, lynx, wolf and wolverine.

WWF works hard to preserve Scandinavian large carnivores and increase their acceptance. They have developed a special tool-kit to help:

- Knowledge – It is vital to have good scientific knowledge of the animals in order to spread accurate information about their behaviour and location, and to enable governments to create good conservation plans for the animals. WWF gives substantial financial support to research on large carnivore ecology.
- Communication – Given that large carnivores are such a hot topic, it is crucial to have lots of dialogue. It is important that people can meet, express their anger, fear or joy and hear others' experiences. WWF arranges seminars and smaller meetings for different interest groups, including hunters, reindeer herders, farmers, government officials and conservationists.
- Education – The more we know about the predators, their biology, numbers and way of life, the better we can work constructively to limit the damage caused by them. WWF has, together with the Swedish Study Promotion Association (*Studiefrämjandet*), produced study materials for schools and adult study groups called "Living with Large Carnivores".
- Damage Prevention – WWF is involved in the development of methods to prevent the damage caused by large carnivores to livestock and hunting dogs.
- Illegal hunting – In the end, lack of acceptance for large carnivores leads to people taking their own illegal action. This is, of course, not acceptable. WWF supports the development of effective legal measures to prevent illegal hunting.

Photo: Kevin Schafer/WWF-Canon

Ursus arctos ***Two brown bear cubs in Katmai National Park, Alaska.***

Living with large carnivores is a challenge. A wise man once said, "we have two ears and one mouth" which means that we should listen twice as much as we speak. If all people and all interest groups involved in large carnivore management would do as this wise man said, we are sure to succeed.

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Russia's protected land needs pr

Russia's protected areas now need protecting as a new political era seeks out natural resources. Laura Williams **investigates.**

When most of us think of Russian nature, we think of environmental catastrophe: Chernobyl, oil spills, pollution. Yet Russia, with one-eighth of the Earth's land area, has one of the world's premiere systems of strictly protected areas, called zapovedniks.

Few people outside Russia know of the system or its important part in sustaining the global ecological balance. Large tracts of virgin forest play a role in global ecology comparable to rain forests. Intact areas of wilderness allow large-scale animal migrations, and three of the world's nine major migratory bird routes extend across Russia. Scientific data long collected in the *zapovednik* system could shed light on global climate change and ecological trends.

Russia's first strict nature reserve – Barguzinsky Zapovednik – was founded in 1916 on the eastern shore of Lake Baikal to protect the endangered Barguzin sable.

By the 1940s, the system had grown to 31 million acres. But in 1951, Josef Stalin cut the reserves down to fewer than four million acres, opening up protected areas for exploitation. Scientists fought to restore the system, and today Russia's 100 zapovedniks cover 83 million acres or 1.4 percent of the country.

Zapovedniks harbor natural wonders, from the geysers and volcanoes of Kamchatka to the mountains ringing Lake Baikal and the last fragments of European steppe. Reserves were created to save critical habitat for endangered species such as the Siberian tiger, saiga antelope, Russian desman, and black stork.

"Nowhere else has a country made such a commitment to strictly protecting nature as in the zapovednik network," said Margaret Williams, director of WWF's Bering Sea ecoregion and editor of Russian Conservation News. "In the US, we have no public areas that are entirely protected from human impacts. That is the founding tenet of zapovedniks."

Williams became enamored with zapovedniks after volunteering in two Russian reserves and went on to establish a center to support exchanges between Russian and American wilderness managers. While living in Russia, she founded *Russian Conservation News*, a publication on Russian biodiversity conservation and the zapovednik system. Today that journal remains an important voice for Russian conservation groups in the West.

Today Russia is struggling to uphold its commitment to conservation in the face of economic woes. When the Soviet Union broke up, a protracted process lasting from 1991 to 1995, Government funding for the system fell 90 percent. Protected areas struggled to keep their experienced staff and safeguard their territories from poachers and economic exploitation. Realising that the future of this important natural legacy was in the balance,

Photo: Julian Woolford

international conservation agencies such as the WWF, the MacArthur Foundation, and the World Bank provided emergency funding in the early 1990s.

Inflation during the economic transition offered an opportunity to create new zapovedniks with western currency at minimal cost. Russian scientist Victor Nikiforov approached WWF in 1991 with a plan to protect fragile arctic habitats from growing pressures of oil and gas development.

Two years later, with $50,000 from WWF, and now an employee, Nikiforov organised the Great Arctic Reserve, the world's largest strictly protected nature reserve. In the few years following, Nikiforov's role was paramount in the creation of four other zapovedniks, increasing the acreage protected in the Russian North by 50 percent.

Nikiforov is concerned that these lands might once again come under attack. "The Russian Arctic harbors some of the last global reserves of fossil fuels," he said. "The current policy of the Russian government promotes extraction and use of natural resources, while nature conservation and the environment have dissipated into the background."

Recent large-scale development projects backed by western companies call for construction of oil pipelines and chemical processing of gold reserves in close proximity to arctic zapovedniks. In other parts of Russia, damming of rivers, commercial logging, and extraction of fuels and metals also threaten the integrity of protected lands.

Economic pressures on protected areas accelerated in 2000 when Russian President Vladimir Putin abolished the State Committee for Environmental Protection, which managed the zapovednik system, and transferred its functions to the Ministry of Natural Resources along with the country's burgeoning national parks system. Environmental impact assessments and protected areas planning is now in the hands of those most interested in developing Russia's natural resources.

If ensuring protection of zapovedniks is not a government priority, then the public must be enlisted to help safeguard Russia's natural heritage. In Soviet times, zapovedniks were created without public consent and people were moved off protected lands and denied access. The state provided steady funding for zapovednik activities, which included armed ranger forces to patrol the lands and keep people out. With the collapse of the Soviet Union and government support, zapovednik staff recognized the need to open dialogue with local communities to build popular support.

In 1996, Irina Sannikova had been working as a ranger in Khakassky Zapovednik in southern Siberia for only a week when a grass fire sparked her interest in working with the public. She invited a local television station to report on the damage human-induced fires caused to steppe habitats and discovered that local people were interested and wanted to know more. She organized lectures in schools, printed a newsletter, and invited people on excursions to the protected lands.

Realizing that environmental education activities cost money, and with the government only supporting staff salaries, she decided to find other funding. Wielding her charm and worthy cause, Sannikova won support for education activities from local businesses. Then she went to the deputy director of the Sayan Aluminum Plant in her region – one of the largest plants in Russia – and was given the funds she needed.

With support from business and industry, Sannikova established a regional foundation for environmental education and raised hundreds of thousands of dollars for her activities. With public support gaining momentum throughout Russia's zapovednik system, she helped create a national foundation for *zapovedniks* called Protected Russia.

"Russian industry is starting to blossom, and nature should blossom right along side it," Sannikova said.

She has won support not by focusing on conflicts between nature conservation and development objectives but by unifying people in industry and environment. "Every zapovednik needs a Sayan Aluminum Plant," Sannikova said. "One step at a time. You don't get berries in the spring; first you get flowers."

Laura Williams

This article first appeared in *E-The Environmental*


Photo by M. Williams, 1993

Young eagle chick captured for measuring. Magadansky Zapovednik

Telegram shocks Russian conservationists

As the *Arctic Bulletin* went to press, a telegram sent from the Ministry of Natural Resources in Russia to all 35 national parks and 100 zapovedniks sent shockwaves across the country.

The December 5 telegram told managers of Russia's protected areas about a "conclusion" about the "inexpediency…. of their future existence" and demanded a list of documents and budgets, as if giving the managers one last chance to justify their existence.

The telegram bewildered the leaders of this nearly 80-year old system of nature reserves and its younger ➤

➤ national parks. It also caused a great stir in Moscow where the environmental community rallied immediately.

WWF organised a "Panda Passport" action for people to send letters of protests to the ministry by fax and email. SocioEcological Union, Greenpeace, WWF and others are now monitoring the situation. A number of front page stories in national and regional papers carried the story, spreading the news that Russia's federally protected areas could be closed.

An amazing reversal occurred on Monday, December 8, when a second, very brief telegram was sent to all of the same recipients from Deputy Minister Pavlov (the same person who sent the first telegram). In this telegram he reported that the first one had been "sent mistakenly" and that those who made the error will be "reprimanded/punished."

Why was the first telegram sent? Apparently this was generated by bureaucrats from within the Department of Property of the Ministry of Natural Resources, which is responsible for managing state-owned properties (land and physical structures such as buildings) that fall under the Ministry's management oversight. The Department of Property is also responsible for implementing the current governmental policy to transfer small state-owned enterprises that are not profitable to private ownership. This means that small scientific institutes under the Ministry will be closed and/or privatised. Some of these occupy valuable real estate.* Apparently a number of these small institutions recently received a telegram about the lack of expediency and practicality of their existence, and it appears that the same missive was fired off to "mailing lists 51 and 50", the parks and reserves.

How and why the Deputy Minister sent such a telegram to the parks and nature reserves is unclear. Evgeny Shvarts from WWF wonders if perhaps this was a way of testing public opinion, to see whether there would be any reaction. Shvarts also draws a correlation between this event (misstep or feigned attack?) on protected areas and current changes in forest policy.

There is now underway an effort to privatise valuable lands, a tendency reflected in the recent version of the federal forest code passed by the Duma (which proposes, for example, the privatisation of green belts surrounding Russian cities, which are prime real estate for dachas, or country homes.) The forest code continues to erode decision-making authority of the conservation/management branch of the forest service. Such a power play seemed to be at work when the Dept. of Property overstepped its bounds, issuing a telegram to constituents which are actually managed by the Dept. of Biological Diversity and Protected Areas.

Nothing has been stated publicly about privatising the protected areas and for now they seem to be safe. It should be noted that even if a second telegram had not been sent to nullify the first, the orders sent last week from the Ministry would not have been legal. The Ministry cannot just blot out the country's nature reserves with the swipe of a pen. Federal legislation protecting the nature reserves and national parks would have to be changed to disband these protected areas.

However, this is clearly an issue to watch. The fact that such mishaps, or even possibly purposeful ill-intended efforts, can occur is extremely alarming. Russia has the world's premier system of strictly protected areas. While not perfectly managed, this system is unprecedented in its mission to conserve biodiversity. Putin's administration has done very little to shore up this imperiled system during his administration. In fact, after a ten-year expansion of the system in the 1990s, the years of the Putin presidency marked the first years when no new reserves or parks had been established.

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*This does not affect the institutes of the Russian Academy of Sciences or the university system

Reindeer p

Reindeer herders and hunters face major challenges. Birgitte Ulvevadet **reports.**

A new project about reindeer is set to shed new light on the relationship between reindeer and the indigenous communities that depend on them for their livelihoods.

The Arctic Council-endorsed project, *A family-based reindeer economy and the status and management of wild reindeer/caribou populations*, will examine the role of the family in reindeer husbandry. It will also study wild reindeer/caribou populations as well as the indigenous societies which hunt them.

The project is a follow-up to *The Sustainable Reindeer Husbandry* project presented at the Third Arctic Council Ministerial Meeting in Finland in October 2002. While that project focused on reindeer husbandry in the circumpolar region, this new project expands the scope of inquiry in a number of new areas.

Instead of focusing exclusively on the herders, as the previous project did, the new project focuses on two main challenges: the first challenge is the development of a family-based reindeer/caribou economy, and the second are the problems associated with co-existence between wild reindeer/caribou and domesticated reindeer around the circumpolar North.

With regard to the first challenge, the reindeer industry in general is facing serious problems that are the result of external pressures. Reindeer/caribou herding and hunting are arctic livelihoods with specific cultural dimensions of fundamental importance to the indigenous people living there. It is therefore critical that an economically, socially and culturally sustainable family-based reindeer/caribou herding and hunting economy is developed.

The project will focus on opportunities for development of a family-based reindeer herding and hunting economy, and possibilities for value-added production in the

roject reveals role of family

Photo: Johnny-Leo L. Jernsletten

Reindeer herding.

industry. If economic prosperity and social well-being are to be achieved, reindeer/caribou herding and hunting will have to be one of the economic and cultural mainstays of the future in these areas.

The project will also have a gender perspective. The Sustainable Reindeer Husbandry report clearly indicates that most women are now employed outside the reindeer industry. The impact of modernisation has changed the role played by women in reindeer herding families. This project will therefore examine the current status of the role of women within family-based herding operations in herder societies.

As far as the second challenge goes, the study will examine problems associated with co-existence between wild reindeer/caribou and domesticated reindeer around the circumpolar North. The Sustainable Reindeer Husbandry project shows that the growing herds of wild reindeer/caribou in Alaska and parts of Russia are a major threat to the reindeer herding industry.

The main problems are grazing pressure and so called run-offs, where domesticated reindeer take off and follow the herd of wild reindeer/caribou. Reindeer herders in Alaska and parts of Russia have experienced a radical decline in the number of domesticated reindeer, and in some areas this problem is so serious that the reindeer husbandry could disintegrate.

It is important to implement better management plans and scientific programs to secure the co-existence of reindeer husbandry with wild reindeer/caribou on the same or adjacent rangelands. Further, the project will examine the current situation regarding the growth of wild reindeer/caribou herds and population management practices in the individual countries. The project will also examine the economic and legal dimensions of wild reindeer/caribou resources for the indigenous families

The project seeks to add to the base of scientific knowledge of the economics of family-based reindeer/caribou herding and hunting of wild reindeer/caribou as an animal/natural resource.

The project's data collection process will make extensive use of socio-economic data which is already available in the different countries through public reports, annual reindeer herding reports, statistics and so forth. The latest data will be obtained from indigenous peoples' organisations, national reindeer herding authorities, herding organisations, and from field interviews with indigenous arctic people.

The project will be run with the cooperation of reindeer herding organizations and indigenous peoples organisations in the participating countries, and will make good use of the valuable knowledge these organisations possess.

It will seek to build a better understanding of the central challenges a family-based reindeer/caribou economy and wild reindeer/caribou populations will face in the future, and what will be needed to meet these challenges. Based on the information that is obtained, the project will make recommendations on further action to the Arctic Council, to national authorities and to the industry itself.

The project started formally in January 2003 and will be presented at the Fourth Arctic Council Ministerial Meeting to be held in Iceland in November 2004.

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Treasures of the Bering Sea

The children of the Russian and US Arctic play a vital role in the region's future. Margaret Williams, director of WWF's Bering Sea Ecoregion Project, reports.

A large part of the work of conservationists involves identifying the most important biological riches of an area, and then implementing a whole range of programs and policies to protect those treasures. In the Bering Sea, WWF has identified 20 large areas as priorities for conservation and is actively working in some of them – the Pribilof and Commander Islands, the Yukon-Kuskokwim Delta, and increasingly in Wrangel Island.

One of the most important treasures of this region – and one which is often overlooked in conservation activities – is the population of young people living in an ecoregion. These are the treasures in which we must invest now, as they are the future leaders, conservationists, and stewards of the marine resources shared by the US and Russia. It is their actions and decisions which will be critical to ensure a sustainable sea for future generation of people and wildlife.

Throughout the world, WWF has made education of young people a priority in many of the places we work, and the Bering Sea is no exception. For the last three years, WWF has actively supported a number of educational programs, for youth and educators alike. At the core of these activities have been summer science programs for youth in a number of communities in both Alaska and Russia.

These "Living Planet Clubs," as they are known, have varied in activity, depending on the lead educator and the community's location. For example, under the guidance of high school math teacher Henry Oyoumick, young people in Unalakleet, Alaska have been studying the taxonomy of native plants, while also learning traditional uses of those species. Mr. Oyoumick's students have collected, pressed, and identified local flora and displayed them in creative and informative exhibits for their school and community. The same group recently completed an interpretive nature trail where passers-by can learn the scientific and native names of plant species along their route. This past summer in Anadyr, Russia, dozens of young students set up camp (which included many "modern" synthetic tents and one traditional reindeer-skin "yaranga") on the Bering Sea coast for a week of studying local ecology as well as learning about cultural traditions of the indigenous Chukchi people. In the Pribilof Islands, Alaska, WWF supported a week-long field program on St George Island for young residents, led by biologist Conrad Field. Just 40 miles away on St. Paul Island, high-school-aged youth benefit from a highly successful program developed by Karin Holser and Aquilina Lestenkof, which involves youth in beach clean-ups, wildlife observations, and occasionally hands-on research. While WWF has provided only modest support to the latter program in past years, we now look to Holser and Lestenkof to help guide our work in other communities.

In Russia, the WWF educational programs are now being run year-round in schools and community centers. Elizovo, Kamchatka has become a hotbed of educational activity, thanks to former teacher and current WWF educator Lyudmila Romanova, who coordinates programs for over 20 schools. Romanova has organized annual ecological marathons – a sort of biodiversity "bee" requiring students to showcase their knowledge of the Bering Sea as well as other global 200 ecoregions around the world. Students prepare for the marathon for months, researching ecology and conservation threats, as well as designing musical and theatrical presentations to entertain the public with this information.

In the past two years, WWF has provided support to educators, also. In October of 2000, we hosted our first international workshop for Bering Sea educators. This was the first opportunity teachers and youth group leaders had had to meet with their counterparts from across the sea, to exchange ideas and approaches for teaching in this unique region, and to build new friendships and professional camaraderie.

As a result of the enthusiasm generated by this meeting, WWF proposed to continue the program, but to do so with students themselves involved. The ensuing program, designed by the educators and WWF, was entitled "Treasures of the Bering Sea."

"Treasures of the Bering Sea" was designed to strengthen these trans-boundary connections among educators, while also extending this cross-cultural opportunity to a younger generation of future Bering Sea conservationists. Working with educators in Alaska and Russia, WWF identified the following goals for this project:

- to establish connections between educators on both sides of the Bering Sea to foster understanding and cross-cultural communication;
- to train educators in activities that would captivate students' interest in the nature and culture of the region;
- to engage youth in learning about their region of the Bering Sea;
- to increase youth's knowledge about the people and environment on the opposite shore of the Bering Sea;
- to cultivate a greater interest in and understanding about the need for Bering Sea conservation; and
- to increase public knowledge of the Bering Sea's diverse cultural and natural values.

These trans-boundary exchanges would be two-fold: first, an exchange of travelling "trunks," or "treasure chests" filled with information and artifacts compiled by students, and then, the following

Russian and Alaskan youth perform for the public during "An Evening at the Bering Sea" in Anchorage, Alaska.

The drawings are a product of the "Treasures of the Bering Sea" program.

Photo: M.Williams

Photos: D.Woods

Photo: M.Williams

Photos: D.Woods

year, a mini "summit" for educators and a select group of students.

In October, 2002, WWF convened a group of participating educators in Anchorage, for a planning session and "kick-off" of the "Treasures" program. Russian educators from Petropavlovsk, Anadyr, and the Commander Islands met with their now familiar Alaskan counterparts from Unalakleet and St. Paul and some new faces from Elim and Kotzebue. During the two-day workshop, educators once again exchanged information about their methodologies, current projects, and questions for their neighbors on the opposite shore. They took part in an outdoor learning program called "Earth Ranger Academy" to experience this interactive science education activity. The main goal of their workshop, however, was to plan joint activities which they would each conduct during the coming year with their students to prepare for a Bering Sea learning summit in the fall of 2003. By the time they departed, well-supplied with trunks and packages full of art supplies, the teachers took with them a plan of activities which they would implement with their students during the year.

Throughout the winter (2002–2003), educators in the "Treasures" program found time for this extra-curricular activity and gradually compiled materials to be submitted to their coastal counterparts. In Unalakleet, teacher Henry Oyoumick led activities for his students which produced essays, illustrations, and hand-crafted traditional art objects. At the same time, Svetlana Khaletskaya, director of the Anadyr Children's Palace (after-school children's community center), worked with students to compile information about the local flora and fauna around Chukotka. Other teachers such as Cindy Lincoln in Kotzebue and Lyudmila Romanova in Petropavlovsk did their part to construct their local pieces of a Bering Sea curriculum. A large body of information was amassed by these educators and students: interviews with Native elders, species descriptions, maps, paintings, pressed plants, and more.

In the late spring and early summer, WWF's offices in Anchorage and Moscow began to receive the "Treasure Chests" of information, thoughtfully and thoroughly organized by the educators. In turn, WWF compiled translations of the written material, photographed and photocopied materials, and distributed these packets to other participating communities. At the same time, we began to plan the 2003 learning summit, when teachers and their students would meet in person, exchange additional information, and together learn about the culture and biodiversity they share in common.

After major logistical challenges presented by new US visa regulations for Russians as well as the expected difficulties of transportation from places as remote as Chukotka, in October 2003, six teachers and 17 students descended upon Anchorage for the culmination of the "Treasures of the Bering Sea" project.

The WWF Bering Sea Learning Summit provided a framework for the educators to present their students' projects while also learning more about the Bering Sea. At the same time, youth participants had a once-in-a-lifetime opportunity to showcase their knowledge about the ecoregion in an international forum. The week-long summit was carefully planned by WWF staff. The week's highlights included:

- Excellent interpretation from a team of three local interpreters, guaranteeing clear and reliable communication – essential for any exchange program.
- A two-day stay at the Anchorage Boy Scouts camp, where Russian and Alaskan students and educators met, formed the first bonds of friendships. Nature hikes led by the camp director introduced the young people and educators to local flora and landscapes.
- A day-long visit and overnight "nocturne" event at the Alaska SeaLife Center in Seward, Alaska, a state-of-the art marine research and educational facility. Participants enjoyed a behind-the-scenes tour of the Center, took part in a night-time class on bioluminesence and coastal archaeology and got up close and personal with Woody, a 2000-pound Steller sea lion.
- A three-day "Earth Ranger Academy" hosted by the Campbell Creek Science Center, an educational center operated by the Bureau of Land Management. This outdoor educational program, led by Luise Woelflein of the Center and wildlife biologist Van Waggoner formed the core of the Learning Summit. Educators and students alike learned about energy and food webs, mapping and orienteering, aquatic and marine ecosystems; and threats facing the environment.
- Individual meetings to learn about career opportunities in the environment. These included conversations with polar bear biologist Scott Schliebe (US Fish and Wildlife Service); ornithologist Bruce Seppi ➤

(Bureau of Land Management); archaeologist Doug Gibson (Bureau of Land Management); petroleum engineer Greg Nobel (Bureau of Land Management).

- "An Evening at the Bering Sea": A public evening forum open to Anchorage residents during which youth participants performed entertaining skits and traditional dances and USFWS walrus biologist Joel Garlich-Miller presented a slide show on walrus research in the Bering Sea. Approximately 50 people attended the event.
- A mayoral proclamation issuing October 16, 2003 as "Treasures of the Bering Sea Day"
- A closing ceremony and celebration, which included the presentation of certificates of participation to all youth and educators.
- A substantial radio feature about the "Treasures" project and the Learning Summit broadcast on the Alaska Public Radio Network.

In the last week of the program, as WWF staff in Anchorage, Denise Woods and Evie Witten, stood in the airport and bid farewell to the participants, no doubt they breathed a sigh of relief. Months of planning and communicating in two languages across many time zones had made the organisation of such a meeting extremely challenging. Then, just a few weeks before the group's arrival date, highly restrictive visa requirements for Russian travelers had nearly forced us to cancel the entire trip. Finally, though, the bright-eyed students and enthusiastic leaders arrived for what became an inspiring and productive week. While we won't be holding another summit any time soon, WWF was thrilled to be playing the role of catalyst and bridge among the young generations of the Bering Sea. We will continue to support their efforts back at home to learn about and conserve the unique environment of this ecoregion. And, we will be watching for the next leaders of the ecoregion as they do their part to protect the cultural and natural treasures of the Bering Sea.

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Inuit voice concern over wildlife health

Susan Sang and Gordon Balch give an update on an innovative new research project which monitors the health of wildlife used as food.

Inuit hunters are increasingly voicing their concerns about subtle changes noticed in harvested animals.

Although these changes are still infrequent, there is a growing perception among hunters that occurrence of abnormalities within harvested animals is increasing.

The Nunavut Wildlife Health Assessment Project (NWHP) was initiated by WWF in response to these concerns to help ensure the sustained health of wildlife populations used for food.

The project follows speculation that some changes maybe the result of chronic exposure to chemical contaminants and possibly climate change, although climate change is currently outside the scope of the NWHP.

Reported changes in the health of individual animals can often be categorised into changing conditions in the quality of fur, thickness and or discoloration of fat reserves, changes in the appearance and firmness of various organs such as the liver, and an increased prevalence of common wildlife diseases.

None of these conditions in isolation can be used to identify specific causes. However, collectively they suggest subtle changes are occurring and hence warrant the need for further investigation to document current health conditions in selected wildlife populations.

WWF has committed to investigating these allegations as part of their mandate to ensure the sustained health of arctic wildlife.

The NWHP is a joint venture between WWF, Trent University and three partnered communities in Nunavut; Arviat, Coral Harbour and Pangnirtung.

The goal of the study is to monitor the health of wildlife used as food.

The study began in 2001 when representative communities were selected and consulted to ensure the project reflected not only the goals of WWF but also remained relevant and of value to arctic communities.

The NWHP has five main components designed to ensure success of the project. These components include i) a traditional knowledge survey, ii) contaminant analysis, iii) animal health survey, iv) collaboration with other scientists and biomarker research and v)

Frank Nutarasungnik taking measurements of a ringed seal for the NWHP Passive Survey

Susan Sang and Frank Nutarasungnik (Arviat Community Coordinator for NWHP)

community education and outreach.

The traditional knowledge survey was designed to document hunter knowledge and perception regarding harvested animals, particularly drawing on the lifetime experience of older respected hunters in order to gain a clearer picture of the types of changes seen by hunters.

The survey was conducted in 2002 and a final report has now been prepared and is in the process of being translated into Inuktitut.

A summary of the report was presented to the communities during the fall of 2003 and when translation is completed, will be submitted for their review and approval prior to general release.

During 2002, hunter-training workshops were conducted to inform hunters of the project and to seek their input into study design, to demonstrate methods of tissue collection and to explain the significance of the study. Tissue samples collected from arctic char and ringed seal harvested during the fall and winter of 2002/03 were analysed for contaminants in order to provide communities with recent data on their particular harvest and also to increase the data base regarding newer types of contaminants such as the polybrominated diphenyl ethers (PBDEs) which are one class of brominated flame retardants. Tissue samples from beluga will be analysed for contaminants during the winter of 2003/04.

To date, the analytical results for the contaminants identified in these tissues are similar to the values published by governmental and academic researchers. A comparison of body burdens in arctic animals to those from more polluted regions suggests that concentrations are likely below threshold levels necessary to cause acute health effects. However, more investigation is needed to determine possible health effects resulting from exposure to a variety of contaminants, particularly under the harsh environmental conditions of the far north. Documenting hunter observations regarding wildlife health is an important step in helping to focus future research and establishing baseline health data which will be of value should future changes in climatic conditions influence the animals ability to cope with the combined stress of contaminant exposures and changing habitats.

Collaborations have been established with scientists capable of broadening the scope of our understanding regarding the metabolism and toxicity of these chemicals in arctic animals. Ongoing efforts are attempting to increase this list.

Communities were once again visited by WWF and Trent University in the fall of 2003. During this time the local Hunters and Trappers Organisation/ Association (HTO/HTA) Boards of Directors, wildlife officers and regional biologists and agencies were updated on contaminant results and progress of the NWHP.

In addition, presentations were made to students and teachers in local schools informing them of the project and preliminary results in an attempt to bring a great level of understanding regarding contaminants in wildlife. Radio phone-in broadcasts were also conducted in an attempt to disseminate this information to the general community.

Discussions were also conducted with local HTO/HTA boards and hunters to begin the implementation of a wildlife health survey where hunters provide basic information regarding the health of animals they observe. It is anticipated that over the course of time, this type of information will provide documentation regarding wildlife health that will help to focus future research by increasing the ability to identify subtle changes in wildlife health.

During the next year, the contaminant analysis, collaboration with scientists and survey of animal health will continue. Community education will also be a major focus as we begin to develop a NWHP web site to help facilitate communication with arctic community schools and other researchers.

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Polar bear scientist wins award

Noted polar bear scientist Dr Ian Stirling has won the Northern Science Award for 2003.

The award is presented every year to a person or a group of indigenous people who, through their work, make a significant contribution to the advancement of knowledge and understanding of the Canadian North.

Stirling, who studies polar bears in the Beaufort Sea and western Hudson Bay, has been with the Canadian Wildlife Service for more than 30 years. His research on polar bears has been particularly important in understanding the effects of climate change in the Arctic.

"What I really want to do is not look just at the bears themselves, but at the bears as part of the marine ecosystem and as indicators of things that are changing – even if we don't know quite what's happening," said Stirling.

Stirling believes if the climate warms sufficiently for Hudson Bay to be ice-free most of the year, then it's likely polar bears will disappear from that part of the world.

Stirling has studied polar bear dens that lie along the Hudson Bay coast, a region that is getting warmer and drier and affected by forest fires. Lightning often starts these fires, and the dens, which are carved into peat, burn easily – another blow to the polar bears' arctic habitat.

"Overharvesting is curable. You just don't harvest as many for a while and let the population recover, but it's hard for a population to recover from climatic warming. Climatic warming is the greatest overall threat to polar bears at the moment," Stirling said.

Photo: Andy Derocher

He said contaminants that affect both reproduction and the immune system are also damaging polar bear populations in areas such as Svalbard, Greenland and Russia.

Stirling was drawn to the Western Hudson Bay polar bears because these animals are unique to the Arctic. They fast for four to eight months, depending heavily on hunting during the sea ice season.

He found that, as a result of the reduction in sea ice in Hudson Bay over the past 20 years, the polar bears have less time to hunt and are returning to land in poorer condition. Bears are leaner, smaller and less able to find food to survive.

The weight for both male and female polar bears has declined, and female bears are having fewer cubs.

Their diet has also changed from ring seals, which are ice-dependent, to other kinds of seals – which may prove to be a life-saving technique for hungry bears.

In Hudson Bay, ice melts completely in the summer, so every bear in the population has to come ashore and live on its stored fat reserves for four months, and the pregnant females for eight months. Preying on harbour seals and bearded seals helps them out in the short term.

"It may make things spin out a little bit more if there are more harbor seals or bearded seals around to access," Stirling said.

Stirling has been receiving specimens collected by hunters from Arviat that show the ring seals killed are older than was once the case. This could mean fewer ring seal pups are being born.

"We don't really know whats that's about. Things in nature don't usually change in a linear fashion, like push button A and you get reaction A. All sorts of other things come into play," Stirling said.

■ *WWF is funding Dr Stirling's work on polar bears in Hudson Bay.*

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The US perspective

Weapons decommissioning, climate change, UNCLOS and the role of environmental organisations: Senator Richard G Lugar**, chairman of the Senate Foreign Relations Committee in the US has a unique perspective on how the US approaches a range of environmental issues.** Samantha Smith**, director of WWF's Arctic Programme, interviewed him.**

Samantha Smith: *North-western Russia's Barents region contains the world's highest density of nuclear reactors. Most of these are in decommissioned Russian naval submarines, which sit rusting and dilapidated in harbors around the arctic port of Murmansk and pose a very significant threat to the environment. You and former US Senator Sam Nunn led a sometimes lonely fight to mobilize US funds and political will to clean up these submarines, and to neutralise security threats from nuclear weapons and chemical weapons in areas of the Russian Federation. What is the status of these efforts now? What is needed to ensure that the legacy of military activities in north-western Russia no longer poses a threat to security and the environment?*

Lugar and Nunn

Richard Lugar: The Nunn-Lugar program has been an amazing success, but it has not been easy. My colleague, former Senator Sam Nunn, and I have had to convince each of the last three Presidents and every Member of Congress of the critical importance of this program. Every year we have had to fight off attempts to stop the program or reduce funding for it. This past year we succeeded in passing legislation to expand Nunn-Lugar beyond the borders of the former Soviet Union. This means that the United States can now assist other nations who need help cleaning up unsecured nuclear materials, and shut down clandestine biological and chemical weapons programs that a previous regime may have illegally allowed.

During this coming year, I hope we can broaden the program to include all tactical nuclear weapons in the former Soviet Union. During the past 12 years under Nunn-Lugar, US technical expertise and money have helped separate 6,212 warheads from former Soviet missiles, destroyed most of the warheads and safely sequestered their fissile material, destroyed 520 ICBMs, 451 missile silos, 122 long-range bombers, 624 cruise missiles, 424 submarine-launched missiles, 27 missile submarines and 194 nuclear test tunnels. Nunn-Lugar also helped three former Soviet states, Belarus, Kazakhstan and Ukraine, get rid of all of their nuclear weapons. Nunn-Lugar has worked to contain chemical and biological weapons in Russia, where at least 40,000 tons of chemical weapons await destruction.

I hope we can broaden the program to include all tactical nuclear weapons

Despite these accomplishments much, much more has to be done. The U.S is currently spending approximately $1 billion on the Nunn-Lugar initiatives. The G-8 industrial nations have pledged to match American spending in the next ten years. Norway and other non-G-8 nations have also pledged support. But all of these funds should be doubled. The proliferation of nuclear, biological and chemical weapons is the greatest threat faced by the world today. The containment, control and elimination of these materials have to be of the highest priority, and international organisations and cooperation strengthened to do the job. The global security and environmental threat from nuclear weapons and materials in North-west Russia must be addressed with more urgency. This will require greater cooperation by the Russian Federation to ensure more protection and transparency in the work. As the past 12 years of Nunn-Lugar have proven, this is best done through cooperation rather than confrontation.

SS: *Next year, the Arctic Council is going to produce a ground-breaking* ➤

report that shows that climate change is already impacting the Arctic, and that it will bring sweeping, rapid and in many ways negative change to the region. At the same time, the Bush Administration is refusing to take any mandatory action to limit national emissions of greenhouse gases. You were one of only six Republican senators to vote for the McCain-Lieberman Climate Stewardship Act this fall, which would have capped greenhouse gas emissions from many sectors at 2000 levels and allowed flexibility in meeting targets. In addition, under your leadership, the Foreign Relations Committee passed a resolution calling for the US to take action to ensure significant and meaningful reduction in emission of greenhouse gases. Do you think it is time for the US to put in place some mandatory approach to ensure responsible emission reductions?

RL: I supported the McCain-Lieberman Climate Stewardship Act because the United States has to get serious about climate change. Mandatory controls on emissions along with a trading program for carbon sequestration are where the United States should be headed. In the coming year I intend to turn the Foreign Relations Committee's attention to what more the United States should do with the rest of the world on this issue. I'm afraid we do not today have the necessary 60 votes in the Senate to ratify the Kyoto Protocols. If the Senate had been asked to be an official part of the negotiation process, I think there would be more support for this initiative.

Many Europeans forget that the American system of government is different from a parliamentarian system. Congress is a separate branch of government, and the United States Senate has special powers to make and shape American foreign policy under the "advice and consent" clause of the Constitution. There is no guarantee that when a President signs a treaty that it will be ratified by the Senate. Throughout American history, when Presidents have actively engaged the Senate, and especially the Foreign Relations Committee, in treaty negotiations, they have been ratified expeditiously. President Reagan did that with the START I and II arms control treaties with the former Soviet Union. Tragically, this was not the case with Kyoto. With Senate leadership this time I hope progress can be made to re-engage the United States internationally on climate change.

SS: *The 1982 United Nations Convention on the Law of the Sea (UNCLOS) has been called a "constitution for the world's oceans". Until recently it seemed that the United States would never ratify the Convention. As chair of the US Senate Foreign Relations Committee, you've presided over two hearings on ratification of UNCLOS. Do you think the US should ratify the Convention and why? Do you think it will ratify the Convention?*

> **I have been impressed with how NGOs are bringing greater awareness and action to these issues**

RL: I will schedule a Foreign Relations Committee debate on UNCLOS early in 2004, and I hope pass it and gain ratification by the whole Senate. During our recent hearings on the treaty, I was impressed with the broad support it now has among environmental organisations, industry, maritime interests and the United States Navy. I strongly believe that the United States has to be an active participant in international organisations, and the Law of the Sea is critical to American interests.

SS: *You've had a good dialogue with environmental groups on a number of issues, ranging from polar bear protection to toxic chemicals. Do environmental NGOs have a role to play in debates about arms control and non-proliferation, for example in north-western Russia?*

RL: I greatly appreciate the active role WWF and others are playing to support the Nunn-Lugar programs and their expansion. During my frequent visits to Russia, I have been impressed with how NGOs are bringing greater awareness and action to these issues. I am also heartened with how WWF and others are helping to contribute to the development of civil society at the local level throughout Russia. For too long arms control and non-proliferation has been the sole domain of the national security experts. Environmental groups have the special ability to engage more of the public about the common threats we all face.

If a terrorist exploded a dirty bomb on Wall Street, or weaponised anthrax was released into the heating and air conditioning ducts of a hotel conference center in Dubai at a World Bank meeting of international leaders, or if an 80mm shell of sarin gas hidden in a brief case was exploded inside an enclosed stadium during the next Olympics, the world would experience an environmental, public health and economic crisis far exceeding anything today being discussed actively in the public. These are real threats we must all discuss and address. And they are threats we can do something about.

Soon after the September 11, 2001 terrorist attacks on the United States, I proposed a global strategy to contain, control and eliminate weapons and materials of mass destruction. I said that every nation that has weapons and materials of mass destruction must account for what it has, spend its own money or obtain international technical and financial resources to safely secure what it has, and pledge that no other nation, cell, or cause be allowed access or use. This initiative has to get back on center stage in world public debate. Addressing the proliferation threats in North-west Russia are a good place to start.

■ United States Senator Richard G. Lugar is the Chairman of the Senate Foreign Relations Committee. A Republican from Indiana, Lugar has served in the Senate since 1977. Lugar was the Mayor of Indianapolis for eight years prior to his election to the Senate. A Rhodes Scholar, Lugar served in the U. S. Navy as an intelligence briefer to the Chief of Naval Operations. The Senator still manages his family's farm in Central Indiana. In addition to his work on the Nunn-Lugar program, Senator Lugar is known for his work to end apartheid in South Africa, the democratic revolution in The Philippines in 1986, and the 1995 Freedom to Farm law which until last year eliminated many American agriculture subsidies.

Forthcoming arctic meetings & events

Arctic Council events

PAME Working Group Meeting
• WHERE: **Helsinki, Finland** • WHEN: **February 3–6**
• CONTACT: Arctic Council Secretariat Ministry for Foreign Affairs of Iceland. Raudararstigur 25, IS-150 Reykjavik, Iceland. Tel. + 354 545 9900. Fax. + 354 562 2373.

Senior Arctic Officials Meeting
• WHERE: **Selfoss, Iceland** • WHEN: **May 4–5**
• CONTACT: Arctic Council Secretariat Ministry for Foreign Affairs of Iceland. Raudararstigur 25, IS-150 Reykjavik, Iceland. Tel. + 354 545 9900. Fax. + 354 562 2373.

Conferences and workshops

6th Annual Alaska Forum on the Environment
• WHERE: **Anchorage, Alaska** • WHEN: **February 9–13**
• CONTACT: For more information see: http://www.akforum.com/index.html

Northern Margins: Changing Transition Zones in Time: 5th Circumpolar Ecosystems International Workshop and Symposium
• WHERE: **Churchill, Manitoba, Canada** • WHEN: **February 25–29 2004**
• CONTACT: Dr LeeAnn Fishback. Email: fishback@churchillmb.net

The 34th Annual Arctic Workshop
• WHERE: **Boulder, Colorado, US** • WHEN: **March 11–12, 2004**
• CONTACT: http://instaar.colorado.edu/meetings/AW2004 or Email: ArcticWS@colorado.edu

Complex Investigations of the Nature of the Eurasian Arctic Continental Margin
• WHERE: **Murmansk, Russia** • WHEN: **March 11–13** • CONTACT: Irina Alexandrovna Pgodina, mmbi@mmbi.info

Complex Investigations of the Spitsbergen Archipelago
• WHERE: **Murmansk, Russia** • WHEN: **April 8–10** • CONTACT: Irina Alexandrovna Pgodina, mmbi@mmbi.info

12th International Boreal Forest Research Association Conference
• WHERE: **Fairbanks, Alaska** • WHEN: **May 3–7** • CONTACT: www.lter.uaf.edu/ibraf/default.cfm

5th International Congress of Arctic Social Sciences
• WHERE: **Fairbanks, Alaska** • WHEN: **May 19–23** • CONTACT: www.uaf.edu/anthro/iassa/icass5sessab.htm

14th International Offshore and Polar Engineering Conference and Exhibition
• WHERE: **Toulon, France** • WHEN: **May 23–28** • CONTACT: www.isope.org/conferences/conferences.htm

4th Conference on Contaminants in Freezing Ground
• WHERE: **Fairbanks, Alaska** • WHEN: **May 30–June 3**
• CONTACT: Conference Secretariat, conferencesecretariat@freezingground.org

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

Conservationist Mardy Murie dies at 101

Margaret E. Murie, one of the best loved conservationists in the United States, died in October at her home in Moose, Wyoming. She was 101-years-old.

Mardy, the first woman graduate of the University of Alaska in Fairbanks, and her husband Olaus J. Murie were pioneers in the exploration of the area known today as the Arctic National Wildlife Refuge.

In 1962, Mardy authored a book entitled *Two in the Far North* that chronicled trips in the remote area with her husband and first-born son by dog sled and canoe. Olaus, a preeminent wildlife biologist for the US Government, drew the illustrations for the book. Mardy and Olaus were among the first conservationists to advocate for full protection for the area that would become the Arctic Refuge.

President Dwight D. Eisenhower granted their wish in 1960 by setting aside nearly ten million acres as the Arctic Wildlife Range. President Jimmy Carter signed legislation in 1980 that expanded and renamed the area, protecting 19 million acres in the Arctic National Wildlife Refuge. It is the largest wildlife refuge in the National Wildlife Refuge System and also the most threatened.

After Olaus died in 1963, Mardy continued the work the two had begun in the 1950s to urge Congress to pass the Wilderness Act. The legislation was signed into law by President Lyndon B. Johnson in 1964 and today, more than 100 million acres of public land-national parks, refuges, monuments, and forests-are protected in the National Wilderness Preservation System.

For her contribution, Mardy is remembered by many as the "Godmother of American Wilderness."

Mardy was honored for her lifetime achievement in conservation with the Medal of Freedom by President Bill Clinton in 1998.

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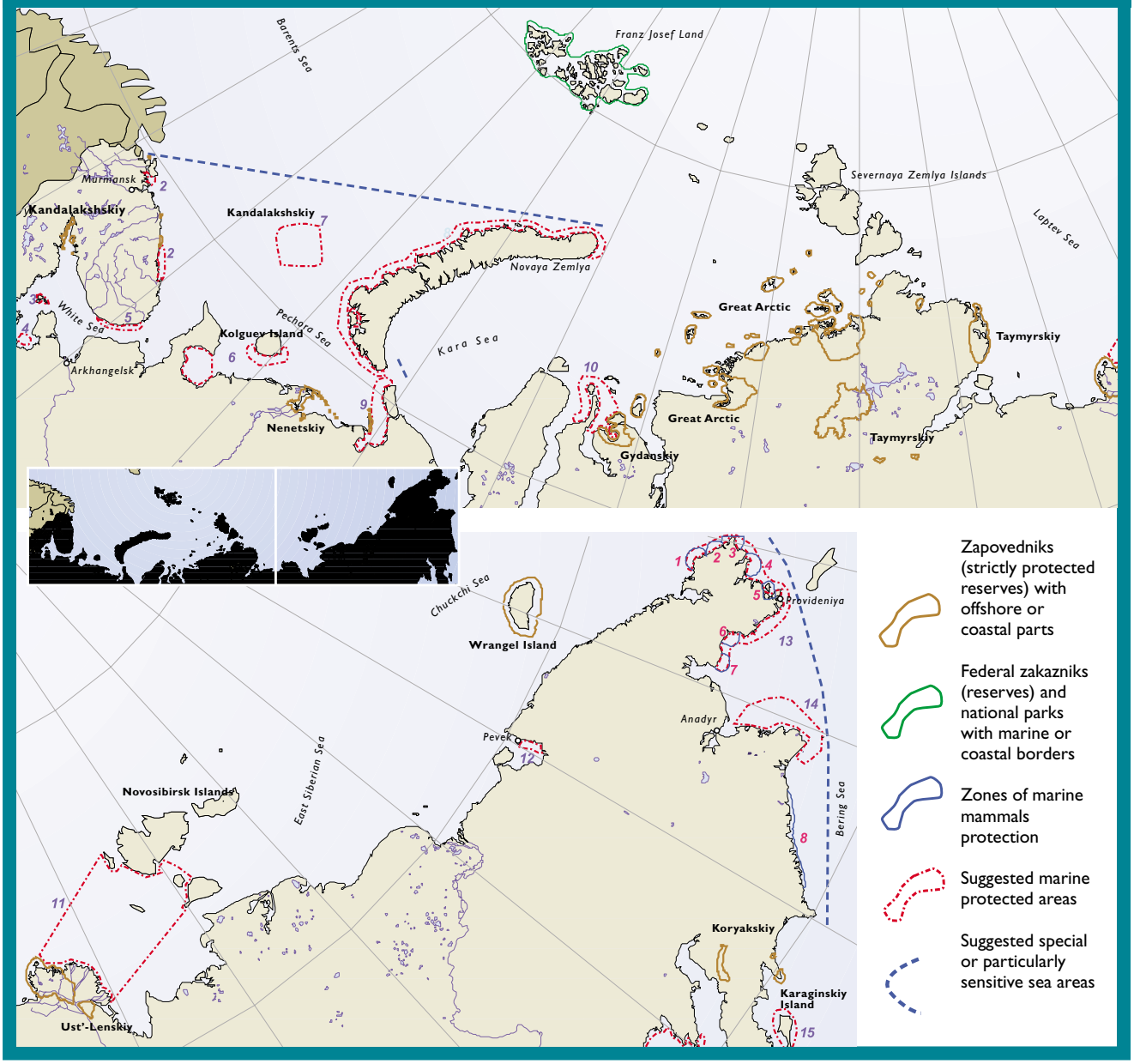
Russia's marine protected areas



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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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