



The Amur leopard

With approximately 35 individuals surviving in the wild, the Amur leopard is probably the world's most endangered big cat. The population depends on a small patch of forest in Russia's Southwest Primorye near Vladivostok and the Korean and Chinese borders.

Michiel Hotte

On 31 December 2004 the Russian government announced a plan to build the world's longest oil pipeline (4,188 km) to transport oil from Siberia to the Sea of Japan. Conservationists from all over the world were shocked by the proposed route and terminal site in Southwest Primorye. This almost certainly would result in the extinction of the Amur leopard and a number of other endangered species.

As many of 30% (100 species) of Russia's terrestrial endangered species live in the vicinity of the proposed terminal site and as many as 15% (48 species in total, including the Amur leopard) occur only in this hotspot of biodiversity. The terminal would threaten two UNESCO Biosphere Reserves: Russia's oldest reserve founded in 1916 in prime leopard habitat, and Russia's only marine reserve. The terminal would also threaten the local tourism industry (the second largest in Russia) and substantial local fisheries.

The proposed terminal site was, in fact, in the worst possible spot. Strong winds and fog are common in the Amur Bay, and the bay is large, open and shallow. As a result, the terminal would have to be built at least two km offshore where tankers would be exposed to frequent storms and periods of high waves. Tankers would have to navigate through a string of small islands and shallow spots to reach the terminal.

In winter the Amur Bay has a much thicker ice cover than most nearby coastal areas. Scientists calculated that the risk of accidents resulting in oil spills was 17 times higher in the Amur Bay than at an alternative terminal site. An oil spill similar in size to the Exxon Valdez oil spill in Alaska was expected to happen once every 20 years on average, if the terminal was built at the proposed site. Not only scientists considered the terminal site unsafe. The largest local shipping company informed Transneft (the state-owned company that will build the pipeline) that its oil tankers cannot navigate safely to the terminal.

What made the situation even more absurd, was that several much more suitable terminal sites were available, including sites in an industrialised area where oil terminals already operate. It is clear that the terminal controversy is not a "classical" conflict between environmental safety and economic development. The proposed site was in fact inferior from both environmental, social and economic perspectives. The state-owned company Transneft probably preferred the site in pristine nature, in order to avoid competition from companies that operate in existing ports. It has been suggested that local government officials and the management of the oil pipeline company Transneft had obtained land at the proposed site and would benefit personally if the terminal was built there.

Photo: Yuri Shibnev

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Editorial

This is my first issue as editor of Taiga News and I am excited to have so many timely stories to offer.

Our theme, Energy and the Boreal, looks at an area of major conflict between people who live in the boreal and southern multinational corporations. We have stories from boreal residents and activists about their urgent causes.

On our front page we have the story of the international campaign to reroute the largest oil pipeline in the world away from the fragile ecosystem of Amur Peninsula. Michiel Hotte tells the story of his campaign to save the Amur leopard which was threatened by the proposed site of the oil terminal.

Inside is a story from Kevin O'Reilly on public hearings into the Mackenzie Gas Project, taking place as you read this.

The potential for using replanted forests for wood energy in Scotland is examined by Douglas Gooday.

We also have stories about the threat of devastation from new proposed hydro electricity in Manitoba and uranium mining for nuclear energy in Saskatchewan. And on a more positive note we look at two boreal locations where First Nations are partners in developing wind power.

We hope you enjoy the new design by Yukoner Patricia Halladay.

Remember to join your voice to the campaign to support Grassy Narrows on the back page.

Leslie Cole

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Global

U.N. Forum on Forests

The United Nations 6th Forum on Forests met in New York February 13-24 to work out an international agreement on forests. Delegates reached consensus on all aspects of the Chair's text: reversing the loss of forest cover, enhancing forest benefits, increasing the area of protected forests and sustainably managed forests, and reversing the decline in development assistance for sustainable forest management.

Contact:
<http://www.iisd.ca/vol13/enb13144e.html>

Convention on Biodiversity COP-8

The Convention on Biodiversity Eighth Meeting of the Conference of the Parties (COP-8) will be held in Curitiba, Brazil, March 20-31.

Contact:
<http://www.biodiv.org/convention/cops.asp>

European Forestry Commission

The 33rd Session of the European Forestry Commission meets May 23-26 2006, in Bratislava, Slovakia.

Contact:
 Kit Prins, UNECE Timber Branch; christofer.prins@unece.org; internet: <http://www.fao.org/forestry/site/31096/en>

Boreal Forest Management Conference

A Conference on New Challenges in Management of the Boreal Forests will be held August 28-30 2006, in Umeå, Sweden. This conference is organized by the International Boreal Forest Research Association (IBFRA).

Contact:
 IBFRA Faculty of Forest Sciences: info@ibfra.org; internet: <http://www.ibfra.org/page.cfm?page=11>

Climate Change and Boreal Forests

An international conference on the impact of climate change on boreal and temperate forests will be held June 5-7 in Ekaterinburg, Russia. The conference is hosted by the Ural State Forest Engineering University and the Russian Academy of Sciences.

Contact:
<http://ecoinf.uran.ru/conference/>

Invasive Species Website

FAO launched a new online database and website about invasive species in forests as a tool to help foresters deal with this problem. Concern about invasive species of insects, plants, animals etc. which are introduced from foreign ecosystems and have negative impacts on forests has grown exponentially because of increased trade and travel. The website is intended to help forest practitioners prevent and manage problems created by invasive species.

Contact:
www.fao.org/forestry/site/27082/en

Europe

Paper Vision

TRN worked with 50 NGOs to present a Common Vision for Transforming the European Paper Industry to a major industry event in Frankfurt at the end of January. The NGO coalition from 21 countries wants Europe to reduce its paper consumption by 50% in ten years and to see more paper recycled or made from pulp cut from non-virgin forests. They urge the European paper industry to adopt production methods that are environmentally sustainable and socially responsible. Europeans consume four times the world average of paper per capita and import most of their pulp and paper from endangered forests in China, Canada, Indonesia, and Chile.

Contact:
www.taigaescue.org/paper

WWF Europe and biofuels

WWF Europe has asked the EU to adopt a mandatory certification system to make sure biofuels used by Europe's cars and trucks are produced in a sustainable way. The EU announced in February that it will encourage its member countries to replace fossil fuels with biofuels to reduce greenhouse gas emissions. Its goal is to have 12% of its energy from renewable sources by 2010; of that, 5.6% should be from biofuels. Biofuels now account for only 1% of transport fuels but transport produces 21% of CO₂ emissions. WWF wants to ensure that forests in developing regions are not cut and replaced by plantations in a race to provide biofuels for European cars. Millions of hectares of tropical rainforest have already been cleared for palm oil, soy and sugar plantations – all major sources of biofuels.

Contact:
ssinger@wwfepo.org

European Commission Forest Sector Strategy

The European Forest Institute has published a strategic research agenda for the forest sector in Europe after a year of consultation with industry, forest owners, researchers and regulatory bodies. It was released in Brussels on February 13. It stresses 26 research areas including sustainability, development of innovative products, multiple forest use, production of bio-energy and biodiversity. The Technology Platform is a concept established by the European Commission to promote integrated research based on a public-private partnership.

Contact:
www.forestplatform.org

The EU and Forests

A Workshop on the EU and Forests will be held March 27-29 in Brussels for new EU Member States and accession state NGOs. The meeting has been organized by FERN.

EU ban on illegal timber

A recent U.K. government-funded study says that an EU ban on illegal timber imports is a credible option, confirming environmental NGO and independent legal opinion. The new study, produced by Chatham House, suggests that enforcing national laws could help tackle the problem, and that an EU law, such as a ban on unlicensed timber, could help clean the market of illegal products. Of the 20 EU member states currently believed to be importing illegal timber, the top three are Finland, Sweden and the UK.

Contact:
 For more details visit: www.wwf.uk.org

Old Growth Forests in Finland

WWF and the Finnish state forestry enterprise have reached an agreement to protect old growth forests. The sites in northern Finland contain 50,000 hectares of old growth forest and include those marked in the "Last of the Last" maps published by TRN in 2000. These areas are now permanently excluded from logging. The conservation agreement finalized in late February is the result of a consultative process between government, industry and conservation groups in Finland that started in 1996.

Contact:
 For details visit: http://www.wwf.fi/english/finland/old_growth_forests.html

Rare taiga goose protected

A €190,000 scheme to safeguard Scotland's last flock of bean geese was launched in early February. Scottish Natural Heritage (SNH) asked local farmers to help maintain land to provide a suitable habitat for the geese to feed, rest and roost. Anyone who manages land on the eligible sites can apply to join the scheme. A flock of more than 200 Taiga bean geese visit the Slammanan plateau from October to February every year. The bean goose breeds in the boreal forests of Sweden, northern Norway, Finland and western Russia but is rare in Scotland. Worldwide, there are approximately 100,000 taiga bean geese.

Contact:
<http://www.snh.org.uk/>

Safeguarding Finland's forests

A new website was launched in February by Birdlife Finland and a coalition of environmental organisations, highlighting the need to save southern Finland's last natural forests. The website features 17 forests of high biological value, species-rich habitats currently unprotected and threatened by commercial forestry. Birds such as Siberian Jay (*Perisoreus infaustus*) and the White-backed Woodpecker (*Dendrocopos leucotus*), as well as hundreds of insects, plants and fungi, have already become extinct or are rare in the region as a result of clear cutting and modern forestry methods that leave little room for wildlife or for visitors.

Contact:
www.etelasuomenmetsat.fi in Finnish, Swedish and English.

North America

Great Bear Rainforest

In a major victory for forest conservation, the British Columbia government announced in February that two million hectares of Canada's Great Bear Rainforest – an area larger than Switzerland – will become a wilderness preserve. The decision ends a ten-year campaign by a coalition of environmental groups and represents an innovative agreement between First Nations, conservation groups, industry and government. The region is the largest coastal temperate rainforest in the world and is the habitat for the rare white "spirit bear" found only in British Columbia.

Contact:
www.greenpeace.ca or www.forestethics.org

Alaska wilderness opened to oil

More than half a million acres of environmentally sensitive land around Teshekpuk Lake in Alaska were opened to oil exploration in mid-January by the U.S. Department of the Interior in Anchorage. The Department released a plan to allow drilling and exploration in the last 13% of protected land in the state, an area of the North Slope west of Prudhoe Bay. The Natural Resources Defense Council in Alaska says oil exploration and extraction will fragment critical habitat for tens of thousands of migrating birds and caribou, and will threaten the livelihoods of native Alaskan Inupiat.

Contact:
nrdcinfo@nrdc.org

Platinum blockade in Ontario

A First Nations blockade has forced a mining exploration company to suspend work on a potentially valuable platinum deposit in northwestern Ontario. About 50 members of the Kitchenuhmaykoosib Inninuwug (Big Trout First Nation) blockaded an access road and airport at the end of February. The First Nation has called for a moratorium on exploration and forestry in their land. The mining company, Platinex, says First Nations have rights to hunt, fish and trap on the land but no rights over underground minerals. The drill site is about 60 km south of the Big Trout Reserve, home to about 900 people. Platinex says its claim covers 8,840 acres and could be the largest deposit of platinum in North America. Platinum is used in catalytic converters and fuel cell technology.

Contact:
kateharries@gmail.com

Sleeping like a Log

CPAWS, WWF Canada and several smaller NGOs launched a compelling web-based campaign to protect the boreal forest in Quebec. The "Sleeping like a log" campaign calls on the Quebec government to wake up to the loss of the boreal ecosystem in the province. It now protects less than 4% of its boreal forest. In a week the campaign gathered more than 100,000 signatures. The campaign is demanding that 12% of the province's boreal forest be given legislative protection.

Contact:
 For details visit: www.sleepinglikealog.com



An Indigenous Perspective on Hydro Development

“NCN is being asked to pay as much as \$83 million dollars for the development of a hydro-electric dam in its traditional territory, further endangering an already fragile ecosystem...”

Hydroelectric development in northern Manitoba is not new. Dams have been built, rivers have been diverted, lands have been flooded, and indigenous communities have been relocated and permanently disrupted for almost 50 years.

Nearly 5000 megawatts of hydroelectric energy is produced in Manitoba annually, with approximately 80% of that energy generated at sites located along the Nelson River alone. A further 5000 megawatts of electric potential has been identified along the Nelson, Churchill and Burntwood River corridors, indicating that hydro development in northern Manitoba is far from over. Having recognized the lack of indigenous consultation and consent during a round of hydro development in northern Manitoba 30 years ago, the public utility Manitoba Hydro, the primary developer of hydro facilities in

the province, is adopting a different approach to northern indigenous participation for a new wave of hydro development.

I come from the community that might begin the newest wave of hydro activity in boreal Manitoba. If the community “ratifies” the “Wuskwatim Power Partnership,” the Nisichawayasihk Cree Nation (NCN) will enter a business venture with Manitoba Hydro, for the opportunity to own 33% of the proposed Wuskwatim dam. However, if this happens, we will owe Manitoba Hydro at least CA\$83 million dollars.

Technical work, environmental reviews, and hearings have been going on since 2002.

However as of March 2006 no project development agreement had been made available to members of

Cree Nation for their review. Also no date for the community referendum had been set, and neither federal nor provincial permits or licenses were issued for the hydro generation and transmission project.

The “partnership” deal is being publicized as a step forward economically and has quickly turned into a campaign to show improved rapport between indigenous communities and the public utility. Wuskwatim seems to be the lucrative deal, but is it really?

What impoverished community would turn away the lure of jobs and economic prosperity? We are being asked to pay CA\$83 million dollars for the development of a hydroelectric dam in our traditional territory, endangering an already fragile ecosystem and incurring a debt load that is beyond the resources available to us, for a 33% share of the dam.

The proposed Wuskwatim “partnership” isn’t much of a deal when one looks at the fine print. It will not only create a huge debt and undermine our collective treaty rights, it also requires our consent and participation in a process that destroys our lands and waters, placing us in a position where in order to “prosper” we have to allow our medicines, burial sites, histories and other significant cultural effects to be destroyed, so we can repay our “debts”.

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Photo: Manitoba Wildlands

Wood fuel in Scotland



Illustrations: Gun Hofgaard

Concern about depleting oil resources and the imminent maturation of large areas of re-planted tree cover in Scotland have prompted a new interest in burning wood to provide electricity for homes and small industries in the country.

Ten thousand years ago, when the ice retreated after the last glaciation, Scotland was colonised by trees and a coniferous forest known as the Caledonian Pine Forest developed in the higher northern parts of the country. Today, only minute remnants of this original forest remain, and are carefully managed to conserve biodiversity and to encourage natural regeneration and expansion. However, Scotland today has around 17% tree cover, almost all of it replanted coniferous plantation forests of Sitka spruce and Scots pine.

Over the next two decades a lot of these plantations will reach commercial maturity, and the amount of harvestable timber in Scotland will increase. However, much of this timber is of low quality and is not suitable for structural timber for building. One way to find new local markets is to turn forestry residues and un-marketable timber into wood fuel. Thinning the trees for commercial harvest could also improve forest management improving the quality of the remaining timber and encouraging biodiversity.

In addition to the economic benefits of using wood fuel, burning wood does not lead to an increase in atmospheric CO₂ and doesn’t contribute to global warming, providing trees are replanted and managed sustainably.

Historically Scotland has been rich in fossil fuel reserves so few people have used wood for energy. Coal deposits fuelled the industrial revolution from the 18th century and the discovery of oil and gas under the North Sea in the 1960s has given Scotland an abundant energy supply. However these reserves are now becoming depleted and we must now look at alternative energy sources.

Most Scots have been urbanised for several generations and have lost all family and cultural connections with the natural environment. Burning wood to heat one’s house is therefore seen as old fashioned or odd, unlike the culture in Sweden or Finland where the natural environment is still an important part of peoples lives. These cultural differences mean that it is hard to convince people of the importance of developing renewable energy sources.

Following the Kyoto Climate Change Conference in 1997, the UK government set a target for a CO₂ emission reduction of 12.5%. This has led to a recent government policy shift aimed at increasing renewable energy use in both industrial and domestic markets. A number of government-funded reports into renewable energy have been published recently and there are economic incentives to produce electricity from renewable resources.

Still progress in renewable energy infrastructure has been slow, with most efforts going towards building wind farms. At the domestic level, progress has been made in the technology available for

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Douglas Gooday lives near Inverurie in North East Scotland. He volunteers for Reforesting Scotland and has an interest in wood fuel and renewable energy. He enjoys chopping logs and building logpiles.

Photo: Douglas Gooday

Mackenzie Gas Project:

Environmentalists and First Nations are at odds over whether the proposed Mackenzie Gas project is good for the Canadian North or not. The 1200-km gas pipeline is the largest industrial project ever proposed for the Canadian taiga. Some tout it as an economic imperative for the Northwest Territories (NWT). Others say it may be the end of the North as we know it.

Taiga ecozones cover about 70 percent of mainland NWT. The area is home to wood bison, grizzly bears, whooping cranes, woodland caribou and barren-ground caribou. The NWT has about 43,000 people spread out over 1,172,000 square km. The population is evenly divided between aboriginal (Dene, Metis and Inuit) and non-aboriginal peoples. The unemployment rate is as high as almost 40 percent in some Mackenzie Valley communities. Traditional resource harvesting continues to play an important role in the NWT, particularly in the more isolated communities, but its significance is declining.

The Canadian federal government still controls most of the resources of the NWT, although there are some negotiations to transfer administration to the territorial and aboriginal governments. Three of the four aboriginal peoples (Inuvialuit, Gwich'in, and Sahtu) along the proposed pipeline have had their land rights recognized through agreements. One aboriginal government, the Dehcho First Nations, continues to negotiate.

Background

A proposal for a Mackenzie Valley Pipeline in the 1970s became the subject of a famous public inquiry conducted by Justice Thomas Berger. Berger's work recommended a ten-year delay to allow for the completion of land rights negotiations and development of local capacity to ensure northerners would be in control of and benefit from resource development. A high-water mark for public participation in northern development was set then but has been steadily eroded ever since.



Saviour or Spoiler?

The current Mackenzie Gas Project (see map, below) filed for regulatory permits and licenses in 2004. The four proponents are led by Imperial Oil, a subsidiary of the global trans-national, Exxon.

A 1194-km, 75-cm diameter buried pipeline is to be built from the gas processing plant near Inuvik in the north to just inside the Alberta border. The three fields in the Mackenzie Delta have only enough natural gas to keep the pipeline filled for less than a decade.

Current construction cost estimates are over CA\$7 billion. The maximum work force to build the project will be about 8,000 people over three years. Fewer than 100 people will be required to operate the system but more jobs will be created to keep the pipeline filled by additional exploration and development.

The review process

Confusingly, there are two separate reviews of the MGP. One, the Joint Review Panel, combines environmental assessment requirements arising from implementation of land rights for the aboriginal peoples along the route and federal environmental law. This process provides for limited participant funding. The panel will make recommendations about whether the project should go ahead or not, and under what terms. The federal and territorial ministers

that will receive the panel's recommendations have already gone on record saying they strongly support the project.

The second process is conducted by a panel of the National Energy Board (NEB). The NEB regulates frontier energy development and trans-boundary projects. This panel is supposed to consider the outcome of the Joint Review Panel in making its decision. It remains a mystery why these two processes could not be combined, as has been done for other large energy projects in Canada.

The MGP is an opening for hydrocarbon development in the northern Mackenzie Valley.

Roads (winter and all-weather), gravel pits, airstrips, barge landing sites, camps, seismic lines, exploratory drill wells, processing plants and compressor stations will be needed. The development in ten years could reach 3,800 km of feeder pipelines, 684 well-sites and 60,600 km of seismic lines.

The problem is cumulative effects and controlling the pace of development to limit human impacts. Governments have been reluctant to do this, even though it is technically and legally possible. The ecological effects of this sprawling development have not been adequately studied or predicted.

Environmental groups say large swaths of boreal forest and taiga in the Mackenzie Valley would be clear-cut during pipeline construction, fragmenting the habitat of grizzly bears, woodland caribou and wolves and prejudicing the creation of protected areas. Seismic lines, winter roads and pipelines would tunnel under or cross more than 500 rivers and streams. Six internationally recognized Important Bird Areas along or near the



Chevron K-29 Gas Complex near Fort Liard, Northwest Territories, 2001. Photo: Kevin O'Reilly

Mackenzie River, breeding and staging areas for migrating geese, tundra swans and other birds, would be disturbed by intensive construction activity.

Other effects

There are also massive socio-economic effects. Jobs during construction will contribute to regional economic development. In-migration to support the project and related development could see as many as 275,000 person years of induced employment and 75,000 person years of direct employment over 30 years. Most of these jobs will not be filled by local residents, however. Neither the proponents or government have provided any credible in-migration analysis but the population of the NWT will likely increase significantly and the delicate balance between aboriginal and non-aboriginal will be upset dramatically.

The Inuvialuit, Gwich'in and Sahtu region leaders support the MGP (although there is some internal dissension particularly amongst the Sahtu communities) through a business deal that will see them become a 30% owner of the pipeline if they come up with additional gas to put into the pipeline. The communities in these regions are also in the process of negotiating and ratifying access agreements that may provide some financial benefits. The Dehcho First Nations are not part of the Aboriginal Pipeline Group and initially sought judicial review of the federal government's efforts to review the MGP but have reached an out-of-court settlement.

The Dehcho continue to be skeptical of the MGP and have not signed any access agreements. The Dene Tha' First Nation in Alberta is concerned about the

cumulative impacts of the project given that oil and gas development has already severely affected the active oil and gas fields in Alberta. Dene Tha' hunters and trappers report that moose are becoming harder to find and caribou populations are declining in their traditional territories.

The economic rent generated from the pipeline will be low compared to other parts of Canada and the world. Both the federal and territorial governments have made public commitments to lock in low government revenues to support what the proponents have publicly stated is a "marginally economic" project. Reinvesting revenues from non-renewable resource development is one of the few ways to move towards truly sustainable economic development but is not a government priority.

Last, it is clear that the real demand for the natural gas is not coming from North American cities but from the Alberta tar sands. This use of a clean energy source to produce dirty oil, largely for export to the U.S., has raised serious concern in the environmental community in Canada. It will become increasingly difficult for Canada to meet its Kyoto obligations while pursuing a short-term energy export bonanza. The Mackenzie Gas Project will undoubtedly contribute to climate change. The North will also suffer some of the worst effects from climate change that it helps feed.

Kevin O'Reilly has lived in Yellowknife, NWT, Canada for more than 20 years. He has worked for aboriginal, federal and territorial governments on a variety of resource management issues. A registered intervenor in both the Joint Review Panel and National Energy Board reviews of the Mackenzie Gas Project, he can be contacted at kor@theedge.ca.



Map: Canadian Arctic Resources Committee (CARC)

Photo: Juri Peepre

Hydro: from p. 4

The community has been virtually neglected and definitely uninformed about the Wuskwatim "negotiations." There is speculation that current community resources have been redirected for the deal and negotiations are taking place behind privileged doors. The bait for the Wuskwatim deal seems to be the lure of jobs and prosperity.

The lure of prosperity sounds familiar. There are similar promises that date not only to the agreements signed with governments and Hydro in the 1970s, but as far back as the treaties. The promise of collective community betterment was made by Hydro when our lands were flooded in the 1970s. Where is this prosperity?

Is the Wuskwatim "Partnership" really a progressive move, or are we being deceived into believing that this is the only opportunity available to better our community, at the cost of our land and values? Economic security on an "Indian" reserve with

crippling unemployment is very tempting. And yet, somehow, I can't help thinking that behind the marketing job lurks the same old ending. It is like watching the same play twice and hoping it will turn out differently.

EDITOR'S NOTE: The Nisichawayasihk band administrators have been negotiating with Manitoba Hydro since 1999 to develop a 200-megawatt hydroelectric power dam at Taskinagahp Falls on the Burntwood River about 40 kilometres southeast of Thompson, Manitoba, Canada, within the Nelson House Resource Management Area. An environmental impact assessment has been completed and an agreement in principle on an equity partnership has been signed. However, band members have not yet voted on the Project Development Agreement.

Wood heat: from p. 5



heating with wood fuels and there are government grants to help with installing wood-burning boilers. For years, the only easily available wood-burning appliances were traditional wood-burning stoves. However, in the last few years, several enterprises have been set up to sell, install and maintain automatic wood-burning boilers capable of providing central heating and hot water, such as have been available in Scandinavia and North America for years. Boilers are available which can burn logs, woodchips or wood pellets.

Woodchips are the ideal fuel resource in Scotland, as they can be made from forest thinnings at a local level using easily transported wood chipping machines. The key to sustainability is to

encourage local production to create jobs, to reduce transport requirements and to stimulate the local economy. Grants are available in Scotland to help purchase chipping machines and a number of forest contractors are investing in them to supply the increasing local demand.

In the last five years there have been a handful of flagship wood-fired heating projects built in Scotland which highlight the benefits of using wood fuel. The National Trust for Scotland's new visitor centre in Glencoe is heated by a woodchip boiler, as is a new community hall and sports centre in Kinlochleven. In Lochgilphead a small district heating scheme has been built to supply heat to about 50 new rental houses, a 460 kilowatt woodchip boiler has been installed which is fuelled by forestry residues. Similar schemes are under development in Fort William and Aviemore.

The largest wood-fired project in Scotland is a recently begun wood-fired power station in Lockerbie, in southwest Scotland. The power station will produce 44 megawatts of electricity and will consume an estimated 220,000 oven-dried tonnes of wood annually, with 45,000 tonnes coming from short-rotation coppices grown locally on 3700 hectares of land. Forest residues from across southwest Scotland will be used for fuel. The plant will provide enough electricity to power 70,000 homes (nearly 3% of Scottish homes) and will displace of 140,000 tonnes of CO₂ emissions annually.

The Lockerbie plant will receive woodchip deliveries daily and will hold a two-day store of fuel on site. The wood will be burned in a fluidised-bed combustor and the heat will be used to generate high-pressure steam to drive a steam turbine. The flue-gases will be cleaned of dust and contaminants. The overall efficiency of the plant will be only 32.5%. Unfortunately the plant is not being built to supply heat as well as power; this could boost the efficiency to 80%. This blaring blunder results from the fact that although the UK government has policies which promote and financially support the production of electricity from renewable resources, no policies promote renewable heating at this district scale. They do not seem to realise that 40% of domestic energy is used to heat homes.

There is not enough wood fuel grown in Scotland to heat and provide power for all houses. This would require a land area in excess of 20 million hectares for trees alone, and lead to air quality problems and reduce soil quality. What is needed is a mixture of renewable heat and power options, including biomass, hydro-electricity, ground source heat, wind, solar and wave power. Energy efficiency measures are also needed along with encouragement and incentives to use a lot less energy in our homes and lives. For the foreseeable future, coal, gas, oil and nuclear power will be needed to fulfil Scotland's energy requirements. In Scotland we have only just begun this journey and have a long way to go to catch up with our Scandinavian neighbours.

Uranium contamination in the boreal

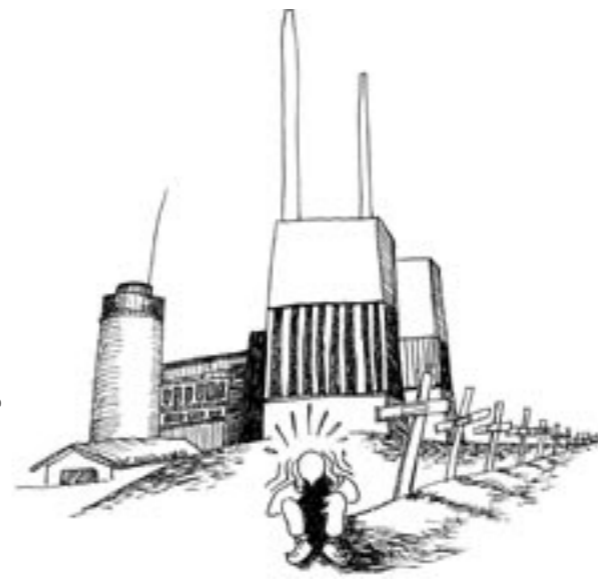


Illustration: Gun Hofgaard

Harri Lammi is an energy specialist for Greenpeace in Finland.

More than 33% of the uranium mining in the world takes place in the boreal zone. The largest active productive mines are in northern Saskatchewan, Canada and the Russian Chita regions. Many of the old uranium mines are now closed, but their toxic legacies remain because of ineffective clean up. Recently new plans for uranium mining have emerged in boreal areas.

Uranium mining produces large volumes of radioactive and chemically toxic mining waste which present a risk of contamination of surface and groundwater. One tonne of end-product uranium oxide can produce 2000 tonnes of waste sand and sludge. This means that tens of millions of tonnes of waste, sand and sludge is accumulated in mining areas during their lifetime. Mining ore and milling it to sand spreads radioactive dust through the environment of the mine, mill and transport roads. Sulfuric acid is widely used to leach the uranium from the ore. After separation

of the uranium, the acidic waste sludge is usually collected in large tailing ponds, where it dries and can also spread dust.

The tailings contain toxic heavy metals such as arsenic, cadmium and lead and 85% of the original radioactivity of the ore. The radio nuclides in the tailings are long-lived; for example, Radium-226 has a half life of 1600 years.

Radium is carcinogenic and concentrates in bones and water plants. Radium also produces gaseous Radon-222, a strong carcinogen. The long half-lives of the isotopes in tailings mean that the tailings stay radioactive for tens of thousands of years.

Dam failures and seeping have been relatively frequent and have caused long-term contamination of watersheds. Presently the best way of keeping tailings from polluting the environment is to cover them with layers of erosion resistant materials, such as clay. This, however, is quite expensive. In many cases the mining companies have simply avoided their clean-up responsibilities.

The price of uranium has quadrupled in the last five years and signs of rising demand have made it lucrative to explore new deposits worldwide. Several new mines are planned in Russia: in Chita region, Chelyabinsk, Southern Yakutia and Buryatia. There are also proposals for starting new uranium mines in Saskatchewan, Alberta, Alaska and Finland.

Uranium in Saskatchewan

Saskatchewan, Canada is home to one third of the world's uranium supply, with the highest grade ore available in the Athabasca basin, in northern Saskatchewan. Recent developments in Saskatchewan's uranium industry include the promotion, by government, of processing facilities for refining uranium into "value added" materials for sale. The government is also encouraging development of new uranium mines and there is discussion of storing nuclear waste in Northern Saskatchewan.

While uranium development continues to extract billions of dollars worth of uranium, each year, unemployment rates of the north's predominantly aboriginal population exceed 60%, ten times the national average. Social problems associated with unemployment and poverty, such as high levels of suicide and violent crime, plague the region.

As Saskatchewan provides a large part of the uranium on the world market, it is now being encouraged to create nuclear waste storage sites, with the cooperation of First Nations. With little hope of economic development, this has become a serious consideration for many First Nation communities, with the potential for some to accept a waste dump, solely for the economic benefits.

Some groups in the province have been promoting alternatives to nuclear energy for the northern economy, including the development of a non-timber forest product industry and eco-tourism. Building solar and wind energy systems could also create direct economic benefits for northern residents and would demonstrate that we do not require nuclear power in Saskatchewan.

However the head of the provincial government, Saskatchewan Premier Lorne Calvert, was in Washington in February meeting with U.S. Vice President, Dick Cheney, in an effort to encourage more American investment in Saskatchewan's energy sector, including uranium development.

Ric Richardson is Cree/Metis involved in aboriginal ecotourism and working on the development of a non-timber forest product industry. He and his wife Rose live in Green Lake, in northern Saskatchewan.

Amur leopard: from p. 1

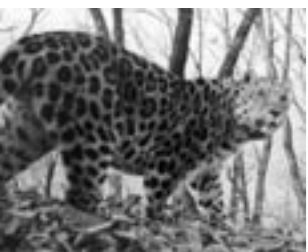


Photo courtesy WCS and ISUNR

oldest and deepest lake on earth, it contains 20% of the world's fresh water. During a 2004 assessment, a route outside the lake's watershed was selected from three alternatives provided by Transneft. It passed the lake at a distance of more than 60 km, and so did not seem to pose a serious threat. This changed dramatically, however, when Transneft changed the route to one only 800 metres from the lake. Even a number of Russian authorities, led by the ministry of Natural Resources, protested that the new route had not been approved and was, in fact, illegal.

Amur Leopard and Tiger Alliance (ALTA) members and other NGOs leapt into action when the plan to build the pipeline was announced in December 2004. A large NGO coalition started a campaign to change the pipeline route and terminal site. Participants included the U.S.-based NGO Pacific Environment, Greenpeace and WWF as well as local NGOs from Lake Baikal to Vladivostok. NGOs from Sakhalin provided useful information on their campaign against the Sakhalin gas pipelines that threaten rare grey whales and salmon. Organisations from Japan and South Korea joined the campaign when Russian authorities asked their governments for project funding.

A large number of campaign activities were launched:

1. Lawsuits that addressed a large number of irregularities in the project's planning process.
2. Protest demonstrations.
3. Protests at public hearings.
4. Media activities aimed at coverage in newspapers and on television.
5. Website alerts with requests to readers to send protest letters.
6. Assessment of the project's impact and publication of the findings in a report (in Russian and English).
7. Several NGO petitions to president Vladimir Putin and other decision-makers.

8. Many commercial and public banks were contacted and advised not to provide project funding unless the route is changed.

At first, the campaign had no effect. Transneft subcontractors started illegal clear-cutting of the route at Lake Baikal and dredging and other illegal work commenced at the terminal site.

A first major success was achieved in July 2005, however, when a Russian court ruled the project's official Environmental Impact Assessment (EIA) was invalid due to many violations of Russian laws. Without a valid EIA, the project could not be implemented. Transneft reacted by registering the project under a new name and declaring that the ruling concerned a project no longer in existence.

In the summer and autumn of 2005 more authorities, including three Russian ministries and the head of the Russian Academy of Science, voiced support for a different terminal site.

The campaign seemed headed for victory until President Putin became involved. In November 2005 Putin declared that further delays were not acceptable and all authorities promptly agreed to finalise the building plan before the end of the year. The situation seemed hopeless, as it was impossible to develop a new route and a different terminal site in the time remaining.

Hope was revived when the decision on the terminal location was postponed. Construction of the terminal was rescheduled to start in the summer of 2007. Two separate expert committees

were appointed: one committee would review the pipeline plan and the other would review the terminal plan.

In a remarkable turn of events, the 52-member pipeline committee concluded that the Lake Baikal route was unacceptable. Unfortunately, the supervising agency refused to endorse the result. In an effort to change the result, the agency added 34 new members and extended the committee's working period by 30 days.

On 6 February 2006 a miracle happened: the supervising agency announced that the terminal plan had also been rejected. A majority of committee members concluded that the controversial plan was unacceptable. The supervising agency ratified, making the decision official.

This gives new hope for the Amur leopard and the unique forest and marine ecosystems of Southwest Primorye in the Russian Far East.

Unfortunately for the future of Lake Baikal, the new members of the expert committee voted in favour of the pipeline route near the lake. The campaign to save Lake Baikal continues, however. Local police estimate that on 18 March 2006 more than 5000 people gathered in Irkutsk, on the shores of the lake, to protest against the pipeline.

Michiel Hotte is a staff member of the Zoological Society of London and the Director of Tigris Foundation, a Dutch NGO dedicated to the survival of Amur tigers and leopards. He helps develop new conservation initiatives in Russia and raises funds to implement them.

Amur Leopard and Tiger Alliance (ALTA)

The first international Amur leopard conference in 1996 in Vladivostok resulted in the beginnings of a conservation programme. In the years that followed an alliance of Russian and international NGOs, called the Amur Leopard and Tiger Alliance (ALTA), started to implement a large number of field projects.

ALTA members include the Wildlife Conservation Society (U.S.-based with an office in Vladivostok, Russia), the Phoenix Fund (Vladivostok, Russia), the Zoological Society of London, David Shepherd Wildlife Foundation (UK), Moscow Zoo, AMUR (Moscow/UK), the International Federation of Animal Welfare (IFAW Russia), the Helsinki Zoo and Tigris Foundation (Holland).



Wind Power

Wind development is seen as a sustainable form of energy production that is compatible with conservation goals in the boreal forest. Unlike hydro dams, pipeline or uranium mining and production, it has minimal impact on the forest environment.

First Nations test wind power

Sagamok Anishnawbek is a small First Nations community of approximately 2,200 band members living on the northern shore of Lake Huron in northern Ontario, Canada.

Saulteaux Enterprises has recently entered into an understanding with The Abor Group Ltd. to determine the feasibility of developing, constructing, and operating a wind farm on the Sagamok Anishnawbek Reserve. Saulteaux Enterprises is the Community Development Corporation for the Sagamok Anishnawbek First Nation reserve 100 km west of Sudbury.

Saulteaux Enterprises aims to create long-term employment within the community with the ultimate goal of ensuring economic independence for the Sagamok Anishnawbek. Saulteaux Enterprises works with the Sagamok Anishnawbek community to stimulate new business development that will contribute to a sustainable economy and support a healthy community.

In August 2005 a wind assessment tower was set up with anemometers at the 50- and 30-metre elevations. It has been collecting data on wind speeds, direction, and temperature to determine the feasibility of development, construction and operation of the wind energy project. The band will spend a year measuring wind and researching other factors to determine if the project is feasible from a community, technical and financial perspective. If it is, Saulteaux Enterprises will enter into a long-term power purchase agreement with a high-energy resource-based consumer, such as the provincial and/or federal government. With the assurance of a buyer for the power, the project will use a combination of loans, government grants, and private sector and technical partnerships to finance the project.

If viable, a wind farm consisting of 15 to 20 wind turbines, each 80 metres high, will be constructed along a 60-metre ridge. Various wind turbine models are being examined; the capacity for the wind farm project will vary from 25 to 40 MW.

If completed, this project will produce 73,000 to 97,000 MWH of clean renewable energy annually and result in a net reduction of 35,000 to 48,000 tonnes of CO₂ emissions a year. It will also secure a long term source of income while maintaining and promoting the community's core cultural belief in a balanced and holistic approach to the environment.

Contact:

Audra Owl is General Manager of Saulteaux Enterprises and is a member of the Sagamok Anishnawbek First Nation.

Wind development

The Canadian Wind Energy Association estimates that 20% of Canada's electricity needs could be met by wind power. Canada has large-scale wind turbines in seven of its 13 provinces and territories with a capacity of 683 MW. The wind energy association notes wind-diesel projects in remote areas of northern Canada and Alaska have demonstrated that wind energy can reduce the high costs — and environmental impacts — associated with transporting diesel fuel to these remote sites.

The Ontario government showed strong support for development of new renewable energy sources when it announced in March that it will offer a fixed price of CA11 cents per kilowatt hour for electricity produced by wind projects of 10 megawatts or less.

Labrador Metis plans to build wind farm

The Labrador Metis Nation has joined in partnership with a Toronto-based wind energy company to develop the largest wind farm in Canada. The \$2.5 billion project will have a capacity of 1000 MW, enough electricity to power 500,000 homes.

Ventus Energy Inc. and Metis Energy Corporation, based in Happy Valley-Goose Bay, Labrador are partners in the venture. The project would involve 330 wind turbine towers in boreal wilderness in central Labrador near Churchill Falls.

The project plans to hook up to the hydro dam at Churchill Falls, but has not yet negotiated with Hydro-Quebec. The dam, completed in 1972 under a controversial agreement with the government of Quebec, is one of the largest power installations in the world. Although it is situated in Labrador, the province has gained little while Quebec has reaped nearly CA \$1 billion in profit.

Ed Byrne, Newfoundland's minister of natural resources, said it's premature to suggest that the government or Hydro-Quebec will support the project.

The Labrador Métis Nation is the largest aboriginal group in Newfoundland and Labrador. The Innu Nation also has land claims in this area and has objected to the

wind project partnership, saying the Innu should be the partners on any development project in northern Labrador.

Public hearings on the project are expected to be held this year. The group is still looking for financial backing but says construction of the facility could begin in 2007.



Yukon government photo

The fight continues

Support Grassy Narrows First Nation and Wake up Weyco



Forest Ethics and Rainforest Action Network have written to more than 500 U.S. companies that buy lumber and paper from Ontario warning them that they will become the centre of an international controversy – if they don't stop clear cutting virgin boreal forest in Northern Ontario.

About half of the wood cut by Weyerhaeuser-Abitibi in the Grassy Narrows First Nations' territory is used to build houses in American suburbs. The other half is used to make paper for newspapers including the *New York Times* and *Washington Post*.

The Grassy Narrows First Nation has also sent letters to Weyerhaeuser and Abitibi-Consolidated multinational logging companies threatening a fierce international campaign unless the companies immediately cease all logging on their lands. The letter follows a decade of failed negotiations and a 3-year logging blockade. The people of Grassy Narrows First Nation have lived on 4000 square km of land north of Kenora, Ontario for thousands of years. Nearly half of the people in the community still sustain themselves from the land by hunting, trapping, and gathering medicine and berries.

Photo: Jon Schledewitz

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<http://freegrassy.org>

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Next issue: The next issue of Taiga News will focus on north/south connections. The deadline for contributions is 1 May 2006.