

Watershed *Sentinel*



Summer 2011
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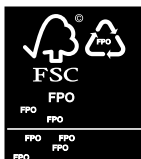
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SUMMER 2011



Watershed Sentinel

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Educational Society
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Special Thanks to Arthur Caldicott, Anicca de Trey, Jim Cooperman, Gloria Jorg, Dawn Christian, Norberto Rodriguez de la Vega, Mike Morrell, Maggie Paquet, Clara Broten, Kathy Smail, Ray Woollam, the writers, advertisers, distributors, and all who send information, photos, and ideas. Deep thanks to our Board of Directors: Alice Grange, Mike Morrell, Ian Moul, Pam Munro, Norberto Rodriguez de la Vega, and Susan Yates.

Published five times per year
Subscriptions \$25 one year,
\$40 two years Canada, \$35 US one year,
Electronic only \$15 a year

Distribution by subscription, and to Friends of Cortes Island and *Reach for Unbleached!* Free at Vancouver Island and Vancouver area libraries, and by sponsorship in BC colleges, universities, and eco-organizations.

Member Magazines Assn of BC and
Magazines Canada

ISSN 1188-360X

For photocopy reproduction rights, contact
CANCOPY, 6 Adelaide St. E., Ste. 900,
Toronto, Ontario M5C 1H6



Publication Mail Canada Post Agreement
PM 40012720

Return Undeliverable Canadian Addresses
to: Watershed Sentinel
Box 1270, Comox
BC, Canada V9M 7Z8
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EDITORIAL

Still Thinking

When we have provided for food, water and shelter, all the rest is but vanity and excess. (Seneca, 4 BCE–65 CE.)

The federal election in early May left us with a lot to think about, and unfortunately, quite a bit to fear. With a petro-based federal government firmly in control, the likelihood of an oil tanker spill on our coast is greatly increased. The threats to public health care and public waters are also immense.

The dysfunction of a voting system that delivers a majority government without a majority of the vote, with less than two thirds of voters actually bothering to mark their X, appears to be something we will be living with for the foreseeable future. We might as well figure out how to make it work.

Some features of the election do stick in the mind.

- The 60% of voters who voted for other parties than the Conservatives, splitting the vote among the alternatives, two million more people than voted Conservative, making the government the immoral majority.
- The 6,201 votes that were the *combined* margin of victory across the 14 most closely contested Conservative ridings in Canada – and thus delivered that majority. (See “6201-reasons-to-get-frustrated,” by Matt Peters, facebook).
- The 76 women elected to the House of Commons, including 28 among the 167 Conservatives and 40 among the 102 NDP.
- And the joyous victory of Green Party leader Elizabeth May in a riding previously dominated by the Conservatives.
- The 59 mainly youthful NDP Members of Parliament from Quebec, at last joining in the federal debate about the shape and nature of the country.
- Jack Layton, ending every speech to the cheering crowds with, “And no one left behind.”

May that soon become: “No one, and no species either.”

Delores Broten, Comox BC, May 2011

At the 'Shed

Summer holiday: Everybody needs a holiday and the writers and volunteers at the ‘Shed are no exception. We’ll be back to work in August, with a spunky September issue.

If you are not a subscriber yet, take a look at the structure of media in Canada and consider that he who pays the piper calls the tune. If you don’t like the music, let us dance to your tune!

We Don’t Say Thanks Enough – so here’s a big thank you to Arthur Caldicott, who makes us laugh as he catches and fields the typos in this magazine!

Bundle Bargains: We urge you to consider sponsoring **or applying for** a bundle of the *Watershed Sentinel* for your community, organization, or libraries and schools across the province. These bundles contribute to our paid circulation and allow us to access magazine funding.

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Next issue deadline: August 15th

Saving the Flathead River Basin

The Nature Conservancy and Nature Conservancy Canada have protected 400,000 acres of the ecologically significant Flathead River Basin, which encompasses northern Montana and southern BC. The agreement compensates mining companies for the loss of mineral rights, and came as the result of the organizations involved working through a number of complicated issues and potential pitfalls.

—*The Nature Conservancy,*
March 21, 2011



Thomas Drazdauskis

Have You Heard?

Compiled by Delores Broten & Susan MacVittie

No GM Wheat

The National Research Council of Canada (NRC) has no plans to research genetically modified (GM) wheat. NRC states: “GM wheat is not an objective of the NRC wheat program. We will be developing a number of tools that will be used to reduce the breeding cycle, increase yield and adapt to climate stresses. GM varieties are not contemplated at this time.” The statement was issued to the Canadian Biotechnology Action Network in response to a leaked memo.

—*Canadian Biotechnology Action Network,* April 7, 2011

Water on NAFTA Table

The record-setting \$130-million NAFTA settlement with AbitibiBowater has effectively privatized Canada’s water by allowing foreign investors to assert a proprietary claim to water permits and even water in its natural state, asserts the Council of Canadians.

In 2008, AbitibiBowater, a Canadian firm registered in the United

States, closed its pulp and paper mill in Grand Falls-Windsor, NL. The company asserted rights to sell its assets, including water use permits that were contingent on production. Water use rights, under Canada’s constitution, are a public trust owned by the province, so the Newfoundland government moved to re-appropriate the permits. AbitibiBowater sidestepped the courts to challenge the Newfoundland government under NAFTA and the federal government agreed to the payment rather than contest the case.

—*Council of Canadians,*
March 8, 2011

Oolichan At Risk

The oolichan, a small fish in the smelt family, will be assessed next month by an advisory group established under Canada’s Species at Risk Act. The review comes a year after the National Oceanic and Atmospheric Administration’s fisheries service listed it under the *US Endangered Species Act*.

The oolichan, or eulachon, was an important seasonal food source for

First Nations, being the first to arrive in rivers after the end of winter. It is rich in fat, and when dried, was rendered into oil that could be lit and was traded as a precious commodity along the ‘grease trails’ of the West Coast before the arrival of Europeans.

—*Georgia Straight,* April 21, 2011

Endosulfan Banned

In Geneva in May, 127 governments added endosulfan to the United Nations’ list of persistent organic pollutants to be eliminated worldwide by 2012 under the Stockholm Convention. The ban is subject to a few exceptional uses.

Endosulfan is an organochlorine insecticide used on crops worldwide, mainly on cotton, coffee and tea. It is an endocrine disruptor, causing reproductive and developmental damage in both humans and animals, including birth defects, mental retardation, and cancer.

—*Environmental News Service,*
May 5, 2011

From Our Readers

Global Context

Congratulations for your recent edition (Jan-Feb 2011). It represents a significant increase in quality and another level of success for your publication. While updates on regional issues have long been appreciated, the numerous links to global issues are helping create suitable context for the disease that infects our world. Fortunately, the *Sentinel* has always done a good job of presenting the bad news in small doses. On the subject of good news, Maggie Paquet's "Voices for Change" is a well-written and very readable synopsis of wide-ranging subject matter: the common cause is indeed fueled by diverse and disparate (if not desperate) individuals. Well done!

Thanks for doing what you are doing and best wishes for the future.

Peter Rowlands, Newmarket, ON

Thanks to Kaslo for Glacier Battle

I was wondering what James Knoop's article "Cluster of Power Projects" in the March/April 2011 W.S. and the "active/educated" Golden bunch had to do with the Kaslo Rally? The impression given in the article is that the Golden activists helped stop or slow down the AXOR project on Glacier/Howser creek. Does the *Watershed Sentinel* know? I was on the 4 or 5 month blockade on Glacier creek in 2007. We were subject to violence and threats from company officials and locals promised jobs. I would like to thank the "Golden Battle" activists for their efforts. Thanks.

Tom Prior, Nelson, BC

Ed: See "A Homesteader's Nightmare," March-April 2006 and "Glacier Creek - More Run of River Spin," September-October 2007

Tar Sands in BC Tanks?

Hello Delores and all the staff and volunteers, supporters, subscribers, etc. that make *Watershed Sentinel* keep on happening.

In Arthur Caldicott's Northern Gateway Pipeline article, at the beginning of "The Asian Bump" section, he writes "Right now, there's only one customer for Canada's oil and gas – the United States. When producers sit down with buyers to haggle over prices, it's a short conversation. The buyer says, "Take it or leave it."

No negotiations are that simple or one-sided. There are always alternate suppliers and markets, relative costs of staying in operation or shutting down, transportation and infrastructure costs, effects of buying or not, of selling or not, and myriad factors to consider and weigh in the

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Anonymous letters will not be published.

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negotiations toward agreement.

Secondly, and more important, I wonder which oil companies and suppliers are selling Tar Sands products to us in Canada. Could we be unknowingly supporting this travesty when we fuel up our vehicles and buy other petroleum products? Possibly WS could do some work on this, and let us know what they find.

Thank you very much for your great work.

Peter Johnston, Lasqueti Island, BC

Print Sinks In

Great magazine! More needed about ocean and fisheries issues – our oceans are really at risk!

I can't see myself getting the same reading experience and the same impact from an ezine; I get a lot of my news online but it is more of a temporal event – it disappears in a day or so, but real issues require the print medium to substantiate their importance (to sink in) for me!

Robert Hunter, Kamloops, BC

Land to Share

Since '93, my partner and I have been rehabilitating some 43 acres of clearcut, off-grid, raw land, turning it into "Rainbow's End Ranch." We raise horses as a hobby and I now have the only grazing permit in the West Kootenay Forest District. Our remote acreage is surrounded by Crown land and has Glacier Creek flowing through it. We have no hydro, no cell phone, no TV, and no road maintenance in winter.

It is a shame not to share this land with peace-loving, hard working folks like us, so we'd like to offer homes to kindred spirits who want to step out of the box and come join us. You will need to supply your own accommodation, independent income, and transportation. If seriously interested, please contact us.

*Gabriela Grabowsky aka 'Storm,'
RR 1, S-5, C-8, Kaslo, BC V0G 1M0*

More Reader Reaction, Page 27

Climate Notebook



Greenhouse Gas Falls

US and Russian greenhouse gas emissions fell in 2009, according to data submitted to the United Nations, as economic decline cut the use of fossil fuels.

Other rich countries including Australia, Italy, Spain and France have also reported falls in emissions to the UN Climate Change Secretariat, data that is used to judge compliance with UN treaties.

The US Environmental Assessment Agency said the US fall was due to “a decrease in economic output resulting in a decrease in energy consumption across all sectors,” and linked the decline to a “decrease in the carbon intensity of fuels used to generate electricity due to fuel switching as the price of coal increased, and the price of natural gas decreased significantly.”

The United Nations says that promised cuts in greenhouse gases are too weak to meet UN targets for averting the projected effects of climate change such as heat waves, floods, droughts, mudslides and rising sea levels.

—*The Vancouver Sun, April 16, 2011*

German Train Lines to Serve for Power Grid

Berlin has announced the investment of billions in renewable energies and the expansion of the country’s energy grid. Germany is in an accelerated phase out of nuclear energy and is looking into using the already existing train line network belonging to Germany’s federal railways to

transport energy to the south and plug other holes in the grid.

Plans call for much of the country’s wind power to come from offshore wind parks in the north in the future, but sufficient high-voltage power lines necessary to deliver that power to the south do not yet exist. Plans for high-voltage lines have run up against resistance in many parts of the country as locals have protested the creation of what are being dubbed energy autobahns in their backyards. Environmental concerns centre on animal habitat.

—*Spiegel Online, April 22, 2011*

New Battery

Scientists have developed a new battery that extracts and stores energy produced from the difference in saltness at the point where freshwater in rivers flows into oceans. Yi Cui and colleagues cite the intensive global scientific effort to develop renewable energy sources to supplement oil and other traditional fuels like coal, which contribute to global warming.

The result was a “mixing entropy battery.” Alternating the flow of river water and sea water through the battery produces electricity to charge it. The process also can be reversed to remove salt from ocean water to produce drinking water. The scientists describe the battery as a promising addition to the ranks of solar, wind, and other renewable energy, and are working on modifications to make the device a commercial reality.

—*American Chemical Society, April 2011*

BC Sea Levels Rising

A new report released by BC’s Ministry of Forests, Lands and Natural Resource Operations and Natural Resources Canada shows that BC sea levels will rise faster and greater than previously thought.

The report, *Climate Change Adaptation Guidelines for Sea Dikes and Coastal Flood Hazard Land Use*, recommends land use planners take into consideration a 0.5-metre rise in sea levels for developments with design life spans up to the year 2050, and 1.0 metres up to the year 2100. The frequency and intensity of coastal wave and storm surge events are not expected to change significantly.

—*BC government, May 6, 2011*

Melting Glaciers

Melting glaciers in Canada’s north are now major players in sea-level rise, according to a study published in *Nature* in April.

From 2004 to 2006, glaciers in Canada’s northernmost islands lost an average of 31 billion tonnes of ice per year. That went up threefold to 92 billion tonnes per year from 2007 to 2009. Over all six years, the loss amounted to nearly 368 billion tonnes, the equivalent of three-quarters of the water in Lake Erie and enough to cover the global ocean to a depth of one millimetre.

—*Trent University, April 20, 2011*

Perry Ridge Erupts Again



Text and photos ©Colin Payne

Another chapter in the epic battle over logging on Perry Ridge in the Slokan Valley has unfolded with recent protests, blockades, and litigation over plans to build a road and further log the much-contested Kootenay land.

For about 32 kilometres Perry Ridge forms the steep western wall of the Slokan Valley and houses watersheds for many of the communities in its shadow. For decades it has been the subject of repeated, heated protest around logging and road-building activity – with protests in the mid-1980s and again in the mid-1990s that saw some dragged off to jail by police.

When it was announced in early October 2010 that Kaslo-based Sunshine Logging was awarded a timber license by BC Timber Sales (BCTS) to build five kilometres of permanent roads and log four cut-blocks of 20-38 hectares each on the west side of Perry Ridge, protest from residents erupted once again.

Marilyn Burgoon of the Perry Ridge Water Users Association (PRWUA) has been involved in the struggle to protect Perry Ridge since the 1980s, with the ultimate goal of seeing the area turned into an ecological reserve. Burgoon said the logging

activity could have a significant impact on both land stability and water quality for Slokan Valley residents who live near the ridge and beyond.

“They’re moving into headwater areas of these steeply-inclined creeks and our concern is that the creeks won’t be able to hold the runoff. The

The Sinixt, a people considered extinct by the federal and provincial governments, claim the Slokan Valley and a large expanse of the BC Southern Interior as their traditional lands.

plan is to put a road straight through lakes and headwaters of steep creeks. We live on the alluvial fan where the water comes and water will be a problem. It’s naturally unstable and we think adding more instability is unacceptable.”

Burgoon added that landslides have become the norm throughout the Slokan Valley and the logging could create a landslide hazard for residents of the sparsely populated west side of the ridge, which sits above the Little Slokan Valley.

Burgoon and others asked BCTS to allow an independent hydrology and slope stability study on the cut blocks, to verify the studies already conducted by BCTS.

Those opposed say the logging planned for Perry Ridge is a losing proposition for BCTS and the provincial government. “We had a cost-benefit analysis done in 2000 that counted the economic benefit if they could get every tree off Perry Ridge,” Burgoon said. “They were going to lose \$2.25 million dollars. Why are they doing it at a loss?”

But the requests for a further study fell on deaf ears and Sunshine Logging took steps to start road building.

Blockade Goes Up

In late October 2010, the protest took a twist when the Sinixt Nation, along with other area residents, blockaded the Perry Ridge Forest Service road, stating they would not allow any logging activity to take place until the Sinixt were consulted.

The Sinixt, a people considered extinct by the federal and provincial governments, claim the Slokan Valley and a large expanse of the BC Southern Interior as their traditional lands and, despite their “extinct” status, launched a land claim with the federal and provincial governments in 2008 to regain title.

Perry Ridge is part of that territory, and Sinixt-appointed spokesperson, Marilyn James, said there are important values that need to be preserved on that land.

“There are heritage, cultural, and environmental values on Perry Ridge that are very important and consultation is a necessity,” James said. “We can’t just let people go in *carte blanche*, hammering away at these key wilderness areas.”

The blockade was put up as a short-term solution to keep loggers off the land while Nelson-based lawyer

for the Sinixt, David Aaron, launched a constitutional challenge against the provincial government over rights to consultation.

“The duty to consult arises when the Crown has knowledge of a potential Aboriginal claim or right,” said Aaron. “One such pending claim is the Sinixt aboriginal title claim.”

The constitutional challenge effectively stopped an attempt by Sunshine Logging to get an injunction against the people blockading the road, and put a temporary halt to road building in mid-November, until after the case could be heard in BC Supreme Court.

No Consultation, Says BCTS

Area forester, Al Skakun, says BCTS follows government direction with regard to First Nations consultation.

“Who is or isn’t considered a First Nation is not a local determination; it involves senior levels of government. Neither the federal nor provincial governments presently consider the Sinixt to be an “aboriginal peoples of Canada” under the meaning of the Constitution Act.”

Skakun also says claims that the logging will cause problems with watersheds and slope stability along the ridge are unfounded.

“A terrain stability assessment was done on every cut block and every road proposed, as well as a hydrology assessment,” he says. “Those studies have all concluded that there is a low likelihood of impacting any water flows and a low likelihood of any hazardous landslides.”

He adds that the price of the timber sale doesn’t result in a net loss for the province and the work has many additional “benefits.”

“The stumpage rate was set at a level that covers our development costs,” Skakun says. “There’s a whole multiplier effect of spinoff benefits in

terms of taxes and road infrastructure that the Crown inherits – like five kilometres of permanent road construction for silviculture access, fire access, and future development.”

The road will be built by Sunshine Logging and then inherited by the province at a \$100,000 to \$200,000 value.

The Trial

After weeks of furious fundraising in early January of 2011, the Sinixt began their constitutional challenge



in front of BC Supreme Court Justice Willcock against representatives of the provincial government and Sunshine Logging.

The outcome was that the province has no duty to consult with the Sinixt because Marilyn James and others named on the petition “are not a group capable of sufficiently precise definition with respect to their group membership.”

This dealt a blow not only to the cause to protect Perry Ridge, but also to the Sinixt quest for recognition as a nation within Canada.

“I am disappointed in this decision,” said James. “But I have been an Indian all my life, so I didn’t really expect anything else. We are losers, but we’re in really good company. So were our ancestors. So why would I expect anything else. This is the way Canada has treated our people.”

Sinixt members, Burgoon, and other community members began a vigil at the foot of the snow-covered

forest service road that accesses Perry Ridge the day after the decision came down. Sunshine Logging got an injunction against the protestors and soon the RCMP was called in to break up the blockade. Protesters left the area peacefully. Undaunted, the Sinixt filed a notice of appeal in the BC Court of Appeal, and Burgoon is in the process of bringing a petition and a stack of research on Perry Ridge to BC Premier, Christy Clark.

“I’m trying to give them an option for some kind of protective category,” Burgoon said. “I have several hundred letters and thousands of signatures to that effect.

“I still have faith that government can change things. Government can change things with the stroke of a pen.”

PRWUA recently received funding from West Coast Environmental Law to have a preliminary assessment of the cut blocks conducted by an independent hydrologist and terrain specialist to determine if there are any problems with the government’s assessment.

There is still a long way to go in the fight, with high legal costs and finding funds is proving increasingly difficult, despite continual backing by the local community.

And, while no one is currently obstructing the work on Perry Ridge, Burgoon said people are constantly observing the work and documenting anything they feel is suspect.

No matter what happens, Burgoon said the goal for Perry Ridge will remain the same.

“We want a watershed reserve, a wilderness reserve, to protect it from development that would affect our homes.”



Colin Payne is a freelance writer, editor and photographer based in the beautiful West Kootenays.

Fukushima, Chernobyl, and You

by Anna Tilman and Delores Broten

In the far-distant future, all the long-lived radioactive material, even that now stored and trapped, will mix with the biosphere unless each generation repackages it.

—Dr. Rosalie Bertell, *No Immediate Danger*

As we go to press, the crippled and leaking nuclear reactors at Fukushima, Japan continue to emit radiation into the air, ocean, and probably groundwater, and the Japanese struggle to keep the fuel rods covered with water to prevent further explosions. The disaster at Fukushima, just 6 weeks prior to the 25th anniversary of the Chernobyl catastrophe, is a tragedy of utmost proportions.

The Chernobyl catastrophe in 1986 has caused thousands of deaths and has left behind a highly radioactive uninhabitable wasteland. Even far to the west, in areas of England, to this day farm produce has to be tested because the sheep accumulate radioactive cesium that came from Chernobyl. One forest fire in 1992 blew carcinogenic radioactive particles 500 kilometres away.

The studies of actual health impacts are deeply flawed and mired in controversy. International agencies downplay the impact but Ukrainian government agencies say that hundreds of thousands of people, especially children, are suffering health effects. As the former UN Secretary-General Kofi Annan voiced:

“The exact number of victims can never be known. But three million children demanding treatment until 2016 and earlier represents the number of those who can be seriously ill ... their future life will be deformed by it, as well as their childhood. Many will die prematurely.”

The cement sarcophagus built to cover the stricken reactor has been crumbling for years. An international fund has dedicated over \$1.5 billion to build a massive new steel covering which is supposed to last for 100 years. But this work has yet to begin. At this point in time, the entire disaster site has not been investigated, and groundwater may be threatened by the molten core.

We do not yet know the extent or severity of the ultimate effects of radiation exposure on the population near the Fukushima Daiichi nuclear power station and further afield in Japan, or what the effects will be on future generations. We do know that essential food items (milk and produce), and seafood are contaminated with radioactive substances.

The radioactive plume in the air and oceans has extended well beyond Japan, to areas in North America, extending from BC to Newfoundland. And the global burden of radioactivity has increased forever.

Public Health and Safety Assignment of Risk

Ionizing radiation is powerful enough to initiate and promote cancer. Radiation damage can affect any part of a cell, and can interfere with many cellular processes, like a “madman loose in the library.” It causes damage to the genetic material of the cell, which can lead to cancer, non-cancerous tumours, birth defects, hereditary illness, and reduced fertility.



Radiation

Radiation is energy travelling through space or tissue. Ionizing radiation is radiation with sufficient energy to remove an electron from an atom, leaving behind a charged atom, called an ion.

As radioactive substances decay, they emit ionizing radiation in the form of gamma rays, alpha particles, and beta particles.

Gamma rays are photons, i.e. high-energy light-waves. They pack a wallop, travelling in straight lines, knocking loose electrons, causing ionization, and they leave a track of ionized particles in their wake. Gamma radiation is identical to high energy X-rays. No radiation remains in the body after an X-ray picture is taken. It is like light passing through a window. However, the damage it may have caused on the way through, remains. Gamma rays are the most penetrating form of radiation. (Iodine-131 emits both gamma rays and beta particles.)

An **alpha particle**, the nucleus of a helium atom, is a positively charged particle. As sub-atomic particles go, compared to a beta particle, an alpha particle is like a cannon-ball relative to a bullet, having much less penetrating power but far more impact. While alpha particles can be stopped by a sheet of paper, they are especially hazardous when ingested or inhaled, because they penetrate cell membranes. Plutonium is an alpha emitter and no quantity has been found to be too small to induce lung cancer.

Beta particles are high-speed electrons. They are almost 2,000 times smaller than an alpha particle and can penetrate several centimetres in human tissue, ripping electrons from atoms, leaving positively charged ions that in turn ionize (irradiate) other atoms. Like alpha particles, their most serious and irreparable damage is done when ingesting food or water, or inhaling air contaminated with particles of radioactive matter. (Strontium-90 and Tritium are beta emitters).

Half-life: Half-life is the time required for a quantity of radioactive material to be reduced by half. Each radioactive substance has a specific half-life (e.g., Iodine-131 has a half-life of 8.1 days, Iodine-129 has a half-life of 16 million years, Cesium-137, 30 years, Strontium-90, 28 years, and Plutonium-239, 24,300 years). These are examples of some of the radioactive material produced by nuclear reactors and nuclear weapons.

Over a period of five half-lives, approximately 3% of the initial activity is still present. That is still a lot of radioactive material, given the large quantities that are released.

While Iodine-131 decays rapidly in a matter of a couple of months, Strontium-90 and Cesium-137 are still a factor from fallout from the atomic bomb, nuclear weapons testing, and Chernobyl. Of course, with its extremely long half-life, plutonium is ever present.

Natural Background Radiation: This includes emissions from radioactive chemicals which are not man-made (e.g., uranium, radon, potassium and other trace elements).

Background radiation, as defined by regulators, includes emissions from naturally occurring radioactive substances plus those released from a nuclear power plant after one year of operation.

It also causes other illnesses, including heart disease and stroke, immune suppression, and diabetes.

All radioactive material that comes out of a reactor produces ionizing radiation. How long this material continues to produce ionizing radiation depends on the half-life.

Radioactive substances are dangerous in minute quantities. For example, even one particle of plutonium ingested into the lung can cause lung cancer.

From a health perspective, the maximum safe dose of any ionizing radiation is zero. This means there is no safe level of exposure to ionizing radiation. Any value described as a “safe” dose is based on the probability that a given exposure will result in an excess number of fatal cancers and does not take into account other radiation-related health effects. In fact, the current “safe” level of exposure for nuclear workers is based on the expectation that 3.2 excess cases

of fatal cancer per 100 workers would be generated over a 40-year career.

(These so-called “safe” doses are expressed in milliSieverts (mSv). For example, for Nuclear Energy Workers, this dose is 100 mSv per year over a five year period, while for “general public”, it is one mSv per year).

Increasing the global burden of radioactivity increases the incidence of all health effects, including cancer.

Continued on Page 10 ➡

“We are saying to our descendents that the wastes we leave them are their burden, their lookout, their danger – because we couldn’t be bothered to find a safer way to generate electricity.”

Carl Sagan (1993)

↳ *Fukushima continued*

It may not be possible to directly attribute radiation exposure to illnesses, but given a large enough population exposed to low doses of radiation, over time, there will be predictable increases in cancer, leukemia, and genetically damaged offspring, as well as other radiation-related diseases.

Caution On Food Intake

The most vulnerable to harm from radiation are pregnant women, infants and small children. For them, the main food items to be concerned with are drinking water, leafy vegetables, and milk products.

It is recommended that distilled water from a reliable source should be used; leafy vegetable intake be limited, and powdered milk be used as a substitute for milk.

It is difficult to advise how long or to what degree these cautionary measures should be followed. Much depends on geographic location, wind patterns, rainfall levels and most importantly, on events unfolding in Japan over the next months and years. What few measurements are publicly available in Canada have not indicated major contamination, but monitoring is spotty and public information is scant.

Unfortunately, each nuclear disaster contributes to elevating the global pool of radiation for a very long time, effectively forever. At the same

time, we are exposed to many other toxic chemicals in many ways, for example, mercury in fish. Future generations will bear the largest burden from our chemical and nuclear industries.

Future Generations

A single radionuclide can cause a lethal cancer, and damage to DNA that may be carried to future generations. This is why there is no safe dose of any radionuclide. Human exposure, measured in Sieverts, estimates the probability that a given exposure will result in a fatal cancer. This acknowledges that human casualties are an inevitable result of releasing radionuclides into the environment, and mere-

ly strives to keep these casualties at an “acceptable” or “reasonable” level.

But no level of casualties is “acceptable” or “reasonable” to a population that has not given the informed consent that scientific ethics require, nor is even a single casualty “acceptable” to the unfortunate individual and family that suffer it.

Choosing to expand nuclear technology, and thus increase the global burden of radioactivity and radioactive waste, is like determining that it is acceptable that some people are expendable, now and in the future. Why would any country pursue the most dangerous way of producing steam to generate electricity, only to face the very real possibility of burdening future generations with lethal radioactive waste that lasts essentially forever?



Toxicology researcher Anna Tilman has a background (M.A.) in Medical Biophysics (University of Toronto) and is a Board member of the International Institute of Concern for Public Health (IICPH). See also “The Yellowcake Trail” series, *Watershed Sentinel*, which tracks all aspects of uranium in Canada through its eighty-year history.

more information

For Canadian monitoring, see Health Canada, Radiation Monitoring Data, www.hc-sc.gc.ca/hc-ps/ed-ud/respond/nuclea/data-donnees-eng.php

Chernobyl: Consequences of the Catastrophe for People and the Environment (Annals of the New York Academy of Sciences, Volume 1181), Yablokov et al, November 2009. For a review, see “Chernobyl Science,” *Watershed Sentinel*, Summer 2010, www.watershedsentinel.ca

Beyond the Sarcophagus: The Overwhelming Challenge of Containing Chernobyl, By Benjamin Bidder, *Spiegel Online*, April 26, 2011, www.spiegel.de/international/world/0,1518,759014,00.html#ref=nlint

See also <http://acehoffman.blogspot.com>, especially *The Code Killers: Why DNA and Ionizing Radiation are a Dangerous Mix* (free download).



What will happen to the radioactive water that has ended up in the ocean? Will it affect Japanese seafood?

A large amount of radioactive water has either leaked or been flushed into the ocean since the Fukushima Daiichi crisis began.... In early April, levels of radioactive iodine-131 and cesium-137 in seawater off the coast were reportedly measured at five million and one million times the legal limit, respectively. That radiation will be diluted in the seawater as it spreads farther from the plant site, and the distribution pattern will depend on ocean currents. Iodine-131, which has a half-life of only eight days, will dissipate over a relatively short period of time. In contrast, the half-life of cesium-137 is about 30 years, so it will remain in the ocean for several centuries.

Radiation can concentrate in seaweed ... at a level 10,000 times higher than that of the surrounding water. Fish that eat the seaweed then become contaminated as well, as do larger fish that eat these fish.... Because large fish swim long distances in the ocean, some species of fish will have to be monitored if they are caught anywhere in the Pacific Ocean, not only in Japanese waters.

—Union of Concerned Scientists, http://www.ucsusa.org/nuclear_power/

Aerial photos taken by a small unmanned drone and released by Air Photo Service Co. Ltd., Japan



March 20, 2011 – The crippled Fukushima Dai-ichi nuclear power plant are seen in Okumamachi, Fukushima prefecture, northern Japan. From left: Unit 1, partially seen; Unit 2, Unit 3 and Unit 4.

March 24, 2011 – This shows damaged Unit 4 of the crippled Fukushima Dai-ichi nuclear power plant in Okumamachi, Fukushima prefecture, northern Japan.



The aerial photo drone.

Wave of the Future

The ocean energy resurgence in BC

by Stephanie Orford

Thanks to renewed interest in ocean energy in Canada, entrepreneurs are starting to harness the waves and tides off the coast of BC to generate electricity, and kick-start a new energy sector in the process.

“There is a renewed interest in Canada ... in extracting energy from waves and tidal currents,” said Andrew Cornett, who leads ocean energy research for the Canadian Hydraulics Centre at the National Research Council.

Research done in the ‘80s petered out, possibly because energy from oil was so cheap, Cornett said. “There wasn’t such a need for alternatives those days as there is now.”

Cornett helped spur the ocean energy comeback in 2006 when he and his team published an extensive inventory detailing the ocean energy resources along Canada’s more than 200,000 km of coastline. The inventory singled out the best areas to harvest tidal energy, including the Minas Basin of Nova Scotia on the Atlantic Ocean, Hudson’s Strait and Ungava Bay on the Arctic Ocean, and Georgia Strait and Johnstone Strait on the Pacific Ocean.

In BC: The Canoe Pass project

Chris Knight and Thor Peterson started Canoe Pass Tidal Energy Corporation seven years ago, choosing to base their first project in the narrow Canoe Pass between Quadra and Maude islands in the Strait of Georgia. Knight hopes the venture will help distinguish BC as a cutting-edge ocean energy producer.

Using two 250 kW custom-made turbines built by Calgary-based New

Energy Corporation Inc., the project is designed to generate a maximum of 500 kW – enough to power about 125 homes. It will start feeding electricity into the BC Hydro grid sometime this summer, after its environmental impact statement is approved.

Paying for the \$6.5 million Canoe Pass project has been a huge challenge, said Knight. Right now the ocean energy industry is in its awkward phase. Venture capitalists don’t often like to invest in the projects because they don’t have massive financial returns and they take a long time. Banks don’t want to lend them money either, explained Chris Campbell, executive director of Ocean Renewable Energy Group (OREG) which represents the Canadian ocean energy sector.

The BC Clean Energy Act, which came out in April 2010, allows feed-in tariffs to be established for various types of green energy – fixed prices paid for each type of green energy BC Hydro buys from independent power producers (IPPs). A feed-in tariff for ocean energy would mean the price IPPs get for their wave or tidal energy would be appropriate to their relatively higher start-up and operating costs. This relatively higher price for ocean energy would decrease over time as the ocean energy industry becomes more cost-effective, said Campbell.

Keeping BC ocean energy afloat

As a result of the recent resurgence of interest in ocean energy, there are now several sources of government funding to help companies get through the awkward start-up phase. Canoe Pass received new federal government tax and other incen-

tives for ocean energy companies, investments from the Clean Energy Fund and Sustainable Development Technologies Canada, and \$2 million from BC’s Innovative Clean Energy Fund.

More government support might give the sector in BC the kick-start it needs to become competitive worldwide. The Fundy Ocean Research Centre for Energy (FORCE), a Canadian tidal energy research station on the Bay of Fundy, currently operates with \$9 million in support from the government of Nova Scotia and \$20 million from the federal government.

Ocean energy worldwide

Meanwhile off the coast of Portugal, a wave farm is already feeding 2.25 MW into the Portuguese grid, paid for by a feed-in tariff equivalent to about 31 Canadian cents per kWh. Scotland’s Pelamis Wave Power (PWP) co-created the project, called Aguçadoura, in 2008, and plans to expand the farm’s capacity to 20 MW.

PWP achieved a world first in 2004 when their prototype wave energy generator began transmitting energy into the U. K. grid. They have many more megawatts of wave power in the works at other U.K. locations, including up to 20 MW off the west coast of Shetland.

The U. K. is the current world leader in ocean energy with more than 55 in-stream tidal projects around the country, thanks to major government support. Planned tidal generating stations could bring as much as 5.6 GW into the U.K. grid in the future.

The Rance Tidal Power Station opened in 1966 and generates 240

ENERGY

The SeaGen generator installed in Northern Ireland in 2008 by Marine Current Turbines feeds 10MWh into the UK grid per tide

MW. However, its technology, the tidal barrage, is more damaging to the environment than in-stream tidal turbines.

Tidal energy projects, both barrage and in-stream, have been popping up around the world. South Korea has plans for at least four giant tidal projects totaling about 2.5 GW to be underway by 2017.

The first in-stream tidal energy generating station in North America was Race Rocks Tidal Power Demonstration Project on the southern tip of Vancouver Island in 2006. Verdant Power's RITE project – a 30-turbine, 1 MW tidal pilot energy project is about to launch, pending approval, in the East Channel of New York City's East River. It will be the first tidal energy plant to feed the US electricity grid. Verdant's 15 MW CORE project in the St. Lawrence River near Cornwall Ontario is slated to connect to the grid within the next two years.

Why does BC, with its vast ocean energy resources, seem to be falling behind?

The current highest base price BC Hydro will pay for power comes out to about 10 cents per kW-h, three times less than Açuçadoura makes through its Portuguese feed-in tariff. This is not enough for emerging technologies, like ocean energy, said Campbell, but it's a start, and a stop-gap until the new feed-in tariff determines a higher rate that will better support ocean energy development. However, a high feed-in tariff could make electricity costly for BC Hydro ratepayers, and therefore it can't be the only boost for BC's ocean energy industry.



The environmental balance

One of the major reasons for the renewed interest in ocean energy is its green reputation. It is emission and by-product free, and even its visual pollution is minimal because generators are often invisible from shore.

However, the industry is still proceeding cautiously, with much research into ocean energy's environmental impacts.

Cornett and his colleagues at the National Research Council Canadian Hydraulics Centre are now using computer modeling to investigate what happens to the ocean when turbines and other types of generators take energy from the waves or tides.

The ocean energy generators in the water now are very low-impact, said Cornett, but if they harvested large amounts of wave or tidal energy, perhaps five per cent or more, they would risk reducing the strength of shore-bound waves, changing ocean currents, or even reducing the difference between high and low tides. All this could affect ocean and shoreline ecology.

Dominic Tollit assesses the impacts of ocean energy industry on marine mammals and is currently based in Vancouver. He is a senior research scientist with SMRU Ltd., a company from the University of St. Andrews in Scotland. Tollit said much more research is needed, but so far he sees no empirical evidence of direct strikes by turbines on marine mammals. The Canoe Pass turbines turn at a sluggish 17 revolutions per minute – much slower than boat propellers allowed in the region. However, noise from generators and habitat change from construction are also a concern, said Tollit.

Canoe Pass will be training underwater cameras and microphones on their turbines. A full review of predicted environmental impacts and how Canoe Pass plans to minimize them is listed on the Canoe Pass website.

It will be a personal journey for Knight in the next few months as his own company's turbines get connected to the grid. "It's got its challenges, but it will be a wonderful project – a feather for a lot of folks to tuck in their caps when we get it in the water and start generating electricity," he said.



Stephanie Orford is a freelance journalist based out of Burnaby.

Photo: Ocean Renewable Energy Group



Lisa Janes Photography

The Tar Sands Express

As billionaires invest in the railways and oil tanker traffic skyrocket along the BC coast, it looks as though the Enbridge Northern Gateway pipeline may have been a ruse all along – a classic “bait and switch” – with a number of PR payoffs

by Joyce Nelson

In the third week of August 2008, two of the richest men in the world took a brief tour of the tar sands. As Warren Buffett (of Berkshire Hathaway) and Microsoft’s Bill Gates viewed the immense strip-mined bitumen fields and the vast infrastructure for tar sands development, much of the business press made it seem as though this was just another celebrity tour of a region that has seen many celebrities come to marvel at the size of the tires on the big yellow trucks.

Just months previous, however, in an interview with the *Financial Post* (Feb. 7, 2008), Buffett had compared the tar sands to Saudi Arabia and stated: “The tar sands are probably as big a potential source of production 15 to 20 years from now. It would surprise me if the world wasn’t wanting to use 200 million barrels per day [of oil] in

15 or 20 years. The tar sands are the biggest single possibility to fill the gap that, it looks like, will otherwise develop in the next decade or two.”

Known to be long-term friends, Buffett and Gates are reported to often invest together. In 2008, Buffett and Gates had a combined estimated net worth of \$120 billion.

The Host

The host was tar sands developer Canadian Natural Resources Ltd. The two billionaires toured Canadian Natural’s \$9.3 billion Horizon site, located about 100 km north of Fort McMurray.

As a tar sands developer, Canadian Natural doesn’t have the same “name recognition” as other big players, so it’s curious that the Buffett/

Gates tour would be hosted by them, rather than, say, ConocoPhillips – partner with EnCana Corp. and, at the time, part of the Syncrude tar sands consortium. Buffett had been investing in ConocoPhillips since at least 2006, so one would think that company would host the tour, not Canadian Natural. But the *Globe and Mail* reported that the trip was arranged by engineering/construction giant Kiewit Corp., a contractor on Canadian Natural’s Horizon project.

Nonetheless, a look at Canadian Natural’s board of directors is helpful. Four are especially noteworthy: there’s Frank J. McKenna, former premier of New Brunswick, former Canadian Ambassador to the US (2005-2006), and a director of Brookfield Asset Management Inc. There’s Gary Filmon, former premier of Manitoba, chair of Canada’s Security and Intelligence Review Committee, and director/trustee of several income funds. There’s Catherine M. Best, a director of Enbridge Income Fund Holdings Inc. And there’s Gordon D. Griffin, former US Ambassa-

dor to Canada (1997-2001), director of CIBC, Transalta Corp., Canadian National Railway, and registered US lobbyist for Nexen Energy Inc., part of Syncrude.

The Guests

The entity overseeing Bill Gates' personal investment portfolio is Cascades Investment LLC, based in Kirkland, Washington. By 2006, the stock portion of Cascade's portfolio was worth about \$3.4 billion, with \$1.4 billion of that invested in shares of Canadian National Railway Co. (CN).

Gates has been investing in CN since at least 2000, and during that time CN has been on a buying spree. CN bought up provincially-owned BC Rail in 2004, a controversial decision by then-Premier Gordon Campbell that made CN the only rail carrier in Northern BC – a decision that continues to rankle much of the electorate.

In 2006, CN bought 2 short-line railways in Northern Alberta: MacKenzie Northern Railway in the northwest and the Lakeland & Waterways Railway in the northeast. By the time of the Buffett/Gates visit, CN had also purchased Athabasca Northern Railway Ltd., linking Fort McMurray to Edmonton.

For his part, Warren Buffett had been busily buying up shares in the Burlington Northern Santa Fe Railway (BNSF), which since 2006 has been moving diluents – diluting agents necessary for mixing with tar sands bitumen – from US refineries in the Gulf Coast, California and Kansas to the Canadian border (at Superior, Wis., Noyes, N.D., Sweetgrass, Mont., and New Westminster, BC). The carloads of diluents are then handed over to CN and transported to Edmonton for shipment to the tar sands.

So by August 2008, when Buffett and Gates made their surprise visit to northern Alberta, they were not just

Prince George will be the hub for the pipeline-on-rails plan, with shipments south to the US, to Port Metro Vancouver, and to Prince Rupert.

celebrities making a casual tour, but already involved in the future of the area.

In fact, just weeks after their tour, BNSF's Manager of Business Development, Jane Halvorson, told *Railway Magazine* (Nov. 2008), "We'll continue moving diluents, but there is opportunity to offer rail service as an alternative to pipelines to get the bitumen blend to the refineries." That, she added, would depend on "partnerships with the Canadian railroads."

Buffett bought the rest of Burlington Northern Santa Fe Rail that he didn't already own for \$26 billion in 2010, while Gates has been gradually increasing his stake in CN. Clearly, a key part of the tar sands future, as the billionaire tycoons see it, is "pipelines on rails."

The Timing

Just how long they've had that vision in mind only they could say. But it's worth noting the timing of their visit. The Buffett/Gates tour took place only a month after Enbridge's Patrick Daniel announced in July 2008 that ten secret backers had provided \$100 million to fund the review process for the Northern Gateway Pipeline project – shelved in 2007 in part because of a lawsuit launched by the Carrier Sekani Tribal Council, which has been fighting the proposal for more than five years.

The only one of the secret backers that has so far been confirmed is China's Sinopec, which bought ConocoPhillips' stake in Syncrude in 2010, and by January 2011 was in talks with CN and Saskatchewan energy minister Bill Boyd to transport oil by rail.

Of course, the re-launch of En-

bridge's Northern Gateway set off a flurry of concerted effort by environmentalists and First Nations to stop the pipeline, a key media focus in BC.

Eliminating Barriers

By autumn 2008, CN Rail approached the Alberta government with its plan to move tar sands oil. Alberta's Energy Minister at the time, Mel Knight, told *Dow Jones Newswire* that CN and his government have had "very good meetings," with CN believing that it could eventually transport 400,000 barrels per day from eastern Alberta to the West Coast of Canada.

Just six months later, CN was estimating that it could transport 2.6 million barrels per day to the West Coast if 20,000 railcars were added to its fleet.

On April 15, 2009, the *Financial Post's* Diane Francis reported that CN "will deliver the oil sands production through the use of insulated and heatable railcars or by reducing its viscosity by mixing it with condensates or diluents. The 'scalability' of the concept – up to millions of barrels per day – means that the railway can ramp up production cheaply and quickly to provide immediate cash flow to producers which otherwise will have to wait years for completion of upgraders and/or pipelines."

The project, wrote Francis, "will eliminate three barriers" to tar sands development: "the cost, delays and financial risks involved in building multi-billion dollar pipelines; the politics of obstruction south of the border from environmentalists, and the danger of selling oil to monopoly buyers in the US."

Plan B?

An interesting conversation reportedly occurred during an October

Continued on Page 16 ➔

↩ Tar Sands continued

2010 Prince George Council meeting, in which the Sea to Sands Conservation Alliance (which opposes the Northern Gateway Pipeline) requested that Mayor Dan Rogers resign his membership in the Northern Gateway Alliance, a lobby group reportedly created and funded by Enbridge. Mayor Rogers also sits on Enbridge's Regional Advisory Board.

As reported by *www.northofcentre.ca* (Oct. 5), Mayor Rogers reminded the meeting that Prince George has an oil refinery, and he “asked if the [Sea to Sands Conservation] Alliance was opposed to sending oil products via rail, with the response being that as that was not being proposed, they have no position on it.”

One month later, November 2010, CN Rail director Maureen Kempston Darkes was appointed to the board of Enbridge. Ms. Kempston Darkes is a former (to 2009) vice-president of General Motors (which builds locomotives) and director of Brookfield Asset Management.

During that same month, an important (if little reported) trade mission to Asia took place – the Nov. 1-10 Pacific Gateway Alliance Trade Mission to China, Japan, Korea and Hong Kong – jointly led by BC's then-Transportation and Infrastructure Minister Shirley Bond and Stockwell Day, Treasury Board president and federal Minister for the Asia Pacific Gateway. They were accompanied by executives from Port Metro Vancouver, Port of Prince Rupert, Canadian National Railway, Canadian Pacific Railway, Burlington Northern Santa Fe Railway, and the Vancouver International Airport.

Obviously, both the BC Liberals and the Harper Conservatives have been in on this “pipeline on rails” plan for some time.

By December 7, 2010, the *Na-*

CN estimates that it could transport 2.6 million barrels per day to the West Coast if 20,000 railcars were added to its fleet

tional Post reported on the “alternative plan, if the Enbridge [Northern Gateway] proposal gets bogged down in red tape.” Prince Rupert, connected by a CN rail line with the interior, is “the shortest shipping route between North America and Asia – knocking a day and a half off the travel time from Vancouver. The advantage over Kitimat is that it is the deepest natural harbour in North America and is already deemed to be the lowest risk port on the west coast in terms of maritime safety.”

By February 7, 2011, the *Globe & Mail* was reporting that CN “has begun sending oil sands bitumen to California; heavy oil from Cold Lake, Alta., to Chicago and Detroit; and crude from the [Saskatchewan] Bakken” to the US Gulf Coast. CN “boasts that its tracks lie within 80 kilometres of five million barrels a day of refining capacity, which is more than double Canada's entire US exports.”

Jim Cairns, CN's vice-president of petroleum and chemicals, told the *Globe & Mail*, “There's a lot of talk about is it pipe? Is it rail? Our view is pretty simple. It's a big pie...It's not either or. It's maybe both.”

US West Coast Markets

In the January issue of *Watershed Sentinel*, BC energy writer/activist Arthur Caldicott argued that the Northern Gateway Pipeline project would likely become the cost-effective supplier of a new California market for tar sands crude, with oil tankers from BC delivering the crude to refiners there. Caldicott noted that the Tanker Exclusion Zone, which keeps

oil tankers at least 124 km west of Haida Gwaii (the Queen Charlotte Islands), “only applies to tankers sailing to and from Alaska.”

Victoria-based marine environmental policy consultant Dr. Gerald Graham confirmed Caldicott's argument in late February. By combing through regulatory documents filed by Enbridge with the National Energy Board (NEB), Graham found that much of the oil planned to go through Northern Gateway Pipeline would be tankered to California and Washington, where a number of tar sands oil producers have refineries.

By March 1, Enbridge was scurrying into damage-control mode. Vern Yu, Enbridge vice-president of business development, told the *Globe & Mail*, “It's the current expectation of our partners that the crude will be shipped via Northern Gateway to Asia.”

But this apparently does not jibe with Enbridge's official filings to the NEB. “I know it looks inconsistent at this time...it's actually not inconsistent...I'm sure this will probably come up in the hearings and we'll probably have to explain that,” Mr. Yu told the *Globe*.

Having read the thousands of pages in Enbridge's regulatory documents, Gerald Graham told the *Globe & Mail* (Feb. 28): “For the amount of money and time and the number of people involved in producing that application, it's pretty rinky-dink – there's so many holes, and there are contradictions,” he said. “This is a document with legal significance. It's before a semi-judicial panel that will look into it. And if [Enbridge] can't get it right to this phase, it does put into question their whole commitment to the project.”

Graham is not the first to question Enbridge's commitment to Northern Gateway. After all, the company has put little of its own money

into it so far, having been bankrolled by its secret backers to take the project through the regulatory process.

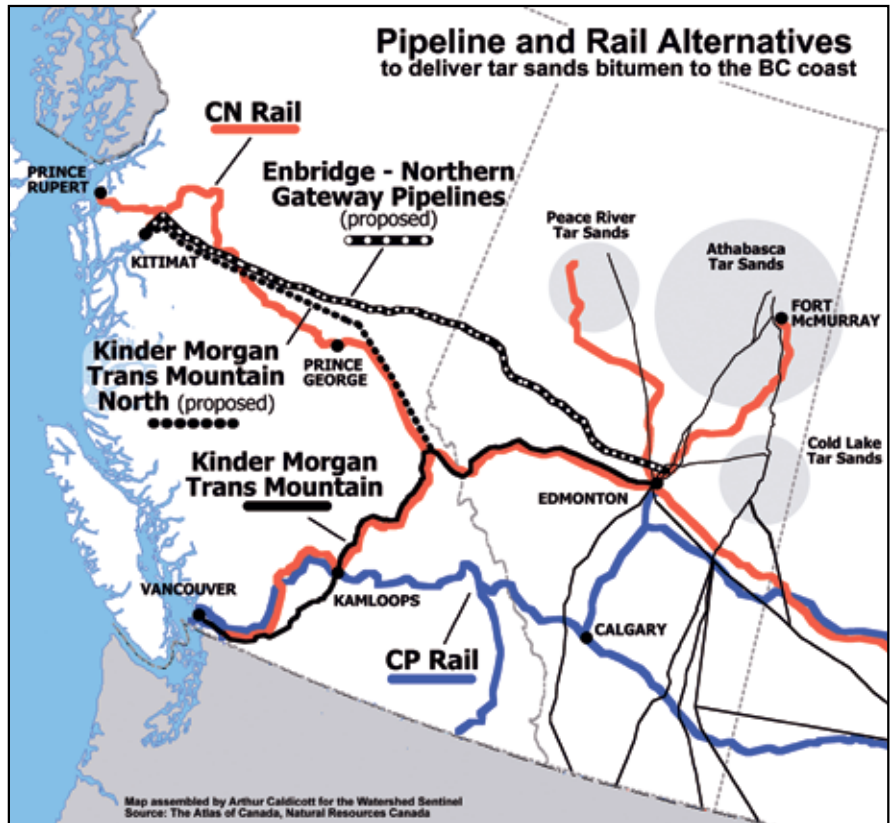
A Bait and Switch Ruse

Now it's increasingly looking as though the pipeline may have been a ruse all along (a classic "bait and switch"), with a number of PR pay-offs – as a political bargaining chip with the US on oil security and supply; as a distraction from what the railways have been planning; and as a diversion from the quiet expansion of Kinder Morgan's Trans Mountain pipeline, which has resulted in rapidly increased oil tanker traffic through the Gulf Islands. Kinder Morgan plans to more than double the capacity of its pipeline to Vancouver's Westridge terminal, which would result in more than 150 oil tankers per year plying the dangerous waters near Second Narrows. Starting on August 22, the NEB will begin public hearings into Kinder Morgan's bid for long-term shipper commitments for pipeline expansion.

Enbridge's Northern Gateway seems to have been the "bait," with the "switch" to pipeline-on-rails and Kinder Morgan's TransMountain pipeline to occur at an expedient political moment.

According to O'Dwyer's (the US firm that tracks PR firms), Enbridge is a client of National Public Relations – Canadian affiliate of PR giant Burson-Marsteller, an outfit long familiar with the BC environmental movement. Some of National Public Relations' other current clients include Via Rail (i.e. CN), EnCana, and Imperial Oil.

It looks like Prince George will be the hub for the pipeline-on-rails plan, with shipments south to the US, to Port Metro Vancouver, and to Prince Rupert. Kitimat is apparently to become the designated port for liquified



natural gas (LNG) exports. Of course, all the existing Alberta pipelines also plan to ramp up production. As CN's Jim Cairns said of the tar sands, "It's a big pie."

Saving the Whole Coast

Clearly, the number of oil tankers plying BC waters is scheduled to soar. The proponents of the plan intend that environmentalists will get sidetracked into debates about whether rail is less dangerous than pipelines, or Prince Rupert is a 'safer' port than Kitimat, or whether to protect the North or South Coast from oil spills. So it's crucial to focus on two concurrent goals: first, a legislated oil tanker ban that would protect the entire BC coast.

BC environmentalist Rex Weyler is among those calling for such a ban. "Who divided BC North/South like Korea?" Weyler wrote in a March 11th email. "Tankers threaten our coast everywhere! And we have actual tankers using Burrard Inlet and Georgia Strait right now today." In 2010, Kinder Morgan's tar sands pipe-

line delivered crude to 71 oil tankers at the Westridge terminal.

"This 'North Coast' idea," wrote Weyler, "has slipped innocuously into our language, invented by the oil industry and Liberal party insiders because the Liberals can pretend to be against oil tankers when they actually support oil tankers in Vancouver, and support tar sands expansion in Alberta, which is the root cause and reason for these tankers...This 'North BC' and 'South BC' language is a divide-and-conquer scheme dreamed up in some Liberal party back room or oil company strategy session. This isn't coming from the people of BC," wrote Weyler "We've never once talked about only saving half the coast, north or south."

The second key goal: shut down the tar sands.



Joyce Nelson is a freelance writer/researcher and the author of five books, including *Sultans of Sleaze: Public Relations & the Media*.



Those



Damn



Dams

Flooding rainforest, displacing native peoples

Brazil's Belo Monte Dam

The Inter-American Commission on Human Rights (IACHR), part of the Organization of American States, has officially requested the Brazilian government to suspend the Belo Monte Dam Complex in the Amazonian state of Pará, citing the project's potential harm to the rights of traditional communities living within the Xingu river basin.

The 25.8 billion-real (\$16.4 billion) Belo Monte dam project, which will flood 516 square kilometres (199 square miles) of the world's largest rainforest, is a key policy in the Brazilian government's plan to boost power supplies.

The IACHR's decision responds to a complaint submitted in November 2010 on behalf of local, traditional

communities of the Xingu river basin. The dam would cause irreversible social and environmental damage, including forced displacement of communities, while threatening one of the Amazon's most valuable areas for biodiversity conservation. There are also cases involving the forced displacement of families without compensation, and rising violence in areas surrounding construction sites.

Criticism of the Belo Monte Dam comes not only from civil society organizations and local communities, but also from scientists, researchers and government institutions. The Federal Public Prosecutor's office in Pará state has already filed 10 civil lawsuits against the mega-project.

GDF Suez, the French energy company that operates 13 hydroelec-

tric plants in Brazil, said it declined to participate in the Belo Monte dam project because the venture's environmental and construction risks outweighed the potential returns.

—*International Rivers*, April 5, 2011;
www.bloomberg.com

Chile's Patagonia Dams

On April 26, thousands of Chileans took to the streets in a national day of action after HidroAysén submitted its environmental impact assessment for the third time to Chilean authorities seeking an environmental license for a massive hydro project. An IPSOS poll found that 61.1% of Chileans are against HidroAysén and damming Patagonia.

Opponents say that numerous studies have shown that there are much cheaper and better options for meeting Chile's energy needs than HidroAysén. The HidroAysén project would include five dams – three on the Pascua River and two on the Baker River – that would flood at least 14,000 acres of globally rare forest ecosystems, river valleys and farmlands in the Aysén region of southern Chile, including a portion of the Laguna San Rafael National Park. The total price tag for the HidroAysén dams and transmission lines is estimated to be \$7 billion. Financing is expected to come mainly from private investment banks in Chile, the US and Europe.

—*International Rivers*, April 26, 2011

BC's Site C

Droves of skeptics turned out for the latest round of BC Hydro's Site C consultations in Fort St. John, BC in April. The Crown corporation outlined the environmental and engineering field studies that it will embark upon this spring and summer, ranging from studies of the soil, bat and snake populations, air quality and climate.

Currently the project is in stage three and BC Hydro staff are filing their formal project description report, prior to the environmental assessment. This season's fieldwork will be used by provincial and federal environmental regulatory bodies to decide the fate of the controversial project.

The meeting was dominated by residents questioning the merits of the field studies and how that information would be used. An atmosphere of distrust permeated the audience concerned about the objectivity of the research – due in most part to the absence of oversight by the BC Utilities Commission. Some of the concerns presented by residents included the dam's engineering stability, the role climate change would play, and how the project would affect BC's food security.

—*Alaska Highway News*, April 9, 2011

Eco-Notable

What's going on? A collage of significant items from environmental organizations

Compiled by Susan MacVittie



Sierra Club BC

Endangered Species: DFO must pay Orca case costs.

The Federal Court of Canada has ordered the Department of Fisheries and Oceans to pay \$80,000 in court costs incurred by Ecojustice. Ecojustice represented Sierra Club BC and eight other conservation groups in last December's court case aimed at protecting endangered orca whales. Check website to learn about the history of this landmark case or find out more about endangered species. www.sierraclub.bc.ca

Juan de Fuca: No changes to CRD voting structure, says BC govt

Juan de Fuca Provincial Park is threatened by plans to build a sprawling resort development along its fringe. The BC government has denied the CRD's request for a structural change that would allow the whole Capital Regional District board to vote on the park's future. "Please send an urgent letter to Premier Christy Clark asking her to take immediate action to protect this world-famous Vancouver Island coastal park."

—April 30, 2011



Ecojustice

Safer Skies For Birds

An unprecedented lawsuit by Ecojustice and Ontario Nature against the owners of Consilium Place, a Scarborough office tower complex, may lead to safer skies for birds in Toronto and beyond.

An estimated one million birds die in Toronto every year by flying into the mirrored surfaces of high-rises. According to Ecojustice and Ontario Nature, Consilium Place is the deadliest when it comes to bird strikes with more than 800 birds killed or injured between 2008 and 2009. A guilty verdict may force property owners to take the necessary steps for preventing bird strikes, both on existing buildings and new ones.

—April 7, 2011



Wilderness Committee

Logging Roads in Clayoquot

A permit has been issued by the BC government to the First Nation-owned logging company Iisaak Forest Resources Ltd to build a logging road on Flores Island. Since 1999, the Wilderness Committee has been a signatory to an agreement known as the Clayoquot Memorandum of Understanding (MOU), which states that Iisaak will not log in Clayoquot's pristine valleys.

On June 16, 1999, the Memorandum of Understanding was signed between Iisaak Forest Resources Limited and Greenpeace, Natural Resources Defense Council, Sierra Club of BC and the Wilderness Committee. "Logging in pristine watersheds is going to put us all back into a position of conflict – which is a place no one wants to be."

Currently the Wilderness Committee is considering its options, including opting out of the Clayoquot MOU.

—April 6, 2011



Alexandra Morton

Cohen Enquiry Secrecy

Alexandra Morton has instructed her lawyers to make a formal application to the Commissioner to allow public access to her most recent application and the application materials and correspondence to the Cohen Commission on wild salmon. To get access to the Commission's database of documents, Morton was required to sign an undertaking that she would not disclose the documents until they became part of the public record as an exhibit. The Commission counsel has directed that Morton cannot say what the information is, whether she made a report or not, and what the position of the federal and provincial Governments were. Morton says that this is a public inquiry and information should not be suppressed unless there are compelling public interest concerns.

—April 30, 2011



CBAN

STOP GM ANIMALS

The so-called "Enviropig™" from the University of Guelph and AquaBounty's GM salmon are in a race to become the first genetically modified food animal on the market. AquaBounty wants to produce all of its GM salmon eggs on Prince Edward Island. Write to the Minister of Environment and Minister of Health to stop GM. www.cban.ca

—April 30, 2011



by Judy Goldschmidt

Last year I travelled from Vancouver Island to Baja, Mexico to meet Susan who winters there. She is known as someone who really “walks the walk” when it comes to lowering her eco-footprint. She refuses to fly anywhere, doesn’t own a car, cell phone or personal computer and her preferred method of local travel is by bicycle. From BC to Baja, she employs various forms of public transit such as buses, trains and hitchhiking. When I arrived in Baja, she advised me to purchase a mug, utensils and a bowl. We carried staples such as powdered milk, granola, nuts and seeds, nutritional yeast and would purchase fresh produce, which really helped us reduce our costs. We may not all have the physical stamina nor the free time Susan has to green a holiday to this extent, but there are some steps we can take towards more eco-friendly travel.

Green Your Mode of Transport

Flying

When planning to travel, the most obvious and effective choice is not to fly. According to the David Suzuki Foundation web site, “Compared to other modes of transport, such as driving or taking the train, travelling by air has a greater climate impact per passenger kilometre, even over longer distances. It’s also the mode of freight transport that produces the most emissions.” If you must fly, consider these tips:

- Fly the most direct route possible, since take-offs and

landings use the most fuel.

- Fly during the daytime, studies have shown that flights taken at night have a greater impact on the climate.
- Fly economy, because more people per plane means fewer emissions per person.
- Pack light, because lighter planes mean less fuel is burned.
- Purchase carbon offsets to account for the emissions from your flight.

Driving

Here are some tips from the British Columbia Automobile Association:

- Avoid aggressive driving, such as jackrabbit starts and hard braking. These habits increase your fuel consumption by up to 40 per cent.
- Check your tire pressure at least once a month and ensure tires are not under-inflated. Under-inflated tires reduce your gas mileage and fuel efficiency.
- Service your vehicle regularly. A poorly tuned engine produces up to 50 per cent more emissions than one that is properly maintained.
- Look for an “energy conserving” brand when buying engine oil. Using the lowest multigrade of oil recommended in your owner’s manual can improve the fuel efficiency of your motor.
- Replace worn-out oil or clogged air filters to improve fuel consumption.
- Remove unneeded items from your car. Hauling excess weight will result in increased fuel consumption.
- Use an ethanol-blended fuel to reduce harmful exhaust emissions by up to 30 per cent.”

Train It!

- VIA Rail Canada offers savings for travelling long distances when you purchase one of its pass deals.

www.viarail.ca

- Susan’s best tip – Amtrak’s Coast Starlight train: it originates in Vancouver and heads south along the US West coast to San Diego. The further ahead you plan and purchase, the more money you will save. www.amtrak.com and check out their chart that compares car, bus and train travel emissions under Explore/Travel Green.

Additional Tips

- Rent an alternative fuel or fuel-efficient hybrid vehicle for your travels.
- Check out the various online ride-share sites to offer and ask for rides.
- Take the bus! In most countries the bus is cheap and comfortable.
- Choose destinations that cut down on auto travel – urban areas where you don't need a vehicle; places where you can rent bikes (if you don't have your own), places most accessible by kayak, or places where much of your experiences – beachcombing, swimming, whale watching, hiking, and the like – are close by.
- 2011 marks the 100th anniversary of BC Parks, check the web site for commemorative events. Buy a provincial parks annual vehicle pass for unlimited day parking. The web site also offers a carbon footprint calculator, based on your starting point and destination.

www.env.gov.bc.ca/bcparks

Green Your Destination

Accommodations

- Seek out locally owned and operated accommodations, such as bed and breakfasts, and ones that specifically promote eco-friendly practices and local and homegrown foods.
- Choose hotels/motels for their eco-friendly amenities such as giving you the option to not have towels changed daily, low flow toilets and shower heads, and use of alternative energies such as wind and solar. Programs that certify accommodations based on their efforts to lower their eco-footprint include The Green Key (www.green-key.org), or STEP, the Sustainable Tourism Eco-tourism Program.
- The Land Conservancy of BC maintains four rustic cottages for rent plus a campground and they offer conservation holidays. By participating in the work that goes into caring for TLC properties you can gain an understanding about conservation projects from agriculture to salmon habitat. It's a unique way to explore BC, give back to Mother Nature, and meet like-minded individuals. Look under ecotourism at blog.conservancy.bc.ca
- Ever sleep in a tree house? These alternative style accommodations will provide you with a novel nature experience:
 - Near Qualicum Beach, Vancouver Island, you can spend the night in a wooden sphere suspended three to five metres above ground amidst trees. Each unit has power, bedding, and a gentle sway. www.freespiritspheres.com
 - In the East Kootenays you can vacation in a tree house built upon a platform five metres high and supported

by seven trees. Here you can enjoy a spectacular Rocky Mountain view and watch the wildlife from the deck.

www.outathewoods.com

Experiential Vacations

- Be a tourist in your own town. Explore the museums, restaurants, history and stories of various ethnic groups that have influenced your local town's culture. Check your local tourism office web site.
 - Turn your home into your vacation retreat! No work, no chores, call it a mental health break! Eat out, do take out (always choose recycled containers!) and/or make some special recipes. Give yourself permission to turn off the computers. Catch up on reading one of those "some day I'll get to it" books. Pick up on a hobby or other pastime you haven't taken on for years. Indulge yourself – hire a massage therapist, reflexologist, palm reader, manicurist who will provide their services in the comfort of your home.
 - Go camping, fishing, surfing, and boating in provincial or federal park campgrounds.
 - Western Canada Wilderness Committee builds and maintains trails in wilderness areas to promote conservation – find out where and how you can get involved.
www.wildernesscommittee.org
 - Interested in aboriginal culture? Check out the Aboriginal Tourism Association of BC.
www.aboriginalbc.com
 - World Wide Opportunities on Organic Farms (Woofing) offers volunteers food and accommodation in exchange for farmwork. www.woof.org
 - For eco-friendly places worldwide check out the International Ecotourism Society. www.ecotourism.org
 - Earthwatch International offers a variety of hands-on science expeditions around the world geared towards teens, individuals, groups and families. Upcoming options include protecting leatherback turtles in Costa Rica; saving Kenya's endangered zebras; and studying climate change's impact on frogs in the Arctic. www.earthwatch.org

Help the planet and commit to making your summer holidays more eco-friendly!



Freelance writer and environmental activist Judy Goldschmidt, a Comox Valley resident since 2005, is passionate about local foods, drinking water protection, and sustainable agriculture.



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Terry Lake's Burning Issue



by Arthur Caldicott

Incoming Premier Christy Clark chose rookie MLA Terry Lake to be her Minister of Environment. No obvious reason.

Three months earlier, in December, outgoing Premier Gordon Campbell moved Barry Penner out of Environment. Penner had held that ministry since 2005, and had committed no major gaffes.

Campbell appointed Murray Coell to replace Penner. Coell barely had a chance to get his chair warm when Clark sent him to the backbenches.

No obvious reasons for any of those decisions. Except possibly the file which was smouldering on the Environment Minister's desk, the one that Penner wouldn't touch and Coell didn't touch. Now Clark has stuck Lake with it.

Metro Vancouver produces a phenomenal quantity of solid waste. It has been filling landfills for decades, costing hundreds of millions of dollars, a growing environmental and economic mess.

In 2010, Metro Vancouver approved a new Integrated Solid Waste Management Plan which envisions one or more new waste-to-energy incinerators to dispose of up to 500,000 tonnes. Since last year, the plan has waited for approval by the succession of Ministers of Environment – Penner, Coell, and Lake. In mid-April, Lake stated that he would have a decision in the next couple of months.

Many forces at play

New Jersey-based Covanta Energy is the most prominent company pushing for the incineration plan. It already operates the Burnaby incinerator for Metro, but is poised to buy

the assets of Green Island Energy on Vancouver Island, the Gold River Waste-to-Energy project, *if* it obtains a waste supply contract with Metro Vancouver, worth \$100 million or more per year, including electricity sales.

The dots connecting Covanta, the Gold River project, the BC Liberals and Christy Clark are numerous. Among the dots ... the Premier's brother Bruce Clark was a vice-president of Green Island Energy and has

There is a smouldering file on the Environment Minister's desk, the one that Penner wouldn't touch and Coell didn't touch. Now Clark has stuck Lake with it.

many close ties to both the BC Liberals and the Liberal Party of Canada. Lobbyists meeting with government ministers on behalf of Covanta also have strong Liberal ties. Andrew Wilkinson, formerly a deputy minister, is also a past-president of the BC Liberals. Coziness between Green Island Energy and the BC government goes back to the project's inception in 2003, when former Premier Gordon Campbell featured a photo of himself with Jewel, an early investor in the project.

This brings us back to who ducked the decision to approve Metro's plan (Penner, Coell), and who can't duck it any longer (Lake).

The electoral arithmetic

Air quality in Metro Vancouver and the Fraser Valley matters intensely to its residents. Political reputations have been made on air quality activism, and electoral fortune for some candidates may be unmade .

A decision to introduce new incineration plants in the region under Clark's watch, especially just before a provincial election, could be trouble for Clark, the newly-elected MLA for Vancouver-Point Grey. More than half her caucus is from Metro Vancouver and the Fraser Valley.

A pro-incineration decision will inevitably result in years of warfare, not just in the Fraser Valley, but also on Vancouver Island.

The electoral math says that for the sake of the Liberals, Lake should not approve the Metro plan. But there is big money and considerable influence on the side of approving.

Lake's luck

So what is Terry Lake to do?

His Kamloops North riding does not include Cache Creek. But Cache Creek is in an NDP riding. The landfill employs a hundred people, and pays a million dollars in local taxes. If Lake were to deny the Metro incineration plan, the domino effect could be renewal of the landfill contract, and a positive electoral consequence.

In 2007, Gordon Campbell and Barry Penner introduced a climate agenda and a carbon tax. It surprised the hell out of British Columbians and went against the grain of the Liberals' base of support. But it earned the Liberals a lot of support in the next election, it split environmentalists, undermined the NDP – and ultimately better served the interests of the Liberals' base of support.

Clark and Lake can play the Metro waste decision the same way, with the same outcome.



Energy analyst Arthur Caldicott is a regular writer for the *Watershed Sentinel*

Voices for Change

Interviews with Environmental Elders and Senior Leaders in British Columbia

by Maggie Paquet

The “Voices for Change” project is a partnership of the Watershed Sentinel Education Society and the BC Environmental Network. The project highlights the contributions to environmental education and activism by British Columbians who are considered to be elders in the environmental community.

We hope you are inspired by the words so generously given by these 14 elders: May Murray, Paul George, Rosemary Fox, Ric Careless, Vicky Husband, Gordon Hartman, Ed Mankelow, Katharine Steig, Wayne McCrory, Ruby Dunstan, Catherine Stewart, Michael M’Gonigle, Olga Schwartzkopf, and Calvin Sandborn.

This final article in the Voices for Change series focuses on questions 8, 10, 11, 12, and 13. The words and phrases these interviews have invoked from the hearts and minds of these elders are their primary messages: Passion. Commitment. Courage. Integrity. Stick to your principles. Be accurate in your facts; don’t embellish.

Question 8 asks for the “most urgent environmental issue today.” One of the most challenging responses came from Gordon Hartman, who said, “I want people to think deeply about the issues and look beyond the accepted paradigm. People need to look at the big picture, consider the demographics, and how to control growth, rather than promote it.”

Climate change, loss of biodiversity, the economics of over-consumption, over-population, loss of wilderness areas world-wide, the lack of protection for and damage to ecosystems, numerous water-related issues (from pollution to energy diversions to wasteful use to the threat of privatisation of water resources), multinationals and the unbridled power of corporations, were all offered as pressing environmental issues. And, from Michael M’Gonigle, came this pointed comment that resonates in today’s political climate: “the lack of informed and free dialogue about the real systemic nature of the environmental problem; a lack that many environmental groups and individuals participate in by staying within safe boundaries that don’t challenge the real nature of power in the West for fear of being labelled as “radical” and thus marginalised.”

For Ruby Dunstan, as for many First Nations (and other British Columbians), a primary concern is for wild salmon; their habitats, how DFO seems not to protect salmon to the same extent as they do to protecting corporate interests, and general environmental issues both marine and terrestrial that affect salmon. A recent poll revealed that salmon are an iconic species for all British Columbians (see: <http://www.theglobeandmail.com/news/national/british-columbia/bc-residents-consider-salmon-a-cultural-touchstone-survey-finds/article1998476/>).



The Interview Questions

1. What is/has been your major field(s) of interest/activity?
2. What was the primary impetus/reason that got you involved in environmental work? Why?
3. Did it ever have an impact on your family or other relationships? In what way? How did you deal with that?
4. What has kept you involved in the environmental movement? What keeps you going when things look bleak?
5. Do you work with an environmental organization? If so, why? If not, why not?
6. What do you think are possible traps to effective activism, or known failing strategies?
7. What changes do you foresee, if any, in the role of environmental organizations in the future?
8. What do you think is the most urgent/important environmental issue today? For BCers? For Canadians?
9. What lessons have you learned to share with the next generation? What advice would you give to the next generation of environmentalists? What advice would you give to all environmentalists?
10. If you could design a strategy to engage people to live in harmony with our planet, what would it look like?
11. What are you doing these days?
12. If you had the proverbial three wishes, what would they be?
13. Have I left out anything you’d like to mention?

Vicky Husband and Olga Schwartzkopf zeroed in on BC provincial politics and politicians. For Vicky, the pressing issue is “the complete destruction of the Forests and Environment ministries ... About 94% of BC is Crown land. That’s public land, but there is no protection of the public interest in those lands, no political leadership for environmental protection... Government has been engaged in privatising public interests of all kinds. There is no oversight to protect forests, wildlife, water, fish, rivers – all of it.” Olga, with characteristic directness and clarity, simply said, “Ignorant politicians. Self-interested politicians.”

Of course, politicians, generally, are reflections of the state of awareness – or, more accurately, the ignorance – of the general populace. Paul George agreed with all the issues mentioned above and added, “People need to be more scared about this stuff. They need to take it seriously. Half the people (probably a lot more) are not aware of any of it; they’re comatose.”

Most of the responses to question 10 elicited pleas from the elders for all of us to take the time to look at the natural world around us, to reconnect with nature. A number of their comments were directed at young people, such as this one from Katharine Steig, who said, “I would focus on young people and on engaging them – and everyone else – to look at Nature, such as with stewardship groups and ‘Young Naturalists’ groups.” Gordon Hartman said, “I’d design a strategy that got people’s heads out of silly electronic things and had them looking at the world around them instead. The world is more beautiful than all the things we can construct.” Rosemary Fox elaborated further on our disconnect from Nature: “Our industrial society has severed its roots in the natural environment. This has to change. We are killing the planet with our economic growth-focused ideology. We need to reconnect with Nature. If we destroy our habitat, we destroy ourselves ... I also think that to live in harmony with the planet, we humans need to learn to live in harmony with each other. Currently, there is a huge amount of intolerance in the world; people are killing each other over opposing ideologies as well as cultural, and possibly, racial differences. If we despise other humans, I think we are also more likely to disrespect other forms of life and the environment we all ultimately depend on.”

Wayne McCrory implores all of us to “Become a spokesperson and advocate for saving the planet ... reduce your consumption of global resources; work hard to leave more behind that is protected for future generations, who are being so robbed today, whether human, plant, or animal.”

Question 11 raised quite a few chuckles among these elders. I loved Gordon Hartman’s response: “Well, I’m 83 years old, so I’m doing less.” He doesn’t seem to me to be slowing down much, however, having been active in the Teztan Biny/Fish Lake/Taseko mine issue, and still doing a lot of research and advising on a number of issues to do with fish and fish habitat. Like so many of the elders interviewed, he is devoting more time to his family, particularly grandchildren. All are still involved to varying degrees in the important environmental issues that inspired them to get involved in the first place, whether it be on mining, parks and wilderness, water, environmental law and advocacy, or sustainable agriculture issues.

The three primary wishes these elders voiced were for (and in no special order) (1) dealing successfully with population growth and over-consumption; (2) larger budgets for protecting and managing parks and wilderness areas; and

Continued on Page 26 ➔

About 94% of BC is Crown land. That’s public land, but there is no protection of the public interest in those lands, no political leadership for environmental protection ... Government has been engaged in privatising public interests of all kinds. There is no oversight to protect forests, wildlife, water, fish, rivers – all of it..

—Vicky Husband

“Our industrial society has severed its roots in the natural environment. This has to change. We are killing the planet with our economic growth-focused ideology. We need to reconnect with Nature. If we destroy our habitat, we destroy ourselves ... I also think that to live in harmony with the planet, we humans need to learn to live in harmony with each other. Currently, there is a huge amount of intolerance in the world; people are killing each other over opposing ideologies as well as cultural, and possibly, racial differences. If we despise other humans, I think we are also more likely to disrespect other forms of life and the environment we all ultimately depend on.”

—Rosemary Fox

My main wish is for people to be in touch with themselves, with others, and with nature.”

—Calvin Sandborn

“ENGOs need a dental plan, a retirement plan, etc. but they don’t have this. You just hope you make it long enough to get CPP and OAP and that you don’t have any major medical crisis along the way to slow you down.”

—Wayne McCrory



This was developed with funding from the Government of Canada’s New Horizons for Seniors Initiative.

↳ *Voices continued*

(3) smarter leaders who see the need for social change, including peace, and who would commit to achieving sensible environmental policies, acknowledge and commit to aboriginal title and rights, and who would be open and honest with constituents.

Some of their heartfelt comments, which we should all take to heart, were: Calvin Sandborn: “My main wish is for people to be in touch with themselves, with others, and with nature.” Ruby Dunstan said, about the treaty process, “I wish that governments would recognise title and rights so we don’t have to go to court all the time to prove our rights. We have nothing for sale. The Creator didn’t give me the right to sell out my grandchildren.”

I think we all dream about one of Catherine Stewart’s three wishes: “For all of us sloggers, working for all these years, I’d like to find a way for us to have a sort of retirement home for environmentalists. It would be great if, as a community, we could find a way to help each other in our so-called ‘golden’ years.” Others had a variation on that theme of some kind of special pension plan for so many of us who have worked as volunteers, many of us for decades, at great sacrifice, if the truth be told, to our own financial well-being.

Wayne McCrory wished for more benevolence so that environmentalists didn’t have to spend so much time fundraising. He also added, in line with Catherine Stewart, that “ENGOs need a dental plan, a retirement plan, etc. but they don’t have this. You just hope you make it long enough to get CPP and OAP and that you don’t have any major medical crisis along the way to slow you down.”

Most of the responses to the last question were framed in the context of securing a future for the next generations. Ed Mankelov said he’d like to see groups come together on important issues for the next federal, provincial, and municipal elections, particularly on the Agricultural Land Reserve. Ric Careless expressed a desire for us to “keep our institutional memory; build on information already learned.”

A final comment from Ruby Dunstan, who said, “I’d like to thank everybody who supported us on the Stein issue. The books, the events ... from the bottom of my heart. Thank you. Thank you for fighting the government. Thanks to everybody on behalf of my elders, some who are still here and those who have passed on. Without the elders, I would have buckled. I thank them for all the work, all the support given. I’d like to end by saying that we all have to believe in and accept two things: Truth and Change.”

This project has come to a close, for now anyway. There are dozens more “environmental elders” that come to my mind and who I would have liked to interview – Ruth Masters, Mark Angelo, Bristol Foster, Bob Peart, Jim and Rosamund Pojar, David Suzuki, Guujaaw, Nancy Turner, Sharon Chow, Jim Bourquin, Mae Burrows, John Bergenske, George Smith, Eva Durance, Valerie Langer, Jim Cooperman, even former federal Environment minister David Anderson – and some who have passed on now and are sorely missed: Colleen McCrory, Bert Brink, Grant Copeland, Carol Berryman, Melda Buchanan, Curley Chittenden, John Clarke – and that we could have written about. It was difficult to select the ones we did. Maybe we can do features on some of these other folks in subsequent issues. I’d like to write one about “our own” Delores Broten.

Sitting in my cluttered office in my little house by Kitsuksis Creek, interviewing all these wonderful, dedicated people and listening to their magnificent stories, I was re-energised and re-inspired to continue doing “environmental” work. This inspiration aspect is so important. Without it, I doubt we could carry on. Inspiration comes in different forms, often unexpectedly, but is always welcome. I hope you have found some inspiration in these articles.



Author and editor Maggie Paquet was awarded the Martha Kostuch Lifetime Achievement Award from the Canadian Environmental Network (RCEN) in September 2010.



Reading materials recommended by elders, and some that continue to inspire me:

- **Gordon Hartman:** *The Tragedy of the Commons*, an essay by Garret Hardin; *Ark II: Social Response to Environmental Imperatives*, by Dennis Pirages and Paul Ehrlich
- **Katharine Steig:** *Written by the Wind*, by Randy Stoltmann
- **Rosemary Fox:** *Prosperity Without Growth: Economics for a Finite Planet*, by British economist Tim Jackson
- **Calvin Sandborn:** *Last Child in the Woods: Saving Our Children From Nature-Deficit Disorder*, by Richard Louv; *The End of Food*, by Paul Roberts; *Earth in the Balance*, by Al Gore
- **Maggie Paquet:** *A Sand County Almanac*, by Aldo Leopold; *The Immense Journey*, by Loren Eiseley; *Silent Spring*, by Rachel Carson; *The Natural Alien: Humankind and Environment*, by Neil Evernden; *The Earth’s Blanket*, by Nancy J. Turner; *The Sense of Wonder*, by Rachel Carson; *Under the Sea-wind*, by Rachel Carson; *The Ecology of Eden*, by Evan Eisenberg

For a Really Green Music

I've been waiting for many years for someone to talk about the enviro-impact of festivals. But your suggestions, and the mini-fixes tried by some festival promoters don't go nearly far enough.

People travel hundreds of miles to get to them. Enormous resources are marshalled to bring each festival to fruition. Stages, concessions, campgrounds, electrical systems, first-aid and security contingents are all hired, built and retired. And of course the corporate sponsorships help pay all the costs. These are environmental disaster areas.

How could one lower the environmental impact of folk festivals? Vancouver tried, in a small way. Years ago, their food concessions were operated by local, even ethnic restaurants, and no disposable plates, cups or cutlery were used. This was a modest step, considering the enormity of the rest of the operation.

Festivals are patently unsustainable. To reform them is to shut them down. The existing festival structure in a nutshell is: fly dozens, or tens of dozens, of performers around the country to each festival. Some are even flown in from abroad. Then, entice thousands to come to your festival to watch as many performers as possible before collapsing from exhaustion. Repeat all summer.

Instead, how about this: the performers travel together in small groups. The lesser-known people travel along with the headliners. They perform at community centres or commercial venues around the country. This is known as "touring." Performers already do this. The booking agents of all the festivals combine their talents to send performers around the country in short-distance trips in buses and trains, not airplanes. The audience sees one great show per week, and is not exhausted by a three-day weekend combined with a long trip to and from each festival. The environmental savings will be huge. Someone else can calculate how much; I won't even try.

Smokey Dymny, Quadra Island, BC

The 60% Solution

I am so saddened to think of a 40% mandate to re-make Canada in the image of the Fraser Institute and the National Citizens Coalition dream of dismantling public health care. I am also sad to think that greed wins when 60% want a just and sustainable society. We can't wait four years to create the conditions for our democracy to represent the 60% for a just and sustainable society, rather than a society for just a few fat cats.

We don't have to wait four years to revitalize our democracy. Clearly big money told the Conservatives and Reform that the money wouldn't be there if there wasn't a united Right. We may not be big business but we are 60% of the Canadian electorate who spend a lot of money. That money has a lot of clout if we use it to actually get the world we believe in. We can tell NDP, Liberals, and Greens that we are setting up a pledge account to fund parties on the Left that unite to fight for a just and sustainable Canada.

Until that happens we won't actually send any money to political parties that cannot set aside egos and concentrate on what we have in common. It would be a powerful political organizing tool.

Our politicians need our support and yet they don't listen to us. I leave it to the negotiating group to decide what the conditions of the pledgers association would be – single left candidates/riding, commitment to preferential ballot, merger (as the conservatives were forced into) – the idea is we create a 60% solution by our collective demand that we get a 60% government.

What other actions could the 60% solution group take that would ensure we never again have a Canadian government in contempt of parliament and in contempt of 60% of the Canadian people?

Norm Reynolds, Courtenay, BC

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WATER

Oh the Water

by Don Malcolm

Not so long ago, would anyone have thought that water would become a commodity, to be bought and sold on world markets?

For those of us who have crossed and re-crossed the oceans of the world, it may seem to many that our world carries a staggering load of water. There is a lot of water, but only three per cent of the world's water is fresh and available to quench the thirst of the Earth's peoples, and wild creatures, and irrigate the crops and plants that sustain all of Earth's peoples and creatures.

In my childhood, water was never scarce. There were many springs where water gushed free and clear from the earth, becoming streams and lakes that contributed to the Madawaska River, in its relentless incline to the Ottawa River and, eventually, the Atlantic Ocean.

My favourite home stream was Henderson Creek where it pursued its destiny down through the pastures and marshlands to the forest edge, beyond which we were warned not to go, because of the risk of encounters with bears in the forest. Along with my cousin Verne, when school was closed for summer holiday, we spent most of our time on the banks of Henderson Creek, fishing for brook trout that hid in the shallows there, carefully measuring each catch to determine who had caught the largest trout.

Our fishing gear was a fresh cut, slender, alder sapling, about four feet of fine fish-line, depending on the depth of the water, a lead or metal sinker, a small fish-hook and a can of earthworms for bait, along with Verne's clever adaptation of a means of keeping caught fish fresh, while we continued with our fishing – a one gallon can with a bail for carrying and a dependable lid with holes drilled to let water in, dipped in the creek from time to time, an early backwoods invention.

From time to time strangers passed through on the wagon road that served our community, walking, carrying back-packs. Some were "timber-cruisers," employed by "logger barons," seeking the best stands of softwood forests that covered the hills and lowlands of our home territory, where my father was born and raised, and knew the forest very well. Some who passed through were just living off the land, and, it seemed, enjoying it. They all stopped to smoke a pipe with my father and get advice as to the best route to take, or whether or not there was a boat or a raft at the Madawaska for crossing.

Tied to the back-pack was a folded light tarpaulin for shelter from rain, and a blackened half-gallon honey pail with a wire bail, in which they steeped their tea. They also carried a small axe, a small frying pan, and possibly, a pistol. China cups were not practical for cross-country travelling on foot, so the men passing through carried tin cups attached to their packs. Later, as children, fishing the trout streams, we sometimes found the cups, where those men passing through, had discarded or forgotten them. Proud was the ten year old boy who found a cup and carried it home to his mother, a souvenir of a time that was past, as the world and its populations were entering a period of dramatic change. The long and terrible World War Two ended, and was followed by the war in Korea.

It was a new world order, and a loss of innocence. Soon the automobile would begin to raise the dust on our backwoods country roads, and the automobile and large new homes became humanity's next obsession.

Strict rationing had been imposed during the war years, and populations were tired of the restrictions. It seemed that factories sprang up almost overnight, most established on rivers, producing things that had not been available during the war years, and the rivers bore the burden of whatever chemicals were washed into them. Some rivers and streams were posted with drinking water restrictions.

In North America, along with many other jurisdictions throughout the world, we have not treated water with the

respect that it deserves. We have over-watered our crops in the hope of a more abundant monetary harvest. Without thought, we have polluted our rivers and lakes. Now we face the outrage of insensitive politicians selling our precious life-supporting water off-shore.

In the United States, the great Colorado River no longer reaches the Pacific Ocean. It seeps away into the ground near Long Beach, California, exhausted from over-watering of cash crops.

Without careful thought, we could become involved in a serious global fresh water shortage, where huge tankers carry fresh water throughout the oceans of the world, to where populations struggle daily to obtain enough clean water to promote a healthy life.

Here in British Columbia, we are faced with the threat of the BC Liberal government turning water into a commodity under the new Water Act, to be bought and sold, offshore or in BC.

Surely, many must be wondering where we are going?



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By Kevin Vowles

Forty per cent of the world's electricity comes from coal, and 40 per cent of the world's CO₂ pumped into the atmosphere is from the burning of coal for electricity. It was a resource on the verge of being considered passe a decade ago, as many countries were phasing out its use, realizing the implications for the planet. Humans have been burning coal for thousands of years, and there is no doubt that as the world spins and oil prices rise, humans will be continually tempted to use the dated resource.

European countries are increasingly using it, Italy leading the charge. India and China's two billion people are clamouring for it. The US has just announced a massive coal expansion project that would see their emissions from coal increase 50 per cent. And of course here, north of the US border, corporations are ready to dig, because, as oil cost rises, coal will become an increasingly valuable commodity. Hence the Raven Coal Mine proposed for the Comox Valley, with a projected life of less than twenty years.

Never have humans been faced with the dual challenge of meeting energy needs while preserving the natural environment. The environment is swiftly reaching a breaking point, our so-called needs for technology and energy are maxing out, while at the same time, many of the common sources of energy are on the decline. Times are dire and a triumph of human potential to meet today's challenges would be unparalleled and set the stage for tremendous advances towards a humanity the Earth can live with.

Stephen Hawking has pointed out that if we continue on the path that we are on, we will simply end up cooking ourselves as the planet heats up beyond a turnaround point. It is a dire forecast in which humanity is faced with the prospect of totally eliminating ourselves due to over-consumption of everything from technology to food. There are some positive signs of change and action, but big industry and consumerism, aided by governments, plug along as per normal, unrestrained by climate change. While many of us would like to believe our efforts to be greener are making a significant impact, the reality is that the negative actions of big polluters are dooming the planet. It is time to wake up to this reality.

The world can barely feed the nearly seven billion plus

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*More Coal...
it's about that time
to decide*

people currently inhabiting the planet. There are many reasons for this, including funnelling large amounts of grain, vegetables, and water, towards meat and fuel production. In our approaches to solving our energy needs, we must also look at energy solutions that will not jeopardize our ability to feed ourselves. This will become even more important as the world's population is expected to surge to over nine billion in the next 40 years, making the need to move towards sustainable energy forms even more important.

This is no more clearly exemplified for me than when I look out from Denman Island across to the Beaufort Mountains above Fanny Bay on Vancouver Island, and ponder the proposed site of the Raven Coal Mine. The mountains are intensely beautiful. The bottoms are scarred by logging, making them ripe for the next industrial reaping: the coal project. Despite the destruction, I still see enormous beauty deeply rooted in the natural scene. All of what we are doing cannot take away from the inherent beauty present in the landscapes of Earth.

Many people on Denman Island would like to see themselves as islands set in stormy seas, weathering the highs and lows of a spiralling and turbulent world that ebbs and flows as the days march on. Many of these people regard themselves as ideally situated in a world fraught with uncertainty.

One of the most unique things about Denman Island and indeed the whole Comox Valley is that it could be 100 per cent self-sufficient – most places could be, but the Comox Valley is ideally situated, and the people who have chosen this place to set down roots and eke out an existence which could last if there were no more fossil fuels, were right to have chosen it.

Native people lived here for thousands of years off the bounty of the sea and land alone. Their populations were self-regulatory, in that they did not exceed the carrying capacity of the land around them. This is of course something that our world knows very little about. Our carrying capacity is based on the unsustainable use of fossil fuels and pesticides. However, it is mildly comforting to know that present day inhabitants of the Comox Valley could be well situated to form a self-sufficient economy independent of fossil fuels. Denman Island has recently become a transition town, moving away from dependence on fossil fuels, able to deal



August 2009: This map shows the 3100 hectare boundaries of the proposed Raven coal mine. Compliance Coal Corporation, owned by Compliance Energy, published this map in the project description for the Raven Underground Coal Project. This is the scope of the environmental assessment, because Compliance says this is all they intend to mine in this "project."



August 2010: This map and text describes the company's intention to expand coal mining north from the Raven mine in contiguous coal seams to the Bear Deposit. Obtained from Compliance Energy's website, the page has since been removed from the website: "...it is anticipated that it would be developed in conjunction with the Raven deposit."

*Map assembled by Arthur Caldicott
Source: Compliance Energy Corp.*



March 2011: This map shows the full extent of the 29,000 hectares of coal owned by the Comox Joint Venture (Compliance Energy and its two Asian investors). Starting with the Raven mine, high coal prices and geological conditions may sustain decades of mining through the entire area.

From the Compliance Energy website.

with the challenges of climate change and peak oil.

Several factors could prevent the Comox Valley from remaining in a position to be self-sufficient. The three most significant and pertinent to any discussion of another coal mine, include the following:

1. Climate Change. Increasing temperatures, which would either prevent certain things from growing and or create water shortages, jeopardizing people's ability to grow their own food.

2. Pollution from a coal mine would threaten local wildlife, especially bee populations which are critical for pollination of food plants.

3. Pollution of the aquatic environments in the area would jeopardize sustainable shellfish industries regarded as some of the best on the continent.

The proposed Raven coal mine would be a significant contributing factor in the decline of the sustainability of the Comox Valley region as a whole. Despite the supposed inadmissibility of the carbon factor in this equation by government agencies, carbon emissions are a real factor, even as the coal is only initially transported from Buckley Bay to Port Alberni. No one could argue that this mine is a step in the right direction; a step towards a more secure and sustainable future for the people or other sentient beings of this region or the rest of the planet. It is simply not.

Until we become our brothers' keepers, nature's guardian, or more simply put, stewards of the Earth, those who seek profit above people and animals, will continue to be allowed to push forward agendas that will make the rich

richer, and in the end the people and the land will pay the piper. There are alternatives though. Energy needs could be met with things like windmills. Solar power units could be made available to everyone. People could re-use their rain water. Sustainable transportation options could prevail. Geothermal heating units are ultra efficient, and a whole lot easier than stacking wood. Some might say that this kind of a world isn't possible. It's too costly, it can't all happen at once, it's unrealistic, or even, it's just a utopia. Can we really afford not to make this world a reality?

Stephen Harper and the Conservatives proposed that Canada buy 30 billion dollars worth of F-35 stealth fighter jets, designed with first strike capability in mind. The jets would supposedly prevent other countries from asserting sovereignty over the Arctic. In essence, the threat to Canadian sovereignty over territory occupied by aboriginal people is remote, compared to the certainty of chaos from climate change, fuelled by coal mines, fossil fuel use and industries such as logging. Furthermore, the jets have only one engine, and I do not know of many pilots who would be happy to fly into that region of the world on one engine. That is exactly what we're doing to ourselves by carrying on business as usual, and when that engine fails, and it will, we'll be in as good a shape as the pilot will be as the polar bears begin circling.



Kevin Vowles (www.kevinvowles.com) lives on Denman Island, and is the author of *21st Century Hippies: Activists in Pursuit of Peace and Social Justice*.

The Chilcotin Ark

This is a remarkable story of patience and persistence in ensuring a future for some outstanding wild places, preserving a wild heartland from Tweedsmuir Park to the Fraser River, a region of three million hectares (7.5 million acres)

by Ric Careless and Sheena Careless



Two hundred kilometres north of Vancouver, the Chilcotin Ark is a 565 kilometre swath of world-class wilderness that stretches from Tweedsmuir Park to the Fraser River. 2.5 million hectares in size – larger

than all the National Parks in the Canadian Rockies combined – it encompasses the greatest expanse of wilderness remaining in southern British Columbia.

The Chilcotin Ark is a region of superlative variety. Progressing eastward from Tweedsmuir (BC's largest park), the Ark traverses a procession of dramatic landscapes. The highest peaks in the Coast Mountains define its western and southern boundaries. From the Chilcotin Plateau in south-central BC, the Homathko and Klinaklini Rivers cut right through this great range. They flow around the very base of 4000 metre high Mt. Waddington to reach tidewater at Bute and Knight Inlets. By linking the coastal rainforests to the dry interior grasslands, these trans-montane river valleys provide rare low elevation corridors through the Coast Mountains.

Inland of these soaring peaks, the Chilcotin Range is gentler in terrain. It features alpine that offers delightful hiking and horseback riding amid profuse flower meadows in the Alplands, Niut, Potato, and Spruce Lake areas.

On the far side of all these mountains, the Chilcotin Plateau extends in a flat, forested expanse. It was built up from lava flows that emanated from now extinct shield volcanoes in the northwestern Ark: the Rainbow, Itchas, and Ilgachuz Ranges. Also in the western Ark, at the head of the Klinaklini and Atnarko Rivers, the Alplands features the high-

The Chilcotin Ark supports some of southern British Columbia's healthiest and most significant wildlife populations.

est concentration of alpine lakes in North America, each one distinctive and vividly hued. Nearby, spectacular Hunlen Falls (the second highest falls in Canada) plunges 400 metres right off the plateau into the Atnarko Trench far below.

In the central Ark, the long turquoise waters of Tatlayoko, Chilko, and Taseko are reminiscent of lakes in south island New Zealand or Switzerland, only so much wilder. The low-altitude dry forests around Tatlayoko and Chilko fall within the Interior Douglas fir zone (IDF). Throughout most of its range in southern BC, the

IDF has been very heavily logged. This makes the large old growth Douglas firs remaining here especially precious.

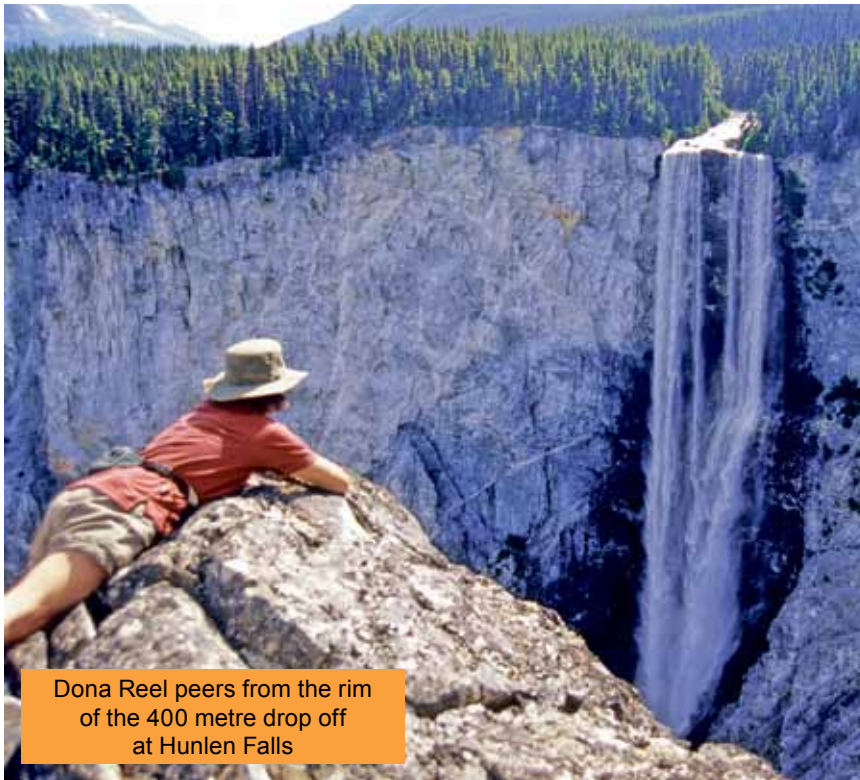
South of Williams Lake, the Fraser River carves an 800 metre (3,000 feet) deep canyon through the lava layers of the plateau. It renders a landscape that looks more like Utah than British Columbia, with its benchlands and gorges. The hot, dry bunchgrass vegetation of the canyon depths is really a semi-desert environment and is the most northerly extension of montane grasslands in North America. Here, ponderosa pine and Douglas fir savannah support what are likely the highest numbers of California Bighorn in the world, as well as exceptional mule deer populations.

The Chilcotin Ark's climate is especially varied since it is influenced by the Maritime Polar, Marine Tropical, and Continental Arctic climate regimes. Typically the weather approaches from the northwest, rises over the Coast Range where lots of moisture falls on the windward slopes. The eastern side of the mountains are in a rainshadow, resulting in much drier, sunnier weather.

Given its great size and altitudinal range (from sea level to over 4,000 metres), as well as its range of climates (from wet to dry), the Chilcotin Ark is a global temperate hotspot of ecosystem diversity. Thirteen of British Columbia's 16 major ecosystem types, (called biogeoclimatic zones) occur in

MOUNT WADDINGTON

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Dona Reel peers from the rim of the 400 metre drop off at Hunlen Falls

ing the only location in southern BC where this animal migrates to the Pacific Coast. As well as moose, all of BC's species of deer (mule, black tail, and recently whitetail) thrive here.

The heartland of the California bighorn habitat occurs in the eastern Ark in the Fraser Canyon. They winter on the benches above the river. Come summer, many of these animals migrate to the high meadows in the South Chilcotin Mountains. Mountain goats are found throughout the Ark on steep higher altitude sites where there is suitable forage with sufficient winter range.

This great wilderness is also home to a full complement of raptors: golden and bald eagles, hawks, falcons; and a wealth of waterfowl. This is the place where trumpeter swans were saved from extinction in the 1930s and 40s. Today it is one of the few places where rare white pelicans nest in BC.

All of British Columbia's salmon species occur within the Ark, in the Fraser River and its tributaries: the Chilcotin, Chilko, and Taseko; as well as the Atnarko River (a tributary of the Bella Coola River in Tweedsmuir Park). The Chilko River is especially important, as each year 4,000,000 sockeye return to spawn – the third largest run on the Fraser. These are an exceptionally hardy race of fish that scientists refer to as 'super salmon.'

Tsilhqot'in Territory

Salmon was a crucial food source for the first residents of the Chilcotin, the Tsilhqot'in. For them the Ark was their traditional territory; and it remains their homeland today with trap lines, grease trails, fishing spots, hunting grounds, places of great power, burial sites, and old villages all commanding respect.

In 1793 a young Alexander Mackenzie explored the Chilcotin by way

⇐ Chilcotin Ark continued

the Ark, including one found nowhere else in the world: the Sub Boreal Pine Spruce forest. From the ancient rainforests of the central coast, across the high peaks of the Coast Range, to the dry forests, grasslands and semi-desert of the Interior Plateau, this vast wilderness sanctuary is home to a remarkable range of biodiversity.

A Refuge for Wildlife

Like its biblical namesake, the Chilcotin Ark truly serves as a refuge for life. It supports some of southern British Columbia's healthiest and most significant wildlife populations. This abundance is due to its range of habitats. The icon of wilderness, the Ark is home to perhaps the strongest grizzly populations in southern Canada. Come fall these bears congregate to fish for salmon in the Chilko, Taseko, and Atnarko rivers. Recent DNA studies in the Tatlayoko region indicate this area is also a focal place for grizzlies, especially in springtime.

The Chilcotin Ark features some of the highest diversity of major predators in North America. Healthy populations of wolves are found throughout, preying on moose and deer. They are especially numerous on the Chilcotin Plateau. Cougar numbers are also very strong here, being focused on areas with relatively little snowfall where deer populations are higher, such as the Fraser corridor and in the upper Tatlayoko/West Branch valleys. As well, the largest of the weasel family, wolverines, a blue-listed species, thrive throughout the Ark as do fishers, the rarest of the weasels.

Prey species also flourish here. The largest, healthiest herds of woodland caribou remaining in southern Canada live in the northwestern Ark in the alpine/sub-alpine and high forests of the Itcha Ilgachuz Mountains (1,800 animals), and North Tweedsmuir/Entiako (500 animals) and the Alplands (200 animals).

Moose occur in the lower-mid elevation wetland meadow complexes, especially in the Big Creek area and out on the Chilcotin Plateau. The Klinaklini valley is notable as be-

THE LAND

of the Blackwater River. He was enroute to becoming the first person to travel overland across North America and reach the Pacific Ocean (at Bella Coola). However, contact with Europeans was traumatic for the Tsilhqot'in, as the newcomers brought the threat of smallpox (which had devastated native populations across North America). So when in the 1860s, British promoter Alfred Waddington started building a road up the tortuous Homathko River into Chilcotin and onto the Cariboo gold fields, the Tsilhqot'in feared that disease would follow. This triggered a conflict dubbed "the Chilcotin War," which ultimately resulted in the road not being built.

In the early 1990s when large scale clear-cut logging threatened the wildness of the Brittany Triangle north of Chilko Lake, the Xenigwet'in, the Tsilhqot'in people living in the Nemiah Valley, threatened opposition. They invoked the "Nemiah Declaration," demanding that their homeland – around Taseko, Chilko, and Tatlayoko Lakes as well as the adjacent Brittany Triangle – remain wild. Once more they prevailed. The logging plans were cancelled and the sawmill was closed down at Eagle Lake near the Brittany Triangle.

This new found influence was again demonstrated in 2010 when a mining company proposed to build a copper/gold mine on the edge of the Ark near Taseko Lake. The plan entailed filling Fish Lake with mining waste rock and tailings. The Xenigwet'in and many other Tsilhqot'in people fiercely opposed such desecration. Ultimately the Canadian government denied the proposal.

Over the years, a small number of Europeans made their way into the Chilcotin Ark to settle and ranch. By the 1930s they were running their cattle up into the alpine for the sum-



mer, and over-wintering them on the plateau meadows. The minus 50 degree January nights were harsh but these newcomers were tough. Putting down roots, building homesteads, range cabins, and endless miles of drift-fence, the Chilcotin cowboys established themselves as fixtures in the area. They were legendary in their ability to endure with bravery, strength, and perseverance.

In the early 1980s, the invention of mechanized harvesters meant that the small but uniform trees on the rolling Chilcotin Plateau could now be logged economically. Suddenly the region became subject to extensive clear-cutting: one person operating a snipper could mow down six hectares of forest in an eight-hour shift. The new large flow of low cost wood triggered the rapid expansion of sawmill capacity in nearby Williams Lake. Soon, huge clear-cuts and a rapidly growing road network spread like cancer across the region. Given the dry cold climate of the high western Chilcotin Plateau, the re-growth of even small trees here takes a very long time: 150 years on average for

a spruce to grow to just six inches in diameter. Therefore, much of this logging was not easily sustained but in truth was really "timber mining."

Conservation Vision

The conservation history of the Chilcotin Ark began in 1938 with the preservation of Tweedsmuir Provincial Park. This was (and remains) BC's largest park (506,000 ha). It was named for the 15th Governor General of Canada, John Buchan Tweedsmuir, who championed its protection. About this time, the BC Naturalists proposed a large park that would stretch from Chilko Lake to the South Chilcotin; it was named the Charlie Cunningham Wilderness after a legendary mountain man who loved this country deeply. This concept was proposed recurrently for decades, but was never acted on by government.

In the late-1980s, emerging concerns over logging led Chilcotin residents and conservationists across BC to renew efforts to press for protection

Continued on Page 36 ➔

↔ *Chilcotin Ark continued*

of the region's wild country. Several parks were proposed by various conservation organizations for: the Fraser Canyon/Churn Creek area; the South Chilcotin Mountains; Chilko Lake; the Niut Mountains; and the Alplands. In 1991, BC Spaces for Nature (then called Tatshenshini Wild) integrated the various proposals together into a much larger conservation vision, and coined the name "Chilcotin Ark" to describe it. The intent of this large new Chilcotin Ark campaign was to preserve the exceptional expanse of wilderness from Tweedsmuir Park to the Fraser River: an overall region of three million hectares (7.5 million acres).

In 1992 the Harcourt Government established the Commission on Resources and Environment (CORE) to undertake land-use plans on Vancouver Island, the Kootenays, and the Cariboo-Chilcotin. Eventually after several years of difficult negotiations the Cariboo-Chilcotin Land Use Plan was agreed to in 1994. This resulted in many large parks being created in the Ark including: Junction Sheep Range, Churn Creek, Marble Mountain, Edge Hills, Ts'yl-os, Big Creek, Homathko/Tatlayoko, and Itchas-Ilgachuz. However, several portions of the Chilcotin Ark lay beyond the boundaries of the original Cariboo-Chilcotin CORE Land Use Plan. As such, negotiations in several other Land and Resource Management Plans (Lakes, Vanderhoof, Central Coast, Lillooet, Sea-to-Sky) were required to attain park status for areas including Entiako, Klinaklini, and Spruce Lake. Achieving such extensive preservation of the highest value wilderness in the Ark did not come easily. Patience was essential. In all, BC Spaces' involvement in these many plans stretched over fifteen years.

Supplementing the parks that were protected through these land use plans, other negotiations led to

the establishment of no-logging zones in the Tatlayoko-West Branch area in the central Ark and Anahim/Alplands region on the southeastern edge of Tweedsmuir Park. Based on the principles of conservation biology, the no-log zones were strategically located to buffer and connect the existing parks as well as the most vulnerable (i.e. non-park) remaining stands of old growth forest, key wildlife winter range, and scenic zones for wilderness tourism.

A Wild Heartland

The Chilcotin Ark is a wild heartland where nature thrives. An enduring legacy of Creation, today as development eradicates our planet's fast remaining wilderness areas, the scale and calibre of the Chilcotin Ark renders it a very rare treasure. Indeed this significance is likely to become ever greater when considered in the context of the threat of global warming. Now, as once was the case for Noah, our earth faces an era of potentially catastrophic climate change. This poses a threat to the survival of life as we know it. Science tells us that 30% or more of all species could face extinction within the next century. Therefore, the role of this globally significant sanctuary in BC's Chilcotin is to act as an "Ark of Parks," providing safe refuge through a time of climatic upheaval by offering species in this part of North America the best chance of surviving into the future.

Beyond enhancing prospects for species survival in this time of changing climate, the importance of the Chilcotin Ark to science will surely grow. Its vast wildness and eco-diversity will enable the Ark to serve as an exemplary benchmark, a living laboratory from which to research and monitor the impact of global warming. The knowledge gained in the Chilcotin may indeed contribute to the survival of temperate zone ani-

mals, plants, and the life systems they comprise, even as the planet warms. Given its global significance, lessons learned here can help British Columbia – and other temperate zone jurisdictions – develop Nature Climate Strategies to help address the climate crisis we find ourselves in.

Serendipity and geography led to the Ark being endowed with beauty, a wealth of ecosystems and world-class wilderness. But it has been the hard work by so many conservationists that has resulted in the huge natural expanse protected. In contrast to the many high profile efforts that have typified preservation elsewhere in BC, protecting the Chilcotin Ark has been a stealth wilderness campaign. For 20 years, a low profile, relentless undertaking led by BC Spaces for Nature – notably Ric Careless, Dave Neads and Dona Reel – in close association with a dedicated grouping of conservationists has led to the protection of the largest wilderness left in southern British Columbia. As such, the Chilcotin Ark is BC's best kept environmental secret. This grand legacy of the original earth has now been preserved for all those creatures and species that live here ... and for all the generations of British Columbians to come.



Text and photos © Ric Careless
 For 40 years Ric Careless has led campaigns that have protected millions of hectares of BC wilderness including: Tatshenshini, Spatsizi, Central Purcells, Height of the Rockies, Nitinat Triangle and the Chilcotin Ark. He has received numerous awards including the Order of British Columbia. A co-founder of the Sierra Club of BC, he is the Executive Director of BC Spaces for Nature. Sheena Careless, Ric's daughter, has grown up close to wilderness – especially in the Chilcotin and is a nature and sustainability educator.

Wild Times

Fool's Gold

by Joe Foy

I am thinking that the so-called run of river private hydro power gold rush is just about over in British Columbia. That's because the gold rush has turned out to be a fool's gold rush.

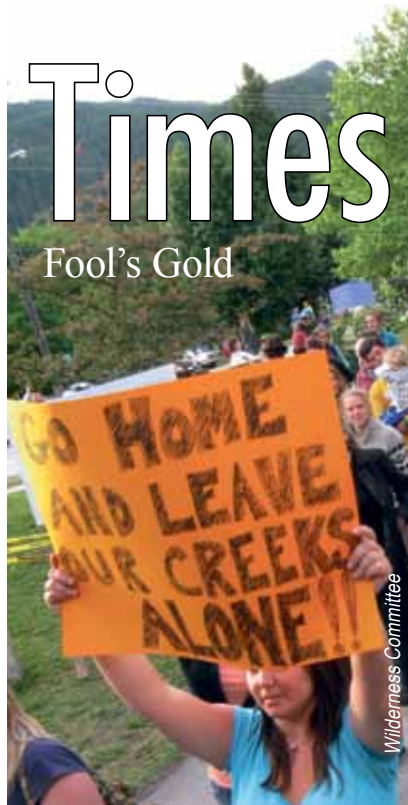
In a recent report, University of BC professor George Hoberg found that BC is not short of hydro electricity (as BC's government has been telling us) because, should we need more, we are entitled to a lot of Columbia River hydro electricity.

I figure all that's left to do now is to turn off the remaining proposed private hydro power projects still working their way through BC's approval processes – like the Kokish River on northern Vancouver Island, McLymont Creek located north of Stewart, and Ventigo Creek near Golden.

Then we'll need to figure out how we can stop being financially bled to death by the private power guys – the companies that have, since 2003, staked hundreds of BC's wild creeks, rivers and lakes, with the assistance and encouragement of BC's government in Victoria.

A recent article by Jesse Ferreras in Whistler's *Pique* news magazine says that by 2014 BC Hydro will be paying almost a billion dollars a year to the private power guys for electrical power BC Hydro has been forced to buy because of the policies of the government in Victoria. And in each subsequent year, for decades, our bill will continue to go up.

In the *Vancouver Sun*, Harvey Enchin makes the point that BC Hydro has recently signed long-term power purchase agreements with the private power guys that range from \$76.20 to \$133.80 per megawatt-hour.



Our provincial government has forced BC Hydro to sign long-term contracts, now estimated to be worth about \$30 billion in total for power we don't need, and must sell at a tremendous loss to the Americans for many decades.

Compare that to market rates for hydro electricity from the US Columbia River which runs from \$8.73 US to \$30.92.

Our provincial government has forced BC Hydro to sign long-term contracts, now estimated to be worth about \$30 billion in total for power we don't need, and must sell at a tremendous loss to the Americans for many decades.

Feeling sick yet? It gets worse.

The people of BC have been told by Victoria to expect electricity rate increases of 50 per cent or more. The BC government says it is looking at alternatives to the rate increases – but none of them look very good. Either BC's debt will grow even faster as we

pay the private power guys' exorbitant bills – or we'll have to cut back on repairs to BC Hydro facilities, and our hospitals and schools.

And wasn't it BC's government that got us into this mess in the first place by ordering Hydro to buy high off the private power guys and sell low to the Americans? Why should we trust them to find a solution for a problem they created?

We've been had – real bad. But it gets worse. Let's say we had a government in Victoria that was actually looking after our interests and passed a law that in effect tore up the \$30 billion worth of contracts BC Hydro has with the private power guys.

We'd be out of the woods – right? Well, no we wouldn't.

Fish, like BC's trout, salmon and char need cool clean water to survive. And the private power guys have been messing with that water big time. Take the Tyson Creek private power project on the Sunshine Coast, just one of many projects now operating across BC. A hole was blasted in the bottom of a lake, to run the water into a giant pipe to make electrical power. But the side of the lake collapsed in an underwater mudslide, spewing glacial till and sediment all over the downstream fish habitat.

What happens when the private power guys abandon their projects because neither BC Hydro nor anyone else wants to pay their crazy high rates? Who will pay to decommission the rusting tangle of pipes and wires left behind? Well, you and I will, because the private power guys will have taken our money and run, leaving the rest of us to clean up their mess.

That's because in this fool's gold rush the only thing that's being mined are pockets – yours and mine.



Joe Foy is Campaign Director for the Wilderness Committee, Canada's largest citizen-funded membership-based wilderness preservation organization.



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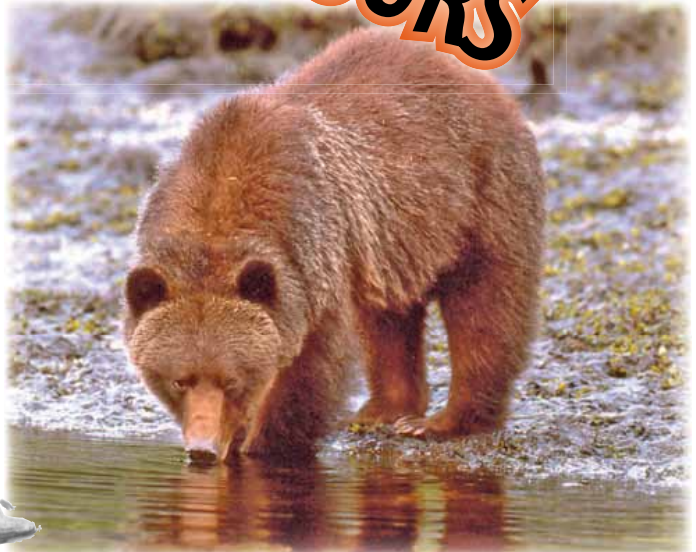
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