

Spying on Citizens • LNG Reality Check • Coal Port

Environmental News from BC and the World

Fracking & Water

# Watershed Sentinel



March - April 2014  
Newstand Price \$4.95



## The Fracksters

MADE IN CHINA

CONTAMINATED EARTH FOR eBay



7 25274 86324 2

VANCOUVER ISLAND



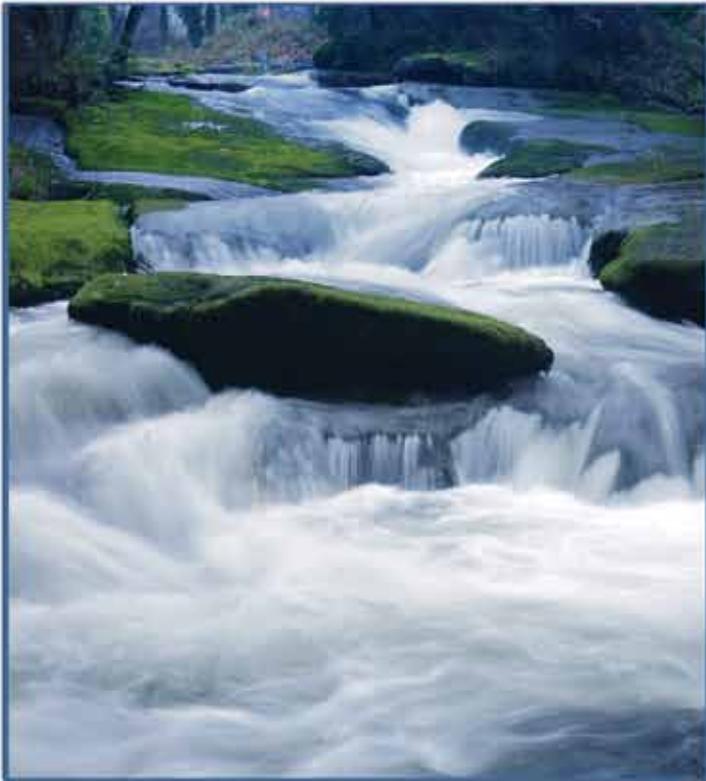
WATER WATCH COALITION

Speakers, film, entertainment  
and bus tours.

LUNCH PROVIDED

No charge to attend any or all.

# OUR WATER ~ OUR FUTURE 2014



**FRIDAY**

**6PM**

Listen to Damien Gillis  
speak and view his  
spectacular film  
"FRACTURED LAND"  
Doors open at 5pm

**SATURDAY**

**9AM - NOON**

**SPEAKERS**

Maude Barlow  
Andrew Nikiforuk  
Jessica Ernst  
Ingmar Lee

**BUS TOURS**

of the Tsolum River  
and Nile Creek  
Restoration Projects  
1pm - 3:30pm



**MAY 23 & 24, 2014**

**FLORENCE FILBERG CENTRE**

411 Anderton Avenue Courtenay, BC

# Watershed *Sentinel*



March-April 2014  
Vol. 24, No. 2

## Forests

- 6 **Report from the Woods**  
Jim Cooperman tells us about the word around the province on the state of BC forests
- 22 **A Treeplanter's Perspective**  
Ingmar Lee waxes furious over watershed abuse

## Water

- 8 **Fracking with Our Water**  
A round up on fracking and the community resistance across Canada
- 10 **Urban Frack Attack**  
Fracking in the city? Lethbridge fights back
- 13 **Mi'kmaq Warrior Society Visit**  
Mi'kmaq Warriors, who are resisting fracking, meet with BC First Nations
- 14 **The Oldman River**  
Maggie Paquet reviews *Who Speaks for the River?* and speaks her mind too
- 16 **East Coast Fracking**  
A call for a referendum in Nova Scotia
- 17 **Provincial Grades on Water Quality**
- 18 **Modernizing BC's Water Act**
- 20 **Legislated Water Wars**  
An excerpt from Maude Barlow's *Blue Future*

## Society

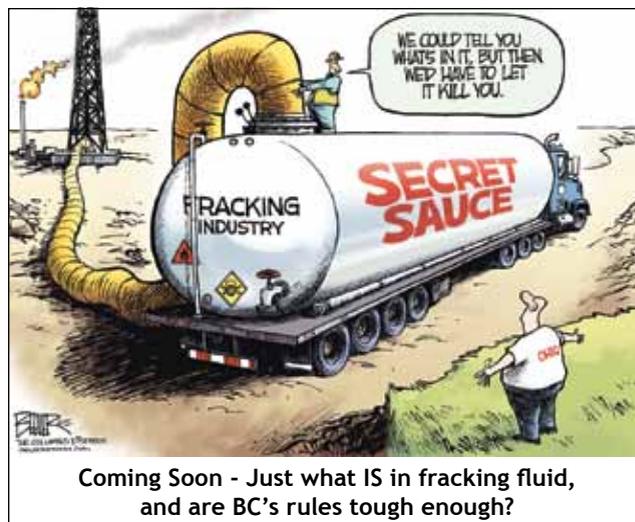
- 24 **Spying on Citizens**  
Joyce Nelson explores the extent of surveillance on Canadian citizens, and its use to stifle dissent

## Energy

- 28 **Vancouver Coal Port**  
Roy Hales on the lack of a health assessment for Vancouver's coal export plans



Printed on Enviro 100, post consumer recycled, FSC®-Certified paper, with vegetable inks.



Coming Soon - Just what IS in fracking fluid, and are BC's rules tough enough?

- 30 **BC LNG Reality Check**  
David Hughes lays out the real estimates of how much LNG BC will be able to export, as opposed to the permits issued

## Health

- 35 **Touring Cortes with a Geiger Counter**

## News & Other

- 36 **Wild Times**  
Joe Foy - Riverside Reflections
- 3, 5 **News Briefs**
- 4 **Letters**

Cover: Harper's Hell, by Markus Huebner



**Not a  
Subscriber Yet?**

Look for the subscription form inserted for your convenience



# Watershed *Sentinel*

Publisher Watershed Sentinel  
Educational Society

Editor Delores Broten

Managing Editor Susan MacVittie

Associate Editor Don Malcolm

Graphic Design Ester Strijbos

Renewals Manager Dawn Christian

Special thanks to Joyce Nelson, Birgit Bye, David Kattenburg, Norleen Lillico, Caroline Sturdy, Karen Birch, Patricia Robison, Arthur Caldicott, Gloria Jorg, Dyane Brown, Norberto Rodriguez de la Vega, Kathy Smail, Ray Woollam, the writers, advertisers, distributors, and all who send information, photos, and ideas. Deep thanks to our Board of Directors: Anicca de Trey, Alice Grange, Mike Morrell, Pam Munroe, Norberto Rodriguez de la Vega, Susan Yates, and Fay Weller. Published five times per year

Subscriptions: Canada \$25 one year, \$40 two years; US \$35 per 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 Magazine Assn of BC and  
Magazines Canada  
ISSN 1188-360X

Publication Mail Canada Post Agreement



PM 40012720

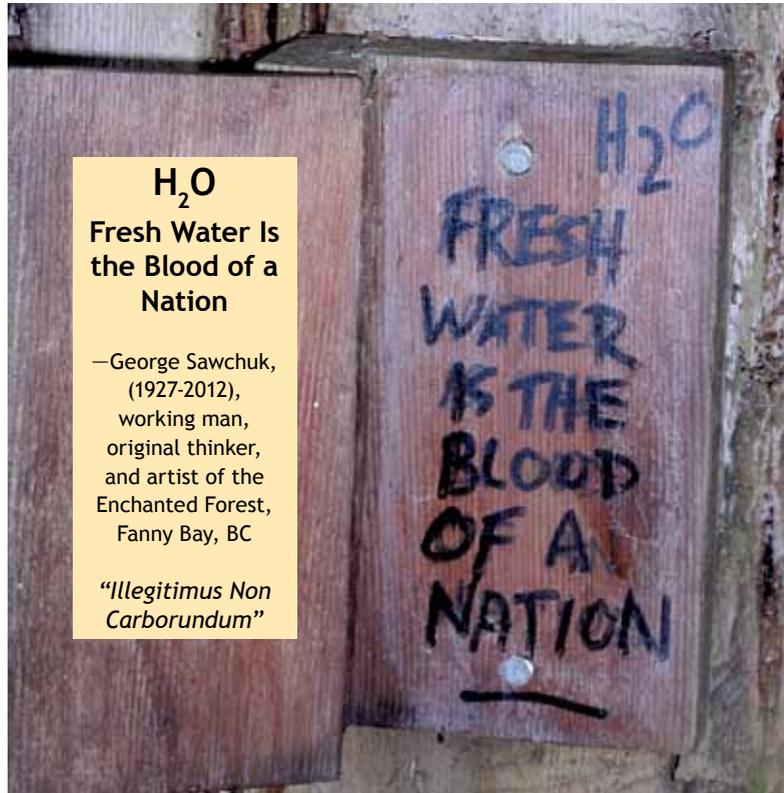
Return Undeliverable Canadian Addresses to:

Watershed Sentinel  
Box 1270, Comox  
BC, Canada V9M 7Z8  
Ph: 250-339-6117

Email [editor@watershedsentinel.ca](mailto:editor@watershedsentinel.ca)  
<http://www.watershedsentinel.ca>

Disclaimer: Opinions published are not necessarily those of the publisher, editor or other staff and volunteers of the magazine.

## EDITORIAL



**H<sub>2</sub>O**  
**Fresh Water Is  
the Blood of a  
Nation**

—George Sawchuk,  
(1927-2012),  
working man,  
original thinker,  
and artist of the  
Enchanted Forest,  
Fanny Bay, BC

*“Illegitimus Non  
Carborundum”*

### At the 'Shed

**Water Conference:** The *Watershed Sentinel* is pleased to be co-sponsoring the Our Water, Our Future conference held May 23 & 24 in our home community of Courtenay, BC.

**Check out our new and improved website!** We've redesigned our website to make it easier for you to access our content from the magazine, as well as news from our Inbox, Opinion pieces, and some web exclusive content.

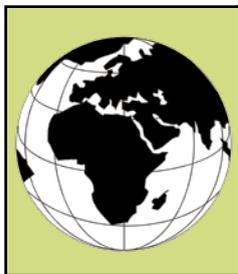
**Congratulations:** To *Sentinel* advertiser Dave Pinel, West Coast Expeditions, for being awarded the Green Tourism Gold from Green Tourism Canada.

**On Generosity:** Thank you very much for your wonderful generosity. These are tough times for the environment and for magazine publishers, so your gifts are crucial to our survival during these economic and technical transitions.

**Missing a Copy?** If you are missing a copy or a bundle, please let us know and we will make it right. Email [dawn@watershedsentinel.ca](mailto:dawn@watershedsentinel.ca)

**When you want your message to reach** thousands of concerned and active readers, please contact us for our rate sheet at: [ads@watershedsentinel.ca](mailto:ads@watershedsentinel.ca) or phone our office at 250-339-6117 or see [www.watershedsentinel.ca](http://www.watershedsentinel.ca)

**Next issue Ad deadline: May 16 - Copy deadline: April 26**



# Around The World

Compiled by Susan MacVittie

## Meters Not So Smart

Two US Northeast Utilities' subsidiaries, NSTAR Electric and Western Massachusetts Electric Company, have filed a written submission with the Massachusetts Department of Public Utilities stating that "There is no rational basis for the implementation of AMI [smart meters]" and that there is no evidence that the meters are a good choice for consumers.

— *smartgridawareness.org*,  
February 13, 2014

## Suburbs' Footprint

US households, though they only comprise 4.3 per cent of the global population, are responsible for about 20 per cent of annual worldwide greenhouse gas emissions. A report in *Environmental Science & Technology*, found that about half of the household carbon footprint comes from people living in the suburbs. More information on the size and composition of household carbon footprints is needed to inform policies.

— *American Chemical Society*,  
January 22, 2014

## Fast Old Growth

Scientists have discovered that for most tree species, the biggest trees increase their growth rates and sequester more carbon as they age. An international research group reports that 97 per cent of 403 tropical and temperate tree species grow more quickly the older they get.

— *Oregon State University*,  
January 13, 2014

## Bats Back in Europe

According to a new report by the European Environment Agency, after a prolonged decline, populations of several bat species are on the rise. Bat populations declined severely in Europe during the latter half of the 20th century due to changes in land use, habitat loss, and even poisoning from toxic timber in house roofs. All bats are protected by law in Europe

— *National Geographic*,  
January 29, 2014

## Nanoparticles in Soy

A study has found that two of the most widely used nanoparticles (NPs) accumulate in soybeans – second only to corn as a key food crop in the United States – in ways previously shown to have the potential to adversely affect the crop yields and nutritional quality. Zinc oxide and cerium dioxide are among today's most widely used NPs. Both are used in cosmetics, lotions, sunscreens and other products. They eventually go down the drain, through municipal sewage treatment plants, and wind up in the sewage sludge that some farmers apply to crops as fertilizer.

— *University of Texas*,  
February 6, 2014

## No Mine Waste in Alaska

The US Environmental Protection Agency (EPA) announced it is invoking its Clean Water Act authority to assess permanently prohibiting or restricting mine waste disposal into Alaska's Bristol Bay watershed. This decision puts on hold attempts to build the Pebble Mine, which would be North America's largest open pit gold-copper mine. EPA's action is not

a final decision to block the mine, but while the review occurs, the US Army Corps cannot take any steps to grant permits.

— *Earthworks*, February 28, 2014

## Seismic Testing

The US has paved the way for the first seismic oil and gas exploration in 26 years off the US Atlantic coast. The region is home to the North Atlantic right whales, which were hunted almost to extinction partly because their docile nature and habit of swimming near the surface made them easy targets. Since the 1986 ban on hunting, the whales have recovered only marginally and fewer than 500 are alive today. To help protect these whales, the final Environmental Impact Statement proposes that between November and April when larger numbers are present, the air-gun surveys would be banned close to the coast.

— *National Geographic*,  
February 28, 2014

## GMO Labelling

NDP MP Murray Rankin (Victoria, BC) has put forward a motion in the House of Commons calling for the mandatory labelling of food products containing ingredients that have been genetically modified.

— *NDP*, December 4, 2013



# From Our Readers

## Food for Thought

What I think is really green can best be felt by reading the classic, *Two Years Before the Mast*. I read this almost 60 years ago as a teenager and several times since. This is a true story, not a novel.

What I think people should really read to understand what is happening today is, *Overskill*, by Eugene S. Schwartz. The copyright is 1971 and what he forecast is coming true today.

He says, "The technological society has planted the seeds of its own destruction, and the shoots are now beginning to appear." He wrote this before global warming was even on the radar screen.

*Frank Nixon, Winlaw, BC*

## What Is Really Green?

Considering that animal agriculture (corporate and local) is the single largest contributor of greenhouse gases globally (at least 20% of all greenhouse gases, according to a UN report), and that each pound of beef requires about 1800 gallons of water to produce, it seems clear that shifting to a plant based lifestyle is the single greenest thing any individual can do.

*Janine Bandcroft, Victoria, BC*

## Carbon Tax Needed

To stop additional future oil flows we have to demand a universal carbon tax. Until a proper international agreement on carbon tax has been reached, demand for oil will keep rising. It will make no difference in the global greenhouse gas emission whether Canada supplies that extra oil or we let other countries do it.

Study after study has shown that a revenue neutral carbon tax, like we have in BC, does not hurt the economy and is effective. In BC it has reduced the use of petroleum products by 17% while businesses and individuals got most of the money back through reduced taxes and special credits. So far Ottawa has refused to expand the BC tax to the rest of the country.

*Neil Heesterman, Internet*

The Watershed Sentinel welcomes letters but reserves the right to edit for brevity, clarity, legality, and taste. Anonymous letters will not be published.

Send your musings and your missives to:

Watershed Sentinel, Box 1270, Comox BC V9M 7Z8

editor@watershedsentinel.ca or online at [www.watershedsentinel.ca](http://www.watershedsentinel.ca)

## We Can Work It Out

It is very important to show the people in the flood of "heavy bad news" that there is a truthful and hopeful way to stand up against lethargy, paralysis, ignorance, and greed.

The problem has been the same since humans walked over the earth, but the instruments we have developed and the bad behaviours we have trained and cultivated to juggle them with, are bigger than before. Archimedes, the old Greek physicist said: "Give me a lever that is long enough and I will unhinge the world." We now have that long lever and one part of it is the big business pipelines.

The world has become a "circular global village" and the problems around the world concern everyone.

The good news is – there are more and more people with good intentions willing to find a solution for the problems and work them out.

Best wishes for you and your work.

*Markus Maria, Koln, Germany*

## Love Letter

Thank you for being there.

*Shirley Easton, Bowser, BC*

## Watershed Sentinel Bundle Bargains

Sponsor a bundle of western Canada's independent environmental news magazine for your organization, a local gathering place, or library. We can also match willing donors with schools or libraries that need sponsorship.

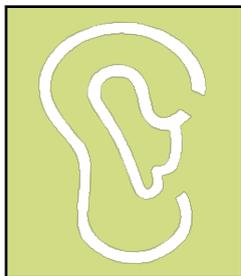


5	\$40
10	\$70
15	\$100
20	\$125
25	\$150
50	\$300

*Order Today*

[www.watershedsentinel.ca](http://www.watershedsentinel.ca)  
or use the insert form

Number of copies for five issues (1 year)



# Have You Heard?

Compiled by Susan MacVittie

## Lawsuit to Stop Pipeline

In January, environmental groups launched a lawsuit to block Cabinet approval of the proposed Northern Gateway pipeline. Ecojustice, who represents ForestEthics Advocacy, Living Oceans Society, and Raincoast Conservation Foundation, says the Joint Review Panel made its recommendation despite known gaps in the evidence, particularly missing information about the risk of geohazards along the pipeline route and what happens to diluted bitumen when it is spilled in the marine environment. The panel also failed to meet legal requirements under the *Species at Risk Act*.

— *ForestEthics*, January 17, 2014

## Who Writes the Rules?

*Who Writes the Rules?* by ForestEthics Advocacy, reveals that Canada's new National Energy Board rules, which shut down public participation in oil pipeline project hearings, were taken directly from an August 2012 oil industry report. An analysis of the report by the Energy Policy Institute of Canada, an industry-funded advocacy group, reveals that several of the energy group's key recommendations were directly inserted into federal law and bear a striking resemblance to language now in the *Canadian Environmental Assessment Act* and National Energy Board rules.

— *www.forestethics.org*,  
December 12, 2013

## Tar Sands Cancer

Dr. John O'Connor, the Alberta physician who raised concerns about health problems in Fort Chipewyan,

spoke to a US Senate committee in Washington in February. For years, O'Connor has called for independent studies on how oilsands development affects health of people in downstream communities. So far, the Canadian government has ignored these calls. He's bringing that message to the senators and hopes that he can draw attention to the issue.

— *fortmcmurraytoday.com*,  
February 26, 2014

## BC Ferry Coalition

A group of citizens upset about the cuts to ferry runs and increased rates by BC Ferries have created the BC Ferry Coalition. The Coalition organized a rally at the BC Legislature in Victoria on March 11. Citizens question cuts to the Port Hardy to Bella Coola route, which is a boon for coastal tourism, while BC Ferries did not delete runs from the money-losing Tsawwassen-Duke Point route. Citizens question the hefty bonuses to BC Ferries' managers and ask that the ferry system be integrated into the BC transportation infrastructure.

— *www.bcferrycoalition.com*,  
February 26, 2014

## Taseko Mine Rejected

The federal Minister of Environment has rejected the second application for the New Prosperity gold and copper mine project near Fish Lake (*Teztan Biny*), BC as it is likely to cause irreversible environmental damage. Opposition to the open pit mine, roughly 125 km southwest of Williams Lake, was led by the Tsilhqot'in First Nation.

— *CBC News*, February 28, 2014

## Take Action Against Development in Parks

In February, the BC Government introduced the *Park Amendment Act*, which would allow the government to permit exploration research for industrial development of parks and protected areas.

Bill 4 has had its First Reading in the Legislature. Concerned citizens should write to the Premier, the Minister of Environment, and their MLAs urging them to make NO changes to the *BC Parks Act*.

See Valhalla Wilderness Society: [www.vws.org](http://www.vws.org)

## Changes to the ALR

A government document reveals that proposed changes to BC's Agricultural Land Reserve (ALR), which protects farmland from urban development, would see the agency move within the Ministry of Agriculture. The change appears designed to allow the government to ease the way for resource development. The ALR is a provincial zone, currently governed by an independent commission.

— *Globe and Mail*, November 7, 2013

## On the Frontline

The Unis'tot'en camp, a resistance community whose purpose is to protect Wet'suwet'en territory from several proposed pipelines, is fundraising to build a bunkhouse. The camp stands directly in the path of the proposed energy corridor across northern BC. As long as it stands, no pipelines can be built.

— *www.unistotencamp.com*,  
March 2014

# Report from the Woods



**BC's sorry state of forest management**

by Jim Cooperman

Forestwatch is a listserv with over 100 members that has been active in one form or another since the late 1990s. Typical postings include news items about BC forest issues, press releases and occasional local observations or viewpoints. The listserv was abuzz recently, when Mark Haddock, who is with the UVic Environmental Law Centre, requested input about forestry operations for a talk he was asked to give at the upcoming Southern Interior Silviculture Committee convention.

The response was overwhelming, as activists and professionals from across the province unloaded a file full of observations regarding the current state of forest management. Chief among the concerns were the impacts from overcutting and how the obvious gap between the current Annual Allowable Cut and the actual lower rate of cut indicates the declining amount of timber actually available to log.

There was not full agreement on one topic, however. I emphasized the often-heard concern regarding the increasing size of the once forested areas deemed Not Satisfactorily Restocked (NSR). Despite estimates that often begin in the range of one million

hectares, the province has done little to increase the level of planting, and of equal concern, it is failing to maintain or improve the inventory.

However, one observer, James Steidle, took exception to the NSR concern, explaining how efforts such as the use of herbicides as a remedy, are misguided because deciduous

---

There is no regard  
for water quality,  
quantity or timing  
of flow.

---

trees not only have value, but also significantly contribute to biodiversity. He believes that more of the logged over forests should simply be allowed to naturally regenerate and that the province needs to utilize Aspen as done in Alberta, rather than waste these valuable trees that are usually considered a weed species.

### The Concerns

The almost complete lack of government oversight is a major concern, such as when forest service staff no longer review licensee plans, many values can be impacted, including

*Species At Risk Act* species, and no one will ever know. On the ground, this complete abdication of responsibility to industry means that cutblocks no longer have featheredges, resulting in blowdown, and no-machine zones are substituted for reserves, resulting in a loss of biodiversity values. Also, wildlife tree patches are too often located in inoperable sites rather than located to best protect wildlife values.

Another concern expressed is the lack of any record that shows cumulative impacts of multi-resource activities. In some areas of the province, the landscape is not only covered in roads and clearcuts, but there are also mining activities, oil and gas exploration, motorized recreation, independent power projects and even communication towers and powerlines. Despite a ministry that now includes just about everything, the Ministry of Forests, Lands and Natural Resources, has made no effort to investigate land modification activities related to mining.

In fact, enforcement of most rules governing crown land is miniscule at best, including preventing or penalizing those who trespass, make illegal structures, break fish and game regulations, or damage habitat with off-road vehicles. This lack of oversight

also applies to the vast network of logging roads, since there is no comprehensive management system in place.

Concerns regarding policy issues were also expressed, such as log exports, which have increased and now comprise ten per cent of the province's total cut. Also, government is once again considering a plan to expand the Tree Farm Licenses throughout the province despite widespread opposition. The loss of the research department a few years ago is also likely to impact the quality of the knowledge base required for responsible, sustainable forestry.

#### Meanwhile in the Okanagan...

So many of the comments received were quite predictable, given the sorry state of forestry in the province. However, many of us were not prepared for the serious litany of concerns about forestry in the Okanagan and elsewhere by longtime activist and Okanagan Similkameen Parks Society Director, Clive Johnson. Unlike many of us, Clive spends 20 to 30 days a year in the bush, monitoring the impacts of unsustainable forestry activities. Last year, he visited Kinbasket Lake, where he observed three small herds of caribou, but was shocked to discover most of the remaining caribou habitat was marked for logging.

In the Okanagan, Clive's backyard, he has witnessed larger and larger openings, from 200 hectares to 500 hectares and larger, with 100 per cent site disturbance. There appears to be no effort to maintain wildlife corridors and there is no regard for water quality, quantity or timing of flow. Many wildlife tree patches blow down in a year or two and this blow-down is so thick, even moose cannot get through.

Clive witnesses thousands, if not tens of thousands of large burn piles

each year in every type of ecosystem, with up to 20 to 30 per cent of the pre-logging stand in the pile. And this is not beetle wood, but usable timber that is just not profitable for the companies to truck out to their mills. Sometimes, Clive even spots large logs dumped over the down slope of roads. Fortunately, the beetles so far have not become a huge problem yet in the Okanagan.

Of course, all the waste wood, which includes far too much usable

---

Ancient trees will be  
cut down for wind  
power generation  
that will likely only  
produce electricity  
for export.

---

timber, is burnt in the fall and early winter, adding more CO<sub>2</sub> to the atmosphere and often polluting the airshed for local residents. Clive believes that at least some of this woody debris should be left on the block to provide habitat for small mammals and to return nutrients to the soil.

While Clive has seen many new trees being planted, many of these young seedlings get stressed by the sun and are often tromped on by cattle. In sites where the first planting was not successful, he has yet to see re-planting. Clearcutting has been going on in the Okanagan since the 1970s. While there are many old cut-blocks that are now plantations with established young forests, Clive is convinced that these trees (mostly pine stands that were planted in what were once spruce forests) will never reach volumes that are even half of what is expected and what is being used to base the current cut on. As

well, biodiversity in these stands is very low and the trees are often so thick that wildlife would need to pack a lunch.

What was most alarming about Clive's input was the news of the latest threat to old growth forests from wind farms. There are now proposals for wind power towers and transmission lines for vast areas of Crown forest land in the Okanagan, and many of the maps show sites located in what are now supposed to be protected old growth management areas. If these proposals are approved, biodiversity will take a major hit as the ancient trees will be cut down for wind power generation that will likely not even produce electricity for export.

Meanwhile, on the issue of oversight, Clive sees no one inspecting blocks, no one checking roads, no one doing waste assessments and no road checks for volumes on highway hauling. The forest service has yet to implement all of the agreements resulting from the Okanagan Shuswap Land and Resource Management Plan, signed back in 2001. His final suggestion sent shivers up spines, "What would I say to this group of foresters? If they are under 50 years old I would suggest to them that they should start looking for another kind of work. I don't see where they will find employment ten years from now. Unless we put an immediate stop to this current liquidation of our forests, there will soon be no intact working forests for them to practice their profession in."



Jim Cooperman is President of the Shuswap Environmental Action Society. To join Forestwatch contact Jim at [jccooperman@yahoo.ca](mailto:jccooperman@yahoo.ca)



# Fracking with Our Water

by Susan MacVittie

While North America is experiencing drought in some regions, water for hydraulic fracturing is being taken at a massive rate from our rivers and lakes. The act of fracking to unlock natural gas trapped in shale formations has brought the water-energy nexus to the fore. The millions of litres used at a fracking site are not returned to the hydrologic cycle, so unlike other usages of water such as urban and agriculture usage, it is a permanent withdrawal. Stories of tapwater ablaze due to chemical additives trickling in to the aquifer and leaking storage sites of fracking wastewater appear regularly in the news.

In this section we look at fracking across Canada, what communities are doing about it, and what policies are in place to protect our water.

Because water *is* more important than oil or gas.

## Fracking Across Canada

### Yukon

Community opposition to fracking was spurred by an application submitted by the Chinese company, Northern Cross, in 2010. There is currently no fracking underway in the Yukon, but Northern Cross has been conducting 3D seismic testing. The Council of Yukon First Nations passed a resolution in July 2013 declaring traditional territories “frack-free.” A Standing Committee of the Yukon Legislative Assembly is accepting public comments about fracking, and will report on its findings and recommendations on a policy approach to hydraulic fracturing in the Yukon during the 2014 spring sitting.

### The Northwest Territories

The Canol shale formation of the Sahtu area in the central Mackenzie Valley is believed to be one of the largest potential sources of oil shale on the continent, with estimates of between three and five billion barrels of recoverable oil. Oil and gas corporations Imperial Oil, Shell, ConocoPhillips, MGM Energy, and Husky have invested \$628 million since 2011 leasing

parcels of land in the central Mackenzie region for exploration. In October, for the first time, the National Energy Board has permitted horizontal fracking in the North. A coalition of NWT environmental and social action groups have launched a petition to call on the NWT government to use its authority under the *Mackenzie Valley Resource Management Act* to refer any further horizontal hydraulic fracturing applications to a full environmental assessment that includes public hearings.

### British Columbia

British Columbia is home to the world’s largest frack, with shale gas reserves in the Horn River, Montney, Liard, and Cordova basins located in the province’s northeastern corner. There have been more than 1,062 wells fracked in BC. In 2010, over the course of 111 days, a gigantic frack took place at Two Island Lake in the Horn River Basin, with an average of 17 fracks per well, which used 5.6 million barrels of water, 111 million pounds of sand and massive quantities

of unknown chemicals. The National Energy Board has approved seven LNG export applications for BC, which leads the way for more fracking. Various community groups and provincial organizations are working on the issue.

### Alberta

The Alberta Energy regulator says that 171,000 wells have been fracked in Alberta since the 1950s. There are 15 prospective shale gas formations in the province and five of these formations (Duvernay, Muskwa, Basal Banff/Exshaw, North Nordegg, and the Wilrich) may contain up to 1,291 trillion cubic feet (TcF) of shale gas. The province could contain an additional 500 TcF of coalbed methane (CBM). While CBM typically uses less fracking fluid than shale gas, the wells are not as deep, so fracking happens closer to the surface.

Urban fracking has appeared for the first time, sparking opposition from Lethbridge citizens who are involved with No Drilling Lethbridge and KLEW [see Page 10].

**Saskatchewan**

Fracking in Saskatchewan began in the 1950s and is almost exclusively for the extraction of the province’s oil reserves. Most fracking is concentrated in the Bakken oil play, which straddles the Canada-US border. The area is estimated to hold 200-300 billion barrels of oil, with potentially 1.3 billion barrels in Saskatchewan alone.

**Manitoba**

Fracking for oil occurs in a small corner in southwestern Manitoba. Since 2006, a total of 1,978 horizontal wells have been drilled. There is little public information on the chemicals and the amount of water used in the fracking process. The Manitoba government is working on new regulations for the fracking industry and a “FracFocus” website where fracking companies can “volunteer” information about their chemicals and water.

**Ontario**

While there is presently no fracking underway in Ontario, the Ontario Geological Survey (OGS) has highlighted the shale gas potential in the Ordovician Shale formations located in southern Ontario. The OGS drilled in 11 locations. Ontario borders four of the five Great Lakes. Developing these shale formations could have serious implications for the Lakes, Georgian Bay, and local watersheds. The Aamjiwnaang First Nation, near Sarnia, have been visited by industry reps talking about fracking and are opposed to it.

**Quebec**

In 2008 there was a lot of exploration activity in the St. Lawrence River Lowlands for the Utica shale formation, with 31 wells fracked. This sparked significant local opposition and prompted dozens of municipalities to pass resolutions banning fracking. In 2011, the Quebec government

placed a moratorium on new fracking permits in parts of the St. Lawrence River basin. Less than one per cent of licenses in this area were revoked. Lone Pine Resources, a company that held one of the revoked licenses, is suing the Canadian government for \$250 million under the North America Free Trade Agreement claiming that they have been deprived of their right to make a profit from fracking for gas.

In May 2013, Quebec’s Environment Minister tabled Bill 37 which, if passed, would impose a moratorium on fracking in the Lowlands of the St. Lawrence River for up to five years. The proposed legislation would revoke all drilling licences and prohibit new ones. In February, a Quebec court struck down a Gaspé municipal bylaw that tried to prevent exploratory oil wells being drilled and fracked close to its drinking water supply. The bylaw was deemed invalid because it prevented Petrolia Inc. from carrying out drilling specifically authorized by the province.

**New Brunswick**

The provincial government is moving forward with fracking despite growing public opposition. Most gas resources in the province are trapped in shale formations. There are currently 49 fracked wells in the province. People from across the Atlantic region have gathered in support of the Mi’kmaq in Elsipogtog as the community continues to block shale gas exploration by SWN Resources Canada.

**Nova Scotia**

In September 2012, the Mi’kmaq Warrior Society and other indigenous communities set up a partial blockade on the Canso Causeway to highlight the dangers of oil and gas drilling. Kennetcook is home to two holding ponds containing millions of litres of fracking wastewater from the Denver-

based Triangle Petroleum’s search for shale gas in the area in 2009-10. The holding ponds overflowed this winter due to snow and rain, but Nova Scotia Environment staff say the impact on the environment was minimal. The provincial government has issued a moratorium on fracking and commissioned an independent review with public participation. The Nova Scotia Fracking Resource and Action Coalition represents environmental and community organizations.

**Prince Edward Island**

A few exploratory leases were granted to oil and gas companies, but currently there are no active leases or fracking operations underway. Some experts believe there is a potential of 7.6 Tcf of coalbed methane in the ground on PEI. Local residents have joined together to form a diverse coalition under the banner, Don’t Frack PEI. In November 2013, the Standing Committee on Agriculture, Environment, Energy and Forestry recommended a moratorium on hydraulic fracturing on PEI.

**Newfoundland and Labrador**

Shoal Point Energy submitted a proposal to perform onshore-to-offshore fracking for oil exploration in several sites along the west coast of Newfoundland. Black Spruce Energy negotiated a farm-in agreement for exploration with Shoal Point. Public concern has focused on Rocky Harbour, which is fully encircled by Gros Morne National Park, a UNESCO World Heritage Site. Newfoundland and Labrador placed a moratorium on hydraulic fracking in November 2013.



With information from the Council of Canadian’s Fall 2013 *Canadian Perspectives*. The Council has published *A Fracktivists’ Toolkit*, available for download: [www.canadians.org/publications/fracktivists-toolkit](http://www.canadians.org/publications/fracktivists-toolkit)

# Urban Frack Attack

*Lethbridge, Alberta organizes against Goldenkey's fracking proposal*

*by Anthony Hall*

In the autumn of 2013, citizens in Lethbridge mobilized in response to news that a Chinese-backed firm, Goldenkey Oil Company, had been extended mineral rights to frack and drill in territory that includes a ten square mile plot of municipal land hosting several schools, 4,000 homes and 10,000 citizens of urban Lethbridge. One of those schools is the University of Lethbridge where I have been a faculty member since 1990.

The upsurge of citizens' resistance to urban drilling and fracking reminds me of the water war that engulfed this southern Albertan town of 90,000 people when I first arrived here from Ontario. In 1990 the community went into convulsions when a group, Peigan Indians, who identified themselves as the Lonefighters' Society, opposed the Alberta government's raising of the Oldman River Dam just upstream from their Indian reserve. The Lonefighters marked their opposition by using heavy machinery to divert water from the weir directing some of the Oldman River's flow into the irrigation canal of the Lethbridge North Irrigation District (LNID). The LNID is one of the bastions of the Conservative power base in this notoriously right-wing part of Canada.

## **The Oldman River Dam**

The current controversy over urban fracking in Lethbridge is some-

thing akin to the commotion created by the negative response to the Lonefighters' calling into question the legal legitimacy of the Oldman Dam. Where the Lonefighters' stand was exploited to generate support for the ruling party, the old status quo so far is being undermined by public responses to the frack attack on West Lethbridge.

The dominant industrial *modus operandi* currently in Alberta is based on the principle that oil and water mix.

In this arid part of Canada, where cactus plants grow amidst the dwindling natural domain of wild grasses, the politics of access to, as well as treatment of, fresh water is especially contentious. Situated on the west bank of the Oldman River just across from Goldenkey's Penny Project, drilling and fracking on the Blood Tribe reserve is already undermining the quality of Lethbridge's public water supplies.

The urban frack attack on Lethbridge is but a small part of a massive assault on the quality of public health and the environment throughout Alberta. In a single year applications

and approvals for drilling and fracking went up 650%, causing some to characterize the provincial government led by Alison Redford as a wholly-owned subsidiary of the Chinese and Texas-based oil and gas sector. A telling indicator of the extent of the conflict of interest is that the staff of the Alberta Energy Regulator is paid 100% by the very industry supposedly being regulated.

The floodgates for the deluge of new extractive activity, extending even into urban areas, was opened in part by key provisions hidden amongst the verbiage of the Harper government's Omnibus Bills, C-38 and C-45. It was this federal legislation that proved to be the catalyst for the Idle No More movement in the autumn of 2012. The so-called Omnibus Bills included provisions reflecting the Harper government's attempt to withdraw federal constitutional responsibility from inland waters and thereby open the way for further provincialization of procedures for the extraction and transport of natural resources.

## **The Opposition**

The dominant industrial *modus operandi* currently in Alberta is based on the principle that oil and water mix. Huge quantities of fresh water are being degraded in the dirty production of bitumen, oil, and natural gas. Those conducting the "No Drilling in the City of Lethbridge" campaign, so

No fracking group outside of MLA Greg Weadick's office in Lethbridge, AB.



Trevor Page, KLEW

Skip-jack pumping oil at a well near Del Bonita in southern Alberta. Chief Mountain, sacred to First Nations, and the Rockies are in the background.



far at least, have chosen to highlight a number of issues besides the contamination of fresh water. These include the prospect of house prices dropping by about 16%, the possibility that West Lethbridge would have to be evacuated if sour gas is emitted in a blowout, and the dangers posed by the large scale transport of dangerous chemicals and highly flammable cargoes through local neighbourhoods.

The Public and Roman Catholic School boards were both fast off the mark to condemn urban fracking in West Lethbridge. The Mayor and City Council made similar stances, pointing out problems in the distribution of powers that preclude them from having a binding say in the decision of whether or not urban fracking takes place. The Lethbridge Real Estate Association added its voice to the nay-sayers as the number of signatures of those opposed to the Goldenkey project neared 10,000. At the time of this writing, the Board of Governors of the University of Lethbridge held back from coming out against the Goldenkey plan although over sixty faculty members have signed a letter encouraging our school's directing body to join with the other school boards in banning drilling and fracking in the neighbourhood of schools.

The Lethbridge Chamber of Commerce has been conspicuously absent in opposition to the urban frack attack. In his summary of who has or has not stepped forward to be counted, local public intellectual Al Barnhill commented in the *Lethbridge Herald*, "Where are the medical people – doctors, nurses, dentists? Other than a handful of responsible health professionals who signed petitions and attended meetings, one might believe their associations don't care enough about community health to have a leading role in opposing such a risky exploitation as drilling oil wells in residential areas."

**The Larger Context**

The swelling opposition to this plan, to industrialize the growing and thriving residential settlement in West Lethbridge, is part of a worldwide pattern. The well-known British Columbian scholar and pundit, Robin Mathews, has characterized this transnational phenomenon in his exposé of the behind the scenes skullduggery deployed to bring about the juridical defeat of Jessica Ernst, the environmental biologist who took the Encana Corporation to court for contaminating her well water in Rosebud Alber-

ta. Mathews writes "All over the globe fracking is fouling drinking water, lowering water tables, and endangering agriculture.... All over the globe people are being affected, waking up alarmed, calling for investigation, research, regulation, laws to control fracking."

In his investigative piece Mathews points out that the original judge appointed to the Ernst case, Justice Barbara Veldhuis, was removed from the matter at an advanced stage in the trial. To Mathews, who attended the legal proceedings, the whole process smacked of "sham, smoke-and-mirrors, fraud." Judge Veldhuis was promoted mid-trial and sent to the Appeals Court of Alberta when it appeared the jurist had some positive regard for the legal arguments being brought forward on behalf of Ms. Ernst.

Judge Veldhuis was replaced by Chief Justice of the Court of Queen's Bench, Neil Wittman. Judge Wittman ruled that the Alberta Energy Regulator (AER) has no "duty of care" and that this agency cannot be sued by those who are negatively affected by its decisions. A blazing symbol of the extent of conflict of interest permeating many aspects of governance in the virtual one-party state of Alberta:

Continued on Page 12 ➡

↳ *Urban Frack Attack*  
*continued*

100% of the wages and other costs of the Alberta Energy Regulator are paid by the very industry subject to the AER's rulings.

**Risky Business**

Recognition that fracking is dangerous to public health, environmental integrity, and agricultural enterprise is reflected by the fact that this extractive activity has been banned in a number of countries including France, Germany, South Africa, Bulgaria, Czech Republic, and Luxembourg. Fracking has also been prohibited in the Canadian petro-province of Newfoundland and in the urban municipalities of Pittsburgh, Denver and Hamilton, Ontario. Similarly, there is intense popular opposition to fracking in many jurisdictions whose governments do officially embrace it – governments like those of New Brunswick, Pennsylvania, Romania, California, and some districts of England. The resort to direct action in these and other jurisdictions demonstrates that some citizens are made to feel so disempowered that the only remaining venue of meaningful opposition to fracking is to throw their bodies in the path of the onslaught.

The limited water resources of arid southwestern Alberta pose the most obvious obstacle to transforming a zone of large-scale agriculture, recreation and education into a gas rush boom and bust economy marked by the proliferation of many thousands of fracking wells. To draw out the fossil fuel embedded in shale, deep horizontal drilling is followed at every well by the injection of literally millions of gallons of chemical-laced water that is volatile enough to explode open and shatter the existing subsurface geology. This feature of fracking contributes to the increased levels of earth-

quake activity that has been observed in many jurisdictions where the landscape has been subjected to this very intense form of industrial violence.

The rapid injection of these millions of gallons of supercharged chemical can be repeated up to 18 times for each well. Some of the used fracking brew will be retrieved at the wellheads to be hauled away for use at other sites and eventually transported to toxic waste dumps. Where are such dumps to be located? Who will operate them? Where will the makers of the Alberta Bakken play find the water they need? Will the fracking companies be charged for the true commercial value of fresh water or will they be subsidized at the expense of taxpayers, public health, and environmental integrity? What fresh water will be left for other users? Will there be any fresh pure water available any more once southern Alberta is fracked out? Such basic questions are especially pertinent in a region where irrigation farming and very large feedlots are already overtaxing the limited run-off coming from eastern slopes of the Rockies, an area where glaciers are quickly shrinking.

The dangers of transporting poisonous and highly flammable industrial products to and from fracking wells and then to refineries and markets was dramatically illustrated last summer by the lethal train disaster at Lac-Mégantic Quebec. The worst explosions involved train cars carrying product from the Bakken shale formations in North Dakota. As *The Globe and Mail* reported in December of 2013, "Bakken oil is potentially more hazardous than conventional crude because it is lighter and contains a number of gases and compounds, such as methane and propane, that can make it more corrosive and volatile."

Let me conclude by picturing Lethbridge's intake pipe to the water treatment plant on the Oldman River.



Lois Frank, a member of the Blood Tribe, blocking a GASFRAC truck from leaving a drill site on the Blood Reserve in southern Alberta.

This aquatic intake is already bringing into our community's tap water toxins used in the industrial chemistry of extracting oil and gas from upstream wells, including those presently operating on the nearby Blood Tribe Reserve. How many in the Lethbridge area have already determined that our tap water is not to be trusted as a safe source for drinking, bathing, and the hydrogenation of crops and domesticated animals? What would be the consequences for our tap water and public health of expanding the number of fracking wells in our local watershed to hundreds or even thousands of times the present number?

As citizens push for a ban on urban fracking in Lethbridge, we need to begin by demanding a moratorium on all future fracking projects in southwestern Alberta until the current inhabitants are given a full accounting of what has already been done and of plans being made for oil and gas exploration and exploitation in our region. We need to be attentive to preserving what is left of precious and dwindling fresh water supplies, an imperilled resource essential to the renewal of all life on earth.



Anthony Hall is Professor of Globalization Studies at University of Lethbridge in Alberta.

See [www.nodrillinglethbridge.ca](http://www.nodrillinglethbridge.ca), [www.klew.org](http://www.klew.org) or No Drilling In Lethbridge on Facebook.

## Mi'kmaq Warrior Society Visit

### Mi'kmaq Warrior Society members share their experience of protesting gas exploration



Wendy Kenin

by Dave Stevens

Nothing says “NO!” like burning cop cars. On October 17, 2013 someone said “no” three times at Elsipogtog, New Brunswick. The Mi'kmaq Warrior Society were supporting a peaceful blockade against shale gas exploration – that day saw a RCMP raid, mass arrests, radicalization, and huge headlines for weeks following.

SWN Resources, a subsidiary of a Texas-based firm, have been performing seismic testing to search for underground deposits of natural gas in New Brunswick. Besides environmental concerns related to fracking, local First Nations have said they have not been consulted on shale gas exploration. There had been protests against SWN Resources and shale gas exploration for months before the October 17 clash, and tensions were running high between some protesters and the RCMP. Some of the protesters were charged by RCMP and are being sued by SWN.

Members of the Mi'kmaq Warriors Society, who were arrested and incarcerated at Elsipogtog, embarked on a speaking tour in January and February to raise awareness about

their struggle against fracking, their ongoing assertion and exercise of nationhood, and the repression they face from police and courts.

On February 1st 2014, Suzanne Patles and Coady Stevens, Mi'kmaq Warriors, met with First Nations from across northern BC in Moricetown. Represented were Nisga, Haisla, Tsimshian, Gitksan, Tahltan, Wet'suwet'en and Haida First Nations, the Skeena Watershed Conservation Coalition (SWCC), and friends and sympathizers. Chief Toghestiy convened the meeting at the home of hereditary chief Adam Gagnon.

After an opening prayer, SWCC led off with a good presentation of the feasibility and dangers of liquefied natural gas pipelines. The Mi'kmaq guests, Coady and Suzanne, were introduced. Coady led off with an account of his personal struggles in years past with substances and dislocation from traditional culture. He told us the history of his involvement with the protests, his arrest, his incarceration for three months in the hole in Shediac prison, his deprivation from spiritual counsel and his plea bargain that got him out.

Suzanne took the floor and spoke very movingly about her dealings with the authorities and eventual success in getting charges against her dropped. She pointed out that the potential threat to the aquifer in her community if fracking was to occur, was the catalyst for the resistance.

Throughout the morning there was wide-ranging and relevant discussion of the actions and motives of all parties. I was repeatedly struck by the clarity of vision and fundamental decency of the speakers, not only the Warrior Society guests, but all the

speakers. The need for solidarity, effective and strategic cooperation were constant themes. The history of conflicts and outcomes, both short-term and long-term, were discussed – Oka, for example, and imperialistic cultural genocide attempts for another.

The meeting broke up mid-afternoon as people left to return to their homes, some at a great distance. The Mikm'aq Warriors were to stay for two days in the Unist'ot'en camp south of Houston, and then travel to other engagements in Alberta and further east, slowly returning home.

Finance Minister Blaine Higgs reported that New Brunswick spent \$9.5 million policing the shale gas protests last year.

SWN has announced that they intend to drill two wells on unceded Mi'kmaq land, and the Mi'kmaq Warrior Society and their supporters have vowed to keep up the fight.

#### Legal Fund

There is an account to cover legal fees for people who have been arrested, charged and require legal representation for their appearance and trials. They are not covered by Legal Aid and cannot afford the solid representation they need. [www.gofundme.com/6on5z0](http://www.gofundme.com/6on5z0)



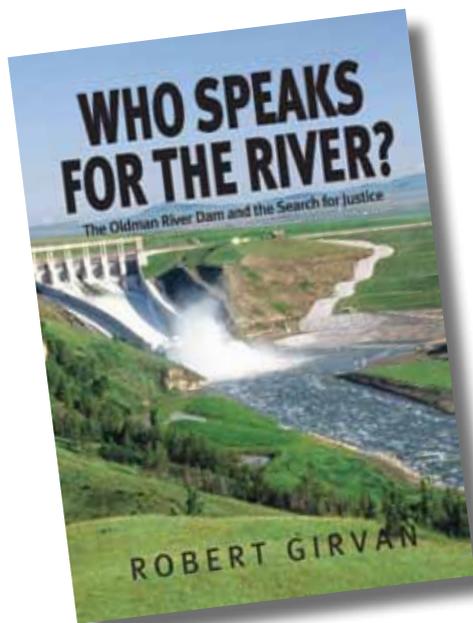
Dave Stevens is a self-confessed computer geek, agitator, and friend and neighbour of First Nations people in Moricetown and other places. He's also a meeting junkie.

# Who Speaks for the River?

## *Who Speaks For The River?*

*The Oldman River Dam and the Search for Justice*

By Robert Girvan, © 2013, Publisher: Fifth House Ltd., 392 pages  
ISBN: 978-1-92708-301-7



by Maggie Paquet

Part of this book reflects the saga of western expansion; the misuse and overuse of land, the political and social ignorance that parallels the settlement of Canada – of settlers and politicians trampling the human rights of the First Peoples, of engineers believing Nature was something to conquer.

On one hand, it's the straightforward story of the Oldman River dam, the Piikani (Peigan) Nation, this part of Alberta, and the effects (social, economic, cultural, ecological) on some people and the environment. On the other hand, it's an indictment of the behaviour of Alberta's government and parts of its "justice" system and political decisions regarding public resources. The book offers insight into the realm of what often passed for justice in cases involving Aboriginal people 25 and more years ago.

While the story is historical, this book touches on many of today's issues: Aboriginal rights and title, how governments honour treaties, water, climate change, loss of species, best use of land, use of the media as a propaganda tool, and democracy. A critical part of the story is about laws and our legal systems. What are they for? Who are they for?

There had been long years of

drought in this nearly desert land of southwestern Alberta. The land had experienced too many demands; too many trees had been cleared, it was being farmed from corner to corner. By the 1980s, there was a great demand for water. Farmers and the City of Lethbridge demanded a dam. At a community meeting in 1984, one farmer complained that, "We're running out of water too often here. You're letting all that water go down the river and just dumping it in the ocean...." Meanwhile, the Piikani had been left out of all the land and water use decisions, including those for building the dam.

After a major flood in 1923, the Oldman, which ran through the Piikani reserve, had formed a new channel. Milton Born With A Tooth, a member of the Piikani First Nation, wanted to send the river back down the old channel, bypassing the farmers' weir that fed their irrigation ditches. He maintained that government wanted to put the dam in the wrong place. If there needed to be a dam, it should be in a different location and be done in co-operation with the Piikani, including profit-sharing for their community.

Girvan gives insightful descriptions of the characters involved, including Martha Kostuch; Milton Born With A Tooth, others of the Lonefighters Society, and members of the Piikani Nation; Roy Jensen, a farmer who managed the irrigation system; Rick Ross, an engineer; and a number of lawyers and judges.

Alberta began constructing the dam in fall 1986. They dug tunnels under the riverbed to divert the flow away from construction. They issued a permit to themselves and did not give notice to the public. They didn't do an environmental assessment in spite of a Supreme Court of Canada ruling, and they didn't have a permit from DFO to destroy fish habitat. They exhibited extreme hubris, running roughshod over the law, the environment, and the Piikani. This is what Martha Kostuch challenged – and won. At a major protest at the site, Milton Born With A Tooth, facing an army of well-armed police, aimed an old rifle at the sky and fired. He was charged with attempted murder – and lost. One can indeed ask about justice.

Martha's premise was that Alberta had broken its own law. Her group, Friends of Oldman River, launched a lawsuit against Alberta, which they won, but Alberta appealed, further stalling while continuing to build the dam. What followed was an inundation of spin and counterspin. By disagreeing with Alberta and the farmers, Milton challenged the whole system that allowed government to make decisions that he felt would have a major detrimental effect on his community.

This book is excellent background for understanding where we are today, relevant to all kinds of destruction of rivers and regional ecologies in the name of "progress." Girvan describes the turf war between Alberta and Canada over permission

to destroy fish habitat, contrary to section 35 of the *Fisheries Act*. Clearly, this discourse illuminates the federal government's recent achievement in nixing that section so that rivers and lakes all over Canada can be sacrificed for any and all industrial projects. Tar sands, anyone?

There is a wealth of fascinating detail and well-expressed insight in this book. It describes the dismal and racist treatment of the Piikani, fenced into their reserve and having no voice. It explains very well the relationship between water, power (political), money – and bias and ignorance. Site C comes to mind.

I read about how some decisions are made that fly in the face of reason, enlightened understanding of natural systems and human fairness – and ecological (environmental and social) justice. The fight of the Xenigwet'in and Teztan Biny comes to mind.

As I read this book, I wondered: Justice for whom? The farmers in southwestern Alberta, who believed they needed more water for irrigation? Albertan politicians who may have thought that building the dam would garner votes in the next election? Biologists and environmentalists who knew the irreplaceable value of an intact river; that damming it would destroy the fragile ecology? The Piikani, for whom the Oldman River was a sac-

cred part of their Creator belief, their spirituality, and a deeply integral part of their culture as it grew out of the local environment over many thousands of years?

At a major protest at the site, Milton Born With A Tooth, facing an army of well-armed police, aimed an old rifle at the sky and fired. He was charged with attempted murder – and lost the case. One can indeed ask about justice.

Parts of this story could have happened – *has* happened – in every part of Canada where there is a river, a First Nations reserve, politicians, and bureaucrats who are more concerned with their careers than with conserving nature or furthering justice.

The primary question: Who speaks for the river? is examined thoroughly. The answer depends on

your values, experiences, needs, and on your understanding and knowledge of biological systems that are, in themselves, formed by geophysical systems. Social and cultural systems are, ultimately, the determinants of decisions that affect those other systems. From my point of view, there are two main entities who spoke for the river: Milton Born With A Tooth and the Lonefighters, and Friends of Oldman River, led by Martha, Cliff Wallis, and others.

This book builds suspense like a novel. Girvan has done an exceptional job of writing about so very sensitive an issue as whether or not justice prevailed...justice for the Piikani, for the Oldman River, and for Milton Born With A Tooth. It tells a very complex, yet also simple, story: How to achieve justice. There's no doubt that it describes a colossal – and age-old – battle between power and justice. I suspect that battle will never end.



Maggie Paquet is a biologist, activist, and writer/editor. She is a recipient of the Martha Kostuch Lifetime Achievement Award, conferred by the Canadian Environmental Network.



Watershed Sentinel staff model our new T-shirts. You can have one too for only \$25 postage included! T-Shirts are all organic cotton in Natural or Dark Brown, and come in Small, Medium, Large or X-large. Only the Natural colour has the slogan "Be a Hip Wader." They are pre-shrunk, but you should allow for a small amount of shrinkage.

**Only \$25**

**Watershed Sentinel T-Shirts**



**Yours in Good Health**

**EDIBLE ISLAND**  
WHOLE FOODS MARKET

477 6th Street Courtenay ◆ www.edibleisland.ca  
250-334-3116 ◆ Mon-Fri 9-7 Saturday 9-6 Sunday 10-5

# East Coast Fracking

*The future of fracking in Nova Scotia calls for a referendum*

*by Jim Guy*

Hydraulic fracturing – commonly called fracking – may well become the political issue that polarizes Nova Scotians this year.

The practice has already generated huge controversy elsewhere in Canada, the US and Europe, and now it is raising political concerns both on mainland Nova Scotia and on Cape Breton Island, where industrial contamination and costly remediation are fresh in everyone's memory.

In December 2013 the Nova Scotia government banned the importation of fracking waste water. The province already has a moratorium on fracking. The question that begs to be asked is: How close are we to giving an absolute “no” to fracking?

Fracking typically ignites environmental concerns in communities, especially First Nations. Last year, anti-fracking demonstrations took place in a number of Nova Scotia First Nations, and there will likely be more if government gives fracking the OK.

As the fracking issue has unfolded in other regions, politics and industry have collided over questions of safety, environmental degradation and quality of life.

Many observers point to “industry science” that declares fracking to be “safe.” But academic science identifies numerous potential public safety and health hazards from fracking. Fracking has already been defined in many communities and the narrative is strikingly similar wherever it occurs. But it will receive yet another definition in Nova Scotia as part of the mandate of the provincially contracted independent fracking review chaired by Cape Breton University president David Wheeler.

Fracking technology has been widely used in North America to access “unconventional” natural gas deposits trapped underground. It involves clearing land in preparation for the installation of wells. The wells are drilled to hundreds, and sometimes thousands, of metres deep. This is often followed by blasting millions of litres of water, chemicals and sand into the well to release natural gas or oil.

The industry claims that fracking is safe, and accuses environmentalists of spreading misinformation and creating a climate of fear at the expense of jobs and economic growth.

The question that begs to be asked is: How close are we to giving an absolute “no” to fracking?

Many energy companies in the Maritimes are watching how Nova Scotia's fracking review will proceed. The demand for natural gas in the Maritimes has been steadily increasing since the 2008-09 recession.

As a clean-burning fuel, natural gas has potential, especially as Nova Scotia phases out coal-fired electrical generation and moves toward gas-fired electrical generation. Many companies are lined up to benefit from widespread fracking in Nova Scotia.

Groups opposed to the procedure say fracking contaminates aquifers and places people's health at risk. Chemicals believed to be carcinogenic are used. However, most energy companies have been reluctant to identify

the chemicals they use, claiming that they constitute a “trade secret.”

Nova Scotians are currently dealing with fracking wastewater from exploratory drilling conducted in Hants County from 2005-07.

The Nova Scotia Fracking Resource and Action Coalition is the province-wide association of organizations and individuals opposed to hydraulic fracturing. In December, the coalition sent an open letter to the government, expressing a lack of confidence in the provincial review, which it doubts will provide an independent and holistic assessment of the effects of fracking. In fairness to the review chairman, the membership has not been finalized.

The federal Liberal, NDP and Green parties all oppose fracking. Environment Canada wants oil and gas companies to disclose what fluids are used in fracking. Provincial environmental acts stand to be violated if fracking results in water and soil contamination.

Opposition to fracking will not disappear, no matter how balanced and independent the provincial review is perceived to be. Such potential controversy points to the need for a provincial referendum. Nova Scotia has had three referendums: on importing liquor in 1920, on liquor control in 1929, and a plebiscite on Sunday shopping in 2004.

The future of fracking in Nova Scotia warrants a plebiscite.



Jim Guy, PhD, is professor emeritus of political science and international law at Cape Breton University.

First published in the *Cape Breton Post*, January 21, 2014.

# Canada's Water Grades

## THE GRADES



Federal Government  
**F**



## FEDERAL FAILURE

**F** Canada's federal government gets another 'F' for its poor drinking water protection record, which continues to worsen.

- No progress has been made on the legislative front and there has been little improvement in the quality of water for First Nations communities.
- Drastic budget cuts virtually guarantee that Environment Canada will continue its inability to properly monitor water quality, as described in a recent Auditor General's report.
- Some drinking water improvement funds are available only to municipalities that engage in public-private partnerships.

Indicates whether a score has risen, fallen or stayed the same since *Waterproof 2* in 2006

**ONTARIO** Is implementing the most ambitious source water protection program in Canada and has some of the country's strongest treatment, testing, operator training and public reporting standards.

**NEWFOUNDLAND AND LABRADOR** Implemented SWP measures that cover the majority of groundwater sources and improved water standards, but lacks an operator certification program.

**BRITISH COLUMBIA** **C+** Has some of Canada's lowest standards for water treatment and SWP efforts and is undertaking an ambitious water law overhaul, but it does not touch directly on drinking water.

**NOVA SCOTIA** **A-** Has strong measures in place for water treatment and testing, and is home to one of Canada's most extensive SWP programs.

**PRINCE EDWARD ISLAND** **B-** Has 92% of water systems protected by legally-binding plans, but water treatment is not mandatory.

**NORTHWEST TERRITORIES** **C** Seems poised for significant improvement. Though no SWP measures are in place, it has taken steps to recognize the right to water and is undergoing an ambitious review of its water laws.

**YUKON** **C-** Has improved standards related to treatment and contaminants and has rules requiring separation of drinking water sources and potential contamination threats, but no SWP is in place.

**MANITOBA** **B+** Has strong treatment standards and is developing what appears to be a robust source water protection program.

**QUEBEC** **B-** Stands alone in affirming that water is a collective good and has strong treatment regulations, but SWP is not as advanced as in other provinces.

**ALBERTA** **C-** Has not fully engaged in SWP efforts despite being a hub of industrial activity. Standards for water treatment and testing have remained static during the last five years.

**NUNAVUT** **D** Has no source water protection in place and its standards for water treatment are among the lowest in Canada.

**NEW BRUNSWICK** **B+** Established strong SWP measures that protect a high percentage of its population, and boasts improved standards for water treatment and testing.

**SASKATCHEWAN** **B-** Has solid treatment and testing standards, and is at the forefront of protecting public interest, but SWP is not legally-binding.

These grades were determined by evaluating treatment and testing requirements, drinking water quality standards, source water protection, and measures for transparency and accountability.

Reprinted courtesy Ecojustice, from *Water Proof Three: Canada's Drinking Water Report Card, 2011*

# MODERNIZING BC'S WATER ACT

## Recommendations to the proposed Water Sustainability Act

by Randy Christensen

Water is British Columbia's most important natural resource. Our health, environment and economy all depend upon access to clean water. Yet you'd never know that from looking at how BC's water is being managed.

*The Water Act* and other provincial legislation have historically failed to prevent water scarcity and ensure that there's enough water to satisfy competing economic, environmental and human health needs. *The Water Act* has also failed to provide the public fair return on a publicly-owned resource.

That we need a new water law is old news. Both government and advocacy groups have called for the *Water Act* to be updated so that it is adequately equipped to manage modern-day water demands. In late October, after many false starts and delays, the BC provincial government unveiled its answer to calls for a modern water law: a proposed *Water Sustainability Act*.

Sadly, the proposed legislation is just the latest example of the province's penchant for promising excellence and delivering mediocrity. It wasn't long ago that Gordon Campbell's government promised to deliver "the best air and water quality, and the best fisheries management, bar none." A decade later, BC is the only place in North America that doesn't regulate groundwater and we've just gone through a multi-year federal inquiry to find out why wild salmon stocks crashed in 2009.

The proposal has definitely caught the public's interest – and scorn. More than 3,200 individuals and groups have made submissions. At time of publication, the government had yet to release any analysis of those comments; however, the submissions are available online and many express concern about efficacy of the proposed *Water Sustainability Act*.

We desperately need a new water law, one that protects the environ-

ment, prevents conflict over water, prioritizes the most socially-important uses of water, gives the public a say in decision making and ensures that water pricing for commercial use reflects the inherent value of fresh water to British Columbians.

Here are four of the most pressing changes that can and should be made to the proposed *Water Sustainability Act*:

### 1 Recommendation #1: Protect the public trust

For more than a century, BC's water has been "vested" in the Crown. But while the public owns BC's water, it's not managed in the public interest under the current law. More disappointingly, that won't change dramatically under the proposed *Water Sustainability Act*.

What's missing is something that other jurisdictions around the world are embracing: Recognition of the public trust doctrine, which explicitly declares that water is owned by the



Support Canada's Environmental News Today

public and must be managed on the public's behalf. This means that private rights to use water are ultimately subordinate to the overall public interest.

Three years ago, Quebec declared that water is part of the "common heritage" of the province and created a duty on every person to protect it. The Northwest Territories recognized the "public trust" and the need to protect the environment (including water) for present and future generations. California and South Africa have taken similar steps.

This overwhelming trend makes BC's refusal to recognize the public trust or require that water be managed in the public's interest all the more glaring. The BC government has not explained for whom it believes it is managing the province's waters, but clearly, it's not the public.

## 2 Recommendation #2: Give the public a voice

Under the proposed *Water Sustainability Act*, water is going to be managed, for the most part, without public input.

On the positive side, the proposal seems to open the door to watershed management at the local level by creating the power to delegate decisions. But we still need a commitment that local residents will be able to participate in the process when decisions are delegated.

There are also no commitments to include the public in a number of key processes, such as reviewing existing licences, setting "water objectives" (which will guide a range of land-use decisions), establishing environmental flows, creating area-based regulations (which may tighten standards at a local level or address regional water scarcity), and designing water efficiency standards – just to name a few.

And for the most important decisions, the public will be shut out completely. When someone applies for a licence to take water, there will be no requirement of public notice and no opportunity for the public to participate in the decision.

The regressive nature of the government's position on this issue cannot be overstated. Public participation in this type of decision-making has been a given for decades in environmental law.

## 3 Recommendation #3: Establish fair return on water

There was considerable hue and cry this summer when the public learned that Nestlé pays nothing for taking millions of litres of groundwater in BC. The reason? The current *Water Act* only regulates surface water.

Although one of the bright spots in the proposed *Water Sustainability Act* is that groundwater users will finally be brought into the system, if water rates remain at their current level, Nestlé would still only pay around \$265 for the 319.5 million litres it bottles at its Hope, BC plant each year. Meanwhile, a Lower Mainland family of three would pay, on average, about \$650 per year for the tiniest fraction of what Nestlé uses.

Running the administrative system for water use in BC is expensive, but user fees fail to cover the cost of running the system, which means that the public is subsidizing the water use of major commercial interests. Water users also pay nothing for the environmental damage they cause.

Clearly, this is an opportunity to increase industrial water-use fees, which can be used to support water governance and environmental remediation instead of being absorbed into the province's general revenue.

## 4 Recommendation #4: Protect Environmental Flows

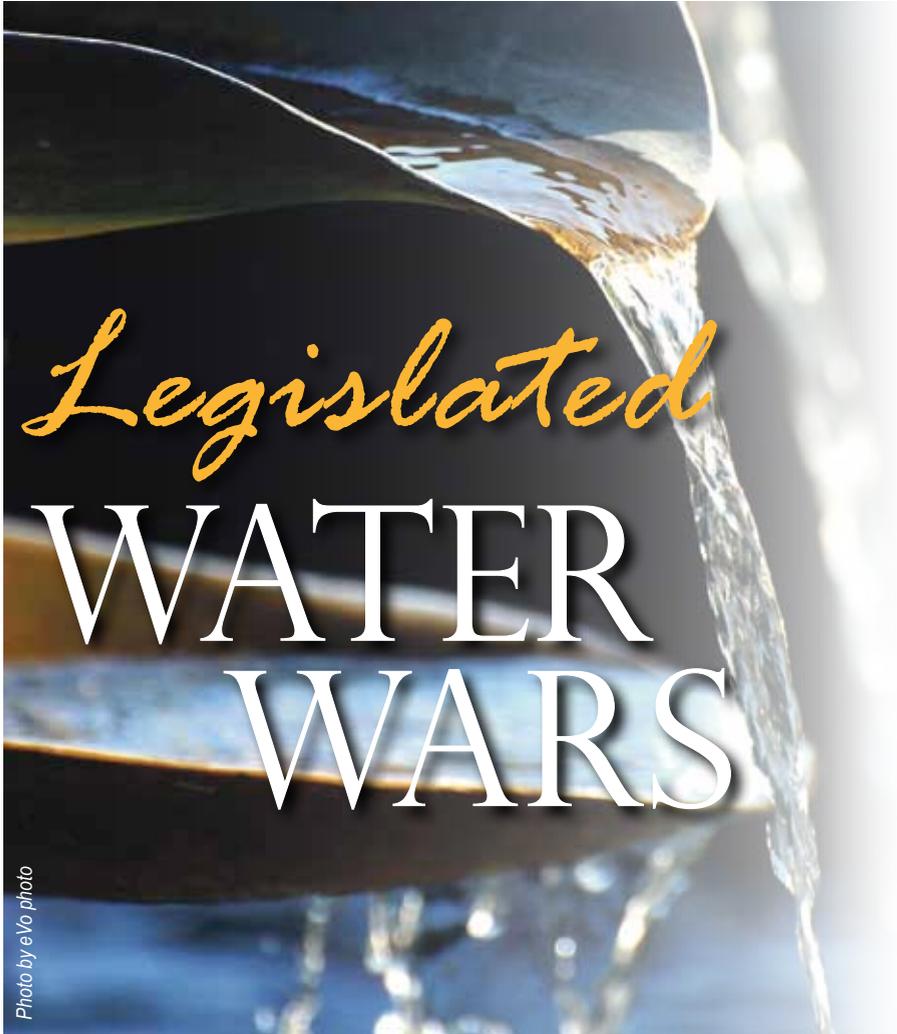
The lack of real, binding, legally-enforceable protections for fish and the environment is, in my mind, the single biggest problem with the proposed *Water Sustainability Act*. Environmental flows are critical to the healthy function of watersheds and must be clearly prioritized over other non-essential human uses. The *Water Sustainability Act* must explicitly set aside an ecological reserve of water that is not available for any use other than the conservation and maintenance of fish habitat and preservation of ecosystems.

A good first step would be amending the *Water Act* to ensure that environmental flows are legally-protected and have priority over commercial users. Second, we need a commitment that the flows themselves will be determined by a scientifically-defensible methodology (not the guesses of industry consultants and bureaucrats) and public input.

We're still waiting so see how the BC government has responded to public input given late last year. There's a lot at stake here. If we get it wrong – and looking at the proposed *Water Sustainability Act*, the outlook isn't exactly rosy – all of BC will be forced to grapple with conflict, litigation, missed economic opportunities, lost revenue and environmental ruin. Here's hoping they get it right.



*Randy Christensen is a staff lawyer and water policy specialist at Ecojustice, Canada's leading charity using the law to protect and restore the environment. Randy is also the author of Waterproof, a series of national report cards on Canada's drinking water standards.*



# Legislated WATER WARS

Photo by eVo photo

*How trade agreements are undermining our right to water*

*by Maude Barlow*

Over the last 25 years, corporations have been the driving force behind global, regional and bilateral trade and investment agreements that favour their interests by limiting the ability of signatory countries to set conditions on global trade and investment. The goal of free trade agreements is the elimination of tariff and non-tariff barriers to the free movement of goods and services. Non-tariff barriers include local economic development programs, domestic food sovereignty rules, and environmental laws that are thought to be “excessive” and hinder trade.

Investment treaties give foreign corporations “investor-state” rights,

allowing them to by-pass their own governments and directly sue the government of another country if they believe their “right to profit” has been affected by a law or practice in that country. Investor-state rights first appeared in the 1994 North American Free Trade Agreement and have exploded since. There are almost 3,000 bilateral deals between governments, most giving corporations these extraordinary rights, and many of them are used to gain access to the common resources of other countries, putting the world’s forests, fish, minerals, land, air and water supplies under direct control of transnational corporations.

## **NAFTA Lawsuits**

Canada’s freshwater heritage has been directly affected by Chapter 11, the investor state clause of NAFTA, which allows American corporations operating in Canada to sue for financial compensation if any changes are made to the policies or practices under which they first invested. In 2002, SD Myers, an American company specializing in the disposal of hazardous waste, including PCBs, was awarded over \$8 million from the Canadian government for loss of profit after Canada banned the trade of PCBs to protect its water. Currently, Lone Pine Resources, an American energy company, is suing the government of Canada for \$250,000 because in 2011, the province of Quebec passed a moratorium on shale gas fracking in order to protect its water reserves.

If the government of Alberta were to ever limit the current water access of the energy companies operating in the tar sands, say legal experts, the American companies could sue for huge sums of compensation from the government of Canada. Joseph Cumming and Robert Froehlich of the University of Toronto’s Faculty of Law warn that cancelling or limiting water licenses would be seen as a form of trade-illegal expropriation, costing the Canadian taxpayer potentially billions of dollars. Equally worrisome, they say, is that the threat of such compensation might prevent the Alberta government from taking such a step in the first place, allowing American energy corporations to dictate Canadian policy.

In a particularly disturbing development, the government of Canada awarded an American company compensation for the actual water rights it was no longer using when it abandoned its Canadian operation. After running a pulp and paper mill in Newfoundland for over a century, US forestry giant Abitibi Bowater declared

bankruptcy and left the province in 2008. The Newfoundland government expropriated the company's assets in the province, including its water rights, in order to help pay for environmental clean-up and pensions for laid-off workers. The Newfoundland government argued that the water belonged to the province and was only allocated to the company as long as it operated a mill there. Abitibi Bowater sued the Canadian government under Chapter 11 of NAFTA, and the Harper government settled without going to a NAFTA tribunal, giving the company \$130 million in compensation.

This has set a dangerous precedent whereby corporations from one country operating in another can now claim ownership of local water supplies, thus providing one more way in which the world's water is becoming commodified and privatized.

#### Investment Arbitration Boom

Yet in spite of the profoundly undemocratic nature of the notion that corporations can hold foreign countries hostage in this way, both investor state treaties and disputes are exploding in number. An April 2013 report by the *South-North Development Monitor* on the rise of international investment disputes found that there were 62 new cases of corporations challenging governments for compensation in 2012, the highest number of known treaty-based cases ever filed in one year. This brings the overall number of known cases to 518. Since most arbitration forums do not maintain a public registry of claims, the total number is likely much higher.

The strong majority of cases are laid by corporations from wealthy countries against countries from the developing world. This clearly demonstrates that the process works to favour powerful corporations and countries. As well, there are a growing number of disputes challenging envi-

ronmental rules around the world, a dangerous development that threatens the rights of governments to protect vital water sources.

Meanwhile, an elite coterie of lawyers, arbitrators and financial speculators is seeking out and actively recruiting corporations to sue gov-

---

## Corporations from one country operating in another can now claim ownership of local water supplies

---

ernments around the world over new health and safety, labour or environmental rules they may be considering. In their 2012 report *Profiting from Injustice*, Corporate Europe Observatory and the Transnational Institute say that the silent rise of a powerful international investment regime has ensnared hundreds of countries and put corporate profits before human rights and the environment. This "investment arbitration boom" is costing taxpayers billions of dollars and preventing legislation in the public interest.

Just fifteen arbitrators, all from Europe, Canada and the US (who can earn as much as \$1 million per case), have decided 55 per cent of all the treaty disputes. "They have built a multi-million-dollar self-serving industry, dominated by a narrow exclusive elite of law firms and lawyers whose interconnectedness and multiple financial interests raise serious doubts about their commitment to deliver fair and independent judgements," say authors Pia Eberhardt and Cecilia Olivet.

Undeterred, the Canadian government is deep in negotiations with Europe to seal a new form of trade and investment treaty that for the first time

includes sub-national governments. The Canada-EU Comprehensive Economic and Trade Agreement will give French utility giants Suez and Veolia the right to challenge Canadian municipalities that try to remunicipalise their water services. It will also permit Swiss bottled water giant Nestle (whose water division headquarters are in France) the right to challenge provincial bans or limits imposed on bottled water takings.

A proposed major new investment agreement with China will give the Chinese state-owned energy company, CNOOC, the right to sue the Canadian government if British Columbia forbids the building of a controversial pipeline to carry Alberta tar-sands bitumen to the west coast for tanker export. The company will also have the same NAFTA rights that American energy companies now have to fight any move by Alberta to conserve and protect its water.

All these corporations will be able to use investor-state agreements to prevent a future federal government from undoing the damage the Harper government has done to our environmental laws. Harper has gutted the *Fisheries Act*, the *Navigable Waters Protection Act* and the entire environmental assessment process. Federal law no longer protects the vast majority of our lakes and rivers. Any attempt by a future government to reintroduce these protections could be met with a barrage of compensation claims by foreign corporations.

Canada must join the growing host of nation-states refusing to sign any deal that gives corporations such raw power.



Maude Barlow is National Chairperson of the Council of Canadians. This excerpt is taken from Maude's new book, *Blue Future, Protecting Water for People and the Planet Forever*.

# A Treeplanter's Perspective

by Ingmar Lee

I've mostly lived in places surrounded by forests. When thirsty, I would drink whatever water happened to be flowing by. Just cup my hands, dip them into the creek and drink. Then I visited India in 1977. With six hundred million people, all of the surface water was polluted. The last time I went in 2005, the population had doubled. We lived in Pondicherry for a year and a half, drinking bottled water. Pondicherry city maintains a series of very deep bore wells and every year, as the water table is inexorably drawn down, they keep drilling the wells down deeper and deeper.

I have worked in BC as a treeplanter – a career that lasted 21 years. I crawled through the entrails of eviscerated forests leveled by voracious corporate industrial logging. Treeplanting in BC starts on the coast in January and then follows the snow-melt line to the farthest northern extent of the logging. Nobody sees the vast extent of the ongoing BC forest massacre quite like treeplanters do. As the logging metastasizes deeper into our forests, it destroys the best, most lush and vibrant patches first, and then climbs into the sub-alpine “parklands” where a tree that could produce a single 2x4 can take 300 years to grow. Treeplanters work at the line dividing primeval wilderness and Babylon. At the edge of the clearcut, water flows out of the wild forest pure and clear, and we can drink it straight from our hands.

As my experience grew, I saw corporate-industrial logging as a massive crime against nature. I saw the complicity of professional foresters in facilitating the devastation. Here,

every forester works for a giant logging corporation. Their job is to identify the best patch of forest, and then rip it out and have it replanted. They devised an 80-year rotation schedule for every valley that was slated for logging. The scheme was, that you started into the valley and only took out 1/80th of it every year, meanwhile practising silviculture as you went.

---

The quality of water flowing out of our watersheds is continually reduced, becoming more turbid and loaded with particles.

---

When logging reached the back of the watershed 80 years later, plantations at the front would be ready for cutting again. But as industrial clearcutting went berserk, a “falldown” period, where the business would be idled for a period, waiting for the forests to reach merchantable size again, became inevitable

But the anticipated falldown never happened. Instead of waiting for trees to mature at 80-years-old, industry just mowed its way into ever-younger plantations, first taking out 100-year-old forests, then successively, 80's, then the 60's and on into 30-year-old stands. Trees that I planted are now being logged. If they can get a 2x4 out of a tree, down it comes. It took 150 years to destroy the primeval forests of Vancouver Island, 120 years to cut the first half, and 30 to cut the rest.

But the pace of the destruction of subsequent, post primeval forest logging is far more voracious. Now it's all about fibre-per-year-per-hectare. The ultimate lowest common denominator outcome is fibre removed annually by lawn-mower.

BC's professional foresters have proved that science is bought to prove that black is white. Industrial professionals abuse science to justify their massive crime against nature. Every community drinking watershed on Vancouver Island is being logged according to these industrial ideologues. The quality of water flowing out of our watersheds is continually reduced, becoming more turbid and loaded with particles. Anthropogenic climate-change induced global heating exposes these ever-tightening young plantations to catastrophic fires which will more regularly denude and degrade the water-producing landscape. As the ratio of clearcut to forest increases, foresters have added “range” animals to the mix, which chew their way through the plantations, spewing pathogens into the watershed in their manure. It is a crime against nature that we can no longer drink untreated water from our designated community drinking watersheds. It is difficult to find a safe place to drink water on our Earth.



Ingmar Lee lives with his family near Bella Bella, in the heart of the “Great Bear Rainforest.” He will fight to the death against the forced invasion of the HarperCon dirty-oil Pipeline/Tanker schemes.

# Sustainers of the Watershed Sentinel

These generous sustainers help us to provide you with a strong independent voice for environmental issues, activism, and social justice. We depend on them with thanks.

## Stars

Vicky Husband, Victoria BC • Mrs. Lannie Lewis Keller, Seed Fund of the Greater Saint Louis Community Foundation • Mel McDonald, Victoria BC • Vilmos Udvarhelyi, Montreal QB • Peter Johnston & Sue Wheeler, Lasqueti Island BC

## Friends

Gordon Albright, Toronto ON • Barnard-Boecker Centre Foundation, Victoria BC • Jim Bradshaw, Maple Ridge BC • Katherine Bruheim, West Vancouver BC • Mae Burrows, Burnaby BC • John & Sharon Cashore, Coquitlam BC • Elaine Golds, Port Moody BC • Marlene Johnston, Kaslo BC • Juliette & Rick Laing, Salt Spring Island BC • James Leslie, Hornby Island BC • Hanna & Robert Main, Powell River BC • Mike Major, Victoria BC • David Moulton, New Westminster BC • David Pinel, Courtenay BC • Robert Pulsford, Black Creek BC • Colin Rankin, Victoria BC • Murray Rankin, Victoria BC • Helen Lee & Michael Redican, Quathiaski Cove BC • Mary Richardson, Athabaska AB • Paul Sanborn, Prince George BC • Sheila White, Summerland BC • Jim Whitworth, Ucluelet BC • R.E. Wolf, Calgary AB

## Patrons

Valerie Barnes-Connell, La Ronge SK • David Boehm, Gabriola Island BC • Arthur Caldicott, Victoria BC • Pat Cole, Campbell River BC • Renate Kroesa & John Dafeo, Halfmoon Bay BC • Rick Dobson, Cumberland BC • Susan Clarke & Alan Dolan, Sidney BC • Alan & Christina Eastwood, North Saanich BC • Betty Fairbank, Hornby Island BC • Don Ferguson, Lethbridge AB • Susan & Harold Fletcher, Sechelt BC • Barb Hourston, Nanaimo BC • John & Cathie Howard, Hornby Island BC • David Huntley, Burnaby BC • Ben Livant, Victoria BC • Paul MacGillivray, Mission BC • Ana Simeon & Tom Martin, Victoria BC • Ruth Masters, Courtenay BC • Heather Menzies, Kars, ON • Gail & David Morton, Port Alberni BC • Pam & Don Munroe, Courtenay BC • Kevin Neish, Victoria BC • Maggie Paquet, Port Alberni BC • Nina Raginsky, Salt Spring Island BC • Norman Riggs, Powell River BC • Michael Rooksby, Victoria BC • John Rosser, Sointula BC • June Ryder, Vancouver BC • Penny Sanger, Ottawa ON • Paul Senez, Kirkland QC • Margaret Sigurgeirson, Hornby Island BC • Frances Slaney, Ottawa ON • Robert Thompson, Vancouver BC • Bruce Torrie, Kelowna BC • Bill Trussler, Fanny Bay BC • Charley & Amanda Vaughan, Black Creek BC • George Waddell, Sechelt BC • Deb Weiers, Red Deer AB • John Zaikow, Powell River BC

## Sustaining Subscribers

BC Shellfish Growers Assn, Comox BC • Ruby Berry, Courtenay BC • Arthur Caldicott, Victoria, BC • Citizens' Stewardship Coalition, Port Alberni BC • Anne de Cosson, Denman Island BC • Elizabeth Ferris, Vancouver BC • Gwyn Frayne, Courtenay BC • Frances Grady, Victoria BC • Alison Graves, Nanaimo BC • Bill Halliday, Comox BC • Stuart Isto & Elizabeth Horsfield, Powell River BC • Dan Jason, SaltSpring Island BC • Jessie Jensen, Skookumchuk BC • James Kipp, Nanaimo BC • Bob Lane, Vancouver BC • Robert Mathews, Chase BC • Robin Mathews, Vancouver BC • Kathy Mezei,

Vancouver BC • F. A. Morton, SaltSpring Island BC • Jo Phillips, Sooke BC • Wendy Prothero, Comox BC • Harriet Rueggeberg, Lantzville BC • Gary Runka Land Sense Ltd., Hagensborg, BC • Linda Safford, Cumberland BC • P. Maurebrecher & T. Schneider, Victoria BC • Barbara Scott, Victoria BC • Gillian Seaton, Jasper AB • John Shirley, Watford ON • Ronni Solbert, Randolph VT • Roy & Lois Sutherland, Victoria BC • Anna Tilman, Aurora ON • Art Tkachuk & Family, Nipawin, SK • Bill Trussler, Fanny Bay, BC • Marjorie Urquhart, Fanny Bay BC • Eleanor Wright & Van Andrus, Lillooet BC • Ray Zimmerman, Victoria BC

## Bundle Donors

Peter Broomhall, Vancouver BC • Henry Dumouchel, Alexandria ON • Sheila Haegedorn, Kaslo BC • Patricia Henry, Ottawa ON • Marlene Johnston, Kaslo BC • J. & R. Laing, Salt Spring Island BC • Paul MacGillivray, Mission BC • Mel McDonald, Victoria BC • Brock Nichols, Victoria BC • Brian Pinch, Victoria BC • Linda Safford, Cumberland BC • Penny Sanger, Ottawa ON • Jim Whitworth, Ucluelet BC • T.J. Wolfwood, Victoria BC • Susan Yates, Gabriola Island BC

**A big Thank You to all those listed,  
to our monthly donors,  
those who wish to remain anonymous, and  
the many who add a little extra to their subscription**

### Watershed Stars (\$500 and over annual donation):

*Watershed Stars* help us find, follow, and write the stories, print the magazine, distribute it, and sell subscriptions. Our *Watershed Stars* allow us to inform concerned citizens and activists.

### Friends of the Watershed Sentinel (\$200 - \$499 annual donation):

*Friends of the Watershed Sentinel* help us offer constructive solutions to problems, and praise successes that lead toward an environmentally sustainable future.

### Patrons (\$100 - \$199 annual donation):

*Patrons* support the public education program that is an integral and essential part of our publication.

### Sustaining Subscribers (\$50 - \$99 annual donation):

*Sustaining Subscribers* assist with the copies of the *Watershed Sentinel* in colleges, universities, and libraries.

### Bundle Donors

*Bundle Donors* specially dedicate their donations to provide educational copies to public libraries and schools.

**Friends of Cortes Island sponsors public education features about sustainable living for Georgia Strait and the Islands. To receive a tax receipt, for your donation ONLY, make your donation to FOCI and mail to:**

**Watershed Sentinel,  
P.O. Box 1270, Comox, BC  
Canada V9M 7Z8**

# Citizens & Spying

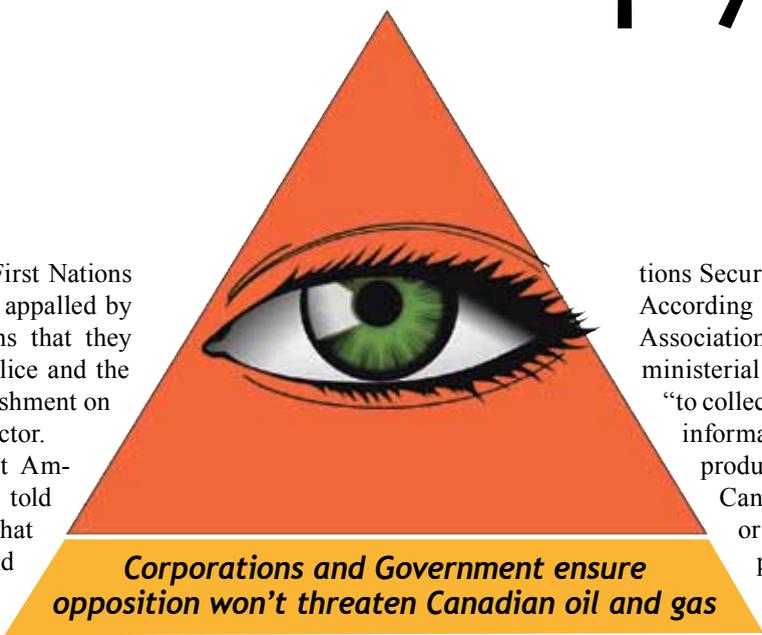
by Joyce Nelson

Environmental and First Nations activists are increasingly appalled by the continuing revelations that they are being spied on by police and the Canadian security establishment on behalf of the corporate sector.

First Nations activist Ambrose Williams recently told *The Georgia Straight* that last year, when he and other anti-fracking activists left Vancouver in a three-vehicle caravan bound for New Brunswick, they were followed and watched by police during the entire cross-country trip. They were heading East to reinforce the Mi'kmaq protestors fighting Texas-based SWN Resources. The company has been exploring for shale gas on unceded Mi'kmaq territory in that province.

As *The Georgia Straight's* Carlito Pablo reported, before the group left Vancouver they "posted on social media the place, date and time of their departure. They barely made it four blocks from their starting point when they were stopped by the police," who pulled them over and took all their names. "This happened like pretty much in most of the provinces," Williams said. "Like we were being monitored and followed the whole way."

On October 17, their peaceful 134 Unity Camp was attacked by more than 100 RCMP officers armed with tear-gas, assault rifles, pepper-spray, tasers and police dogs, who descended on the encampment to enforce an injunction obtained by SWM Resources, a subsidiary of Texas-based Southwest Energy Co., which holds



**Corporations and Government ensure  
opposition won't threaten Canadian oil and gas**

shale gas leases covering 1.1 million hectares of New Brunswick.

Williams warned that Canada "really is becoming a police state. We need to become aware of that."

Of course, elders will recall that we've endured a century of spying on labour and union activists, "communists" and "fellow travellers," Black power and other civil rights activists, anti-Vietnam war activists, Red power and other Native activists, etc., so environmentalists are just the latest target. One difference now, however, is that the 21st century technologies for spying have become far more elaborate, as have the interconnections between spy agencies and the corporate sector.

At the same time, the Internet is allowing us to be more informed about spying actions taken against the movement.

## CSEC

The surveillance agency that most likely picked up the anti-fracking First Nations group's social media message is CSEC, or Communica-

tions Security Establishment Canada. According to the BC Civil Liberties Association (BCCLA), under a 2011 ministerial directive CSEC is allowed "to collect and analyze the metadata information that is automatically produced each and every time a Canadian uses a mobile phone or accesses the internet. This private metadata includes the exact geographic location of the mobile phone user, records of

phone calls and Internet browsing." On October 22, 2013, BCCLA filed a lawsuit against CSEC, claiming that "its broad and unchecked surveillance of Canadians is unconstitutional."

CSEC, the counterpart of the National Security Agency (NSA) in the US, is building a massive \$1 billion complex in Ottawa, and its annual operating budget has ballooned to \$460 million. PM Harper also raised funding for the RCMP in the 2013 budget.

The University of Toronto's security and surveillance expert Ronald Deibert told *The Toronto Star* last June, "Oversight of CSEC is really thin, compared to even the oversight that takes place at the [US] National Security Agency," with which CSEC is "twinned." Deibert warned that Canadians (as foreign nationals) are "fair game when it comes to [NSA] eavesdropping," and said that "you really have a dangerous brew here." NSA passes surveillance information to CSEC, which briefs CSIS (the Canadian Security Intelligence Service) and the RCMP.

The CSIS website states that "domestic terrorism ... includes the threat

or the use of violence by groups advocating for issues such as the environment, anti-abortion, animal rights, anti-globalization, and white supremacy,” and says that it “continues to monitor individuals and organizations that might be involved” in such forms of “terrorism”.

In October 2013, CSEC gained international attention when NSA documents released by Edward Snowden appeared to show that CSEC was spying on the Brazilian Ministry of Mines and Energy, a case of “industrial espionage” apparently in support of Canadian companies.

More than 40 Canadian companies are mining in Brazil, while Canada’s oil/natural gas sector and private-electricity producers (including Brookfield Asset Management, TransCanada, Enbridge, and others) are eager to expand in that country. As reported by [www.globalreach.ca](http://www.globalreach.ca), “Canadian spying on Brazil’s Ministry of Mines and Energy appears to be aimed at giving Canadian companies an advantage over competitors in the bidding for drilling rights on auctioned oil blocks in Brazil, and getting information related to the perceived competitive threat posed by Brazil’s oil sector to Canada’s tar sands as a destination for foreign investment. Four Canadian companies recently secured 10 Brazilian oil blocks in an auction of 200 blocks.”

#### Classified Briefings

In November 2013, anti-tar sands activists and other environmentalists were shocked to learn that the Harper government has been spying on them in advance of important decisions about tar sands export pipelines.

Documents obtained under Access to Information by the Ottawa-based media outlet Blacklock Group were released to ForestEthics Advocacy. The documents showed that

the National Energy Board (NEB) worked with CSIS and the RCMP to monitor the risk posed by environmental groups, First Nations and others in advance of public hearings into pipelines, including Enbridge’s controversial Northern Gateway pipeline project. The agencies shared the information with Enbridge and TransCanada Corp.

The groups spied on included Idle No More, ForestEthics, Sierra Club, LeadNow, Dogwood Initiative, Council of Canadians, and the People’s Summit.

---

21st century  
technologies  
for spying have  
become far more  
elaborate, as have  
the interconnections  
between spy agencies  
and the corporate  
sector.

---

Ironically, news of this spying scandal broke just hours before government spies and energy companies met in Ottawa on November 21, 2013 for their bi-annual “classified briefings” at CSIS.

As reported by the *Vancouver Observer* (November 22, 2013), “Government spies and energy stakeholders met in Ottawa yesterday to discuss issues of national security, including the monitoring of environmental organizations and activists. This meeting is the second of bi-annual “classified briefings” held at CSIS headquarters in Ottawa, bringing together federal agencies, spies, and private industry stakeholders with high level security clearances, including officials from

energy companies in the oil, natural gas, pipeline, petroleum refinery and electricity sectors. The last briefing was held on May 23 [2013] and was sponsored by Enbridge, Brookfield [Brookfield Asset Management] and Bruce Power.” TransCanada Corp. is an owner of Bruce Power.

In attendance at prior briefings were representatives from the RCMP, CSIS, NEB, the Department of National Defence and CSEC.

Back in 2012, *The Dominion* had revealed that at the 2007 International Pipeline Security Forum, the then Minister of Natural Resources Gary Lunn “boasted that his ministry had ‘sponsored over 200 industry representatives in obtaining Secret Level II security clearance. This enables us to share [classified] information with industry and their associations.’”

#### Turning Point: June 2012

In June 2012, the Harper government established a 32-member counter-terrorism unit in Alberta “to protect the energy industry from attacks by extremists.” The unit involves the RCMP, CSIS, local police, and the Canada Border Services Agency, and it is mandated to “prevent attacks before they happen.” Similar Integrated National Security Enforcement teams are operating in Ontario, BC, and Quebec.

The Harper government’s first omnibus budget bill C-38, rammed through in June 2012, massively cut environmental regulations and allows American enforcement agents to arrest Canadian citizens on Canadian soil. C-38 also eliminated the position of Inspector General of CSIS, which monitored activities of Canada’s spy agency (ensuring that it followed the law) on behalf of the public safety minister. That leaves only the Security Intelligence Review Committee (SIRC) to oversee CSIS.

Continued on Page 26 ⇨

⇐ *Citizen Spying continued*

On June 14, 2012, the Harper government appointed Chuck Strahl (former Minister of Aboriginal Affairs, 2007-2011) as Chair of SIRC. As I wrote in the *CCPA Monitor* (published by the Canadian Centre for Policy Alternatives) back in May 2013, “Less than a year before his appointment to SIRC, Chuck Strahl had confirmed to the *Vancouver Sun* (October 24, 2011) that Enbridge is a client of his public relations firm, Chuck Strahl Consulting ... Strahl’s appointment to SIRC is controversial, to say the least, but it fits with other measures already taken by this federal government.”

On January 4th, the *Vancouver Observer* reported that Strahl had re-registered as lobbyist for Enbridge in December 2013. By January 24, the ensuing outrage across the country forced Strahl to resign from SIRC, with PM Harper appointing SIRC member Deb Grey as interim Chair.

But former Reform MP Deb Grey also has potential conflict-of-interest problems in that role. In 2004, Grey became a founding partner in the Ottawa-based lobbying/PR firm The Parliamentary Group Inc., which in 2011-2012 lobbied extensively in Canada on behalf of client Geo Group (formerly called Wackenhut), one of the largest private prison companies in the world.

The Harper government’s recent “tough on crime” legislation – Bill C-10, the Safe Streets and Communities Act (passed in March 2012), and the draconian Bill S-7, the *Combating Terrorism Act* (passed in April 2013) – threatens to increase the incarceration rate in Canada, which could eventually be a boon to Geo Group.

However the SIRC questions get resolved – and now that Frances Lankin’s term at SIRC has ended, all the remaining members have potential conflicts – it is important to not

overlook another aspect of Canada’s spying story.

In December 2013, Canadian Press reported that between 2009 and 2011, 13 Canadian federal government departments (including Natural Resources Canada, Public Safety Canada and the RCMP) had hired the services of Strategic Forecasting Inc., better known as Stratfor – the Texas-based private intelligence firm which has been called a “shadow CIA” and which is known for spying on environmental and other activists.

**Stratfor**

On February 27, 2012, Julian Assange and WikiLeaks began releasing more than 5 million Stratfor emails (dated from July 2004 to late December 2011) showing the extent of Stratfor’s spying on activists. WikiLeaks had obtained the emails from anonymous hacktivist Jeremy Hammond, who received a ten-year prison sentence in a US court in November 2013. Meanwhile, Stratfor suffered little more than an executive shake-up.

Stratfor founder and CEO George Friedman resigned to become merely the Chairman of the company, while the new President and CEO is Shea Morenz, formerly the managing director at Goldman Sachs for ten years.

The Stratfor documents are being released by WikiLeaks chronologically in batches and are called The Global Intelligence Files. They are providing a gradually emerging picture of corporate/governmental surveillance in action.

A November 2013 report by the Washington-based Center for Corporate Policy (CCP), called *Spooky Business: Corporate Espionage Against Nonprofit Organizations*, has a section on Stratfor, showing that it has spied on environmental groups and other activists for clients such as Dow Chemical, Chevron, Coca-Co-

la, Lockheed Martin, Raytheon, the US Department of Homeland Security, and the US Defense Intelligence Agency.

But author Gary Ruskin’s most important insight is that corporations and governments generally contract-out their spying to “third-party” entities, in order to have plausible deniability.

**Stratfor’s Strategy**

In analyzing Stratfor methodology, *www.popularresistance.org* states: “The WikiLeaks documents also showed us how corporations and governments attack movements in a divide and conquer strategy that isolates those seeking transformational change (who they define as ‘radicals’). Here’s how we summarized the strategy.... ‘Divide activists into four groups: Radicals, Idealists, Realists, and Opportunists. The Opportunists are in it for themselves and can be pulled away for their own self-interest. The Realists can be convinced that transformative change is not possible and we must settle for what is possible. Idealists can be convinced they have the facts wrong and pulled to the Realist camp. Radicals, who see the system as corrupt and needing transformation, need to be isolated and discredited. Using false charges to assassinate their character is a common tactic.’

“Knowing that this is their strategy should help social movements combat it. Stratfor does the same – it looks at the strategies described in books, webinars and trainings to determine how movements operate, how strong they are and what to expect from them.”

### Plausible Deniability

Ruskin writes, “When a nonprofit campaign is so successful that it may impair a company’s profits or reputation, companies may employ their own in-house espionage capabilities, or they may retain the services of an intermediary with experience in espionage. Typically, such intermediaries are public relations firms, crisis management firms, and law firms. The advantage of an intermediary, from the corporate perspective, is that it provides the appearance of distance between the corporation and its intelligence gathering – in other words, plausible deniability if something goes wrong. The intermediary may hire a private investigations firm that either has multiple espionage capacities or that specializes in the particular kind of intelligence needed ....” One such firm is Stratfor.

For example, in advance of the 2010 Vancouver Olympics, major sponsor Coca-Cola was worried that animal-rights activists would target and embarrass the company in Canada because of its animal-testing for products. Coca-Cola hired Stratfor to investigate People for the Ethical Treatment of Animals (PETA), and answer such questions as “How many PETA supporters are there in Canada?” and to what extent could “anarchists ... get involved in any protest activity?”

Stratfor’s vice-president for counterterrorism and corporate security replied: “The FBI has a classified investigation on PETA operatives. I’ll see what I can uncover,” implying that Stratfor and the FBI perhaps regularly share spying information.

From a variety of published sources, Ruskin documents a wide range of spying on environmental and other activists by Stratfor and other such agencies (on behalf of Shell, BP, Monsanto, Dow Chemical, Chevron, McDonald’s, and others) that included

“pilfering documents from trash bins, attempting to plant undercover operatives within groups, casing offices, collecting phone records of activists, and penetrating confidential meetings.”

Several alternative media outlets revealed in November 2013 that a newly released WikiLeaks cache of documents (covering the period from January 2009 to February 2011) showed Stratfor had apparently worked for Suncor in preparing a (December 2010) presentation called *Oil Sands Market Campaigns*. That presentation provided a divide-and-conquer strategy for dealing with tar sands opponents (see sidebar).

*Inside Climate News* has identified the American Petroleum Institute (the key lobby for the oil and natural gas sector) as a Stratfor client. Recently, I found another Stratfor client: TransCanada Corp.

Even more important, Canadian Press (CP) reported that Stratfor has had contracts with 13 Canadian federal government departments between January 2009 and February 2011: Transport Canada, Industry Canada, Export Development Canada, Citizenship and Immigration, Canadian International Development Agency (CIDA, now part of Foreign Affairs), Natural Resources Canada, Canadian Nuclear Safety Commission, Treasury Board, Canadian Air Transport Security Authority, RCMP, Public Safety, National Defence, and Foreign Affairs.

CP also reported, “Additional emails from the WikiLeaks database show the Public Safety Department, whose umbrella includes the Canadian Security Intelligence Service [CSIS], had a deal with Stratfor in 2010 and 2011, although [monetary] valuation was not given.”

Apparently, even CSIS values “plausible deniability” when it comes to spying on activists.

### Food For Thought

When Stratfor CEO George Friedman resigned on February 27, 2012, the satirical group The Yes Men (who had been spied on extensively by Stratfor) issued their own press release, calling attention to the “paranoia among corporate titans” and stating that the WikiLeaks “seem to show that corporate power is most afraid of whatever reveals ‘the larger whole’ and ‘broader issues.’ ...Perhaps most entertainingly of all, the email trove reveals that Stratfor’s “Confederation Partners” – an unethical alliance between Stratfor and a number of mainstream journalists - are referred to informally within Stratfor as its ‘Confed Fuck House.’”

Maybe it’s time for some festive communal events in which activists (from all sectors, ages, races, etc.) get together and share their stories of being spied on and how they dealt with it. Rather than fear-producing, this could actually be funny, inspiring, and practical. Whether members of the Confed Fuck House are invited to attend would be up to the organizers.



Joyce Nelson is an award-winning freelance writer/researcher and the author of five books.

# BC Coal Plan



*Vancouver communities oppose expansion of coal terminals*

by Roy L. Hales

On February 17, thermal coal was trading for \$57.23. That's a considerable drop from its \$132 benchmark in 2011 and, as Clark Williams-Derry would say, the industry is now "territory reserved for risk-hungry financial speculators." Not too long ago, there were plans to ship 80 million tons of coal through six terminals in Washington and Oregon. Now the number of proposed US ports has dropped to three and there are plans to transform BC's Lower Mainland into North America's #1 coal terminal.

The province is preparing for the boom. There are a dozen proposed coal mines and the amount of coal coming from the US has greatly increased since 2010. Both of the Lower Mainland's coal export terminals are being enlarged and there are plans for a third. Denis Horgan, Vice President of Westshore Terminal at Roberts Bank in Delta – the largest coal export facility on the Pacific coast – said the \$230 million project is more about "staying efficient," and carefully used the words "stockpile expansion."

Neptune Terminal's coal handling facility in North Vancouver recently doubled in size. This will double Neptune's coal export capacity from approximately nine million tons a year capacity to 18.5 million tonnes (about 20.4 million tons) a year.

There is also a \$15-million project that would allow Warren Buffett's Burlington Northern Santa Fe Railway to bring up to four million tonnes of American coal to Fraser Surrey Docks every year. The coal would be barged to Texada Island and then loaded onto ocean-going vessels.

## Health Impacts

SNC Lavalin, hired by Surrey Fraser Docks to conduct an environmental assessment, claimed the proposal would "not likely cause significant adverse effects to the environment or human health."

After reviewing SNC Lavalin's report, chief medical health officers Dr. Patricia Daly and Dr. Paul Van Buynder concluded that it is "primarily a repackaging of work previously done by other consultants" that does

not "deal with the full scope of the project" or "meet even the most basic requirements of a health impact assessment."

Some of the specifics they felt were missing are:

- Data regarding population increases in Surrey or Delta, or comments on the effect this increase would have on the most vulnerable population (children and elderly) over the proposed life time of the project.

- The segment dealing with coal dust mitigation leaned too heavily on a 25-year-old report and while it was suggested that sealants could address this problem, no proof was given.

- There was "little consideration of the increase in diesel emissions from trains, barges, trucks and idling vehicles at railway crossings."

- It was not appropriate to use a letter written in 1998 to address concerns about dust from Westshore Terminals fifteen years later.

- The sections on air quality monitoring and emergency vehicle access were inadequate.

- There was no indication that residents of the surrounding area were properly consulted.

### Community Opposition

The United Steelworkers and the International Longshore and Warehouse Union have written letters in support of the project, but most of the surrounding communities have voiced their opposition.

Paula Williams, head of the community group, Communities and Coal, said she has never been involved in anything like this before.

“We came here because it was quiet and peaceful and a good place to raise kids, and it was close to the beach,” she said. “Little did we know what was looming – although I think, quite honestly, this was all meant to be. Protesting anything – unless you’re part of an environmental group – seems un-Canadian.”

The BC Nurses Union, Vancouver Coastal Health, the school boards of Burnaby and Vancouver and the municipal councils of Surrey, Delta, and White Rock have raised objections. BC’s biggest credit union, VanCity, promptly urged Port Metro Vancouver to not move forward with the proposal until the health officer’s concerns were addressed.

One of the strongest objections came from Burnaby, where Mayor Derek Corrigan said, “Over and over again, decisions are being made by bodies who are not independent. Port Metro Vancouver is conducting this environmental assessment. The majority of directors on Port Metro Vancouver are appointed by the very companies that stand to economically benefit from these decisions. And so here you have a Board of Directors, appointed by the companies that are in charge of the environmental assessment to determine if they are going to make more money.”

In regards to the decision to hire

SNC Lavalin, Mayor Corrigan said the company is currently being investigated for corruption in Montreal and the World Bank has banned them for ten years because of corruption.

“If this company has been banned by the World Bank, why the heck are they doing environmental

---

In regards to the decision to hire SNC Lavalin, Mayor Corrigan said the company is currently being investigated for corruption in Montreal and the World Bank has banned them for ten years because of corruption

---

assessments in our back yard?” Corrigan said. “This is completely losing control of any public interest in these projects what-so-ever.”

Burnaby’s council voted unanimously to oppose expansion of coal exports.

Another concern arose on January 11, when three coal cars accidentally dumped their loads into a Burnaby waterway. They were part of a 152 car train, which had jumped the rails. Kevin Washburn, from the citizen’s group, Voters Taking Action on Climate Change, issued a statement saying, “The Port Authority has absolute power to approve expanded coal exports from publicly owned Port lands, and it refuses to acknowledge that those decisions have an impact on surrounding communities. Whether

it’s the health impacts from increased exposure to diesel exhaust or coal dust or train derailments themselves, increased coal exports come at a cost to our neighbourhoods. Local and regional governments and our health authorities deserve a say in these decisions.”

Another important factor to consider is overseas. Up until now China has been the world’s foremost coal importer. The rapid growth of that nation’s economy is slowing. That raises the question of whether there will be a market for BC’s coal after the expansions are complete.

Port Metro Vancouver will not make its final decision until June. According to Tim Blair, Senior Planner of Port Metro Vancouver, they are waiting for SNC Lavalin to submit a health assessment. Blair said this report will not be reviewed by any medical personnel, nor will the Port be seeking any additional opinions. There is already sufficient information about the effects of coal dust in current literature. Port Metro will make its decision and post the results for everyone to see.

The Wilderness Committee suggests that concerned citizens write the Minister of the Environment, as BC has yet to grant a permit for the Texada Island segment of the FSD proposal and it has the power to demand an assessment of health impacts. People who wish to write such a letter will find a form waiting at [www.wildernesscommittee.org/tell\\_bc\\_stand\\_against\\_us\\_thermal\\_coal](http://www.wildernesscommittee.org/tell_bc_stand_against_us_thermal_coal).



Roy L. Hales is the editor of the ECOreport ([www.theecoreport.com](http://www.theecoreport.com)), a sustainable news website focusing on the West Coast.

*Photo by Kevin Washbrook/VTACC:*

*Coal car overturned into creek, Burnaby, BC*

# BC LNG: A Reality Check

*While the BC government spins stories of great riches ahead from Liquefied Natural Gas, the question arises, is there enough economic gas in the ground, never mind what it would take to get it to market*

## Takeaway

The National Energy Board (NEB) has approved seven LNG export applications for BC

- Meeting these approved exports would require increasing BC's gas production to nearly 50 per cent more than all of Canada currently produces - within 10 years
- These exports would require up to 50,000 wells over the next 27 years, using up to 10 million gallons of water per well for the fracking.
- The NEB's job is to protect Canada's energy security, but in its reference case, the NEB projects that Canada will have no more than 4.5 billion cubic feet/day (bcf/d) of export capacity by 2035 - yet it has approved LNG exports of 14.6 bcf/d starting in 2020.

*by David Hughes*

Over the past couple of years we have heard a lot of rhetoric from the BC government and industry about liquefied natural gas (LNG) exports. The National Energy Board (NEB) has approved seven LNG export applications and two others are pending review. We are led to believe that LNG is a potential bonanza on the scale of the oil sands capable of creating a \$100 billion "Prosperity Fund," and wiping out the province's debt by 2028. An analysis of gas production in BC and the characteristics of the shale- and tight-gas reservoirs targeted, as well as the environmental issues surrounding scaling production to the levels envisioned, suggests these lofty plans bear closer scrutiny.

### NEB Approvals

Table 1 lists the NEB's approved and pending LNG export projects for BC's west coast. Approved projects total 14.6 billion cubic feet per day (bcf/d) with an additional 3.4 bcf/d of projects under review. To put this in perspective, Canada's total production in the latest month for which figures are available was 12.7 bcf/d, according to the NEB. Three other projects reported by the BC government have not yet been submitted to NEB for export approval.

The NEB's role as Canada's energy regulator is to determine, among other things, if exports are surplus to Canadian needs. In the last LNG export application it approved, the NEB states:

*Our role, under s. 118 of the NEB Act, is to assess*

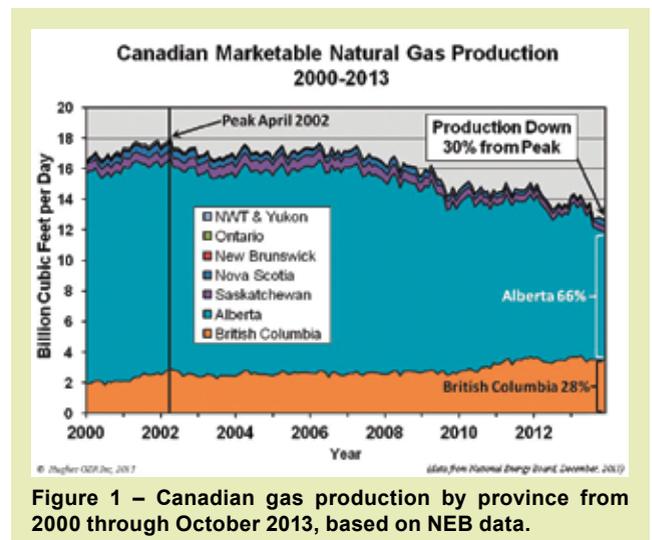
*whether the natural gas proposed to be exported does not exceed the surplus remaining after due allowance has been made for the reasonably foreseeable requirements for use in Canada, having regard to trends in the discovery of gas in Canada (Surplus Criterion). And:*

*We have determined that the quantity of gas proposed to be exported by Prince Rupert LNG is surplus to Canadian need. The Board is satisfied that the gas resource base in Canada, as well as North America, is large and can accommodate reasonably foreseeable Canadian demand, the LNG exports proposed in this Application, and a plausible potential increase in demand.*

Is this true? Let's look at Canadian gas production in the light of the export applications NEB has approved.

Figure 1 illustrates Canadian gas production by province from 2000 through 2013. Canadian production peaked in 2002 and is now down 30 per cent from its peak. The only province with substantial growth is BC, which constitutes 28 per cent of Canadian production (although it is now on a plateau). Coupled with current BC production, which is mostly committed to existing customers, meeting the NEB export approvals to date would require increasing BC's gas production to nearly 50 per cent more than all of Canada currently produces – within less than a decade.

Let's look at where this gas is proposed to come from and what these approvals would mean.



**Figure 1 – Canadian gas production by province from 2000 through October 2013, based on NEB data.**

**ENERGY**

<b>Project</b>	<b>Period</b>	<b>BCF/Day</b>	<b>Date Approved</b>	<b>Location</b>	<b>Owners</b>
KM LNG Operating General Partnership	20 yr	1.28	Oct-11	Kitimat	Apache Canada Ltd. (50%); Chevron Canada Ltd. (50%)
BC LNG Export Co-operative LLC	20 yr	0.23	Feb-12	Kitimat	Complex set of companies which include the Haisla First Nation under "Douglas Channel Energy Partners"
LNG Canada Development Inc.	25 yr	3.23	Feb-13	Kitimat	Shell Canada, KOGAS (Korea), Mitsubishi Corporation (Japan) and PetroChina Company Ltd
Pacific NorthWest LNG Ltd.	25 yr	2.74	Dec-13	Lelu Island Prince Rupert	Petronus (Malaysia); Japex (10%); PetroleumBRUNEI (minority)
WCC LNG Ltd.	25 yr	4.00	Dec-13	Kitimat or Prince Rupert	ExxonMobil Canada Ltd. (50%) and Imperial Oil Resources Ltd. (50%)
Prince Rupert LNG Exports Limited	25 yr	2.91	Dec-13	Ridley Island Prince Rupert	BG Group (UK)(100%)
Woodfibre LNG Export Pte. Ltd.	25 yr	0.29	Dec-13	Squamish	Woodfibre LNG Export Pte. Ltd. (Singapore)(100%)
Triton LNG Limited Partnership	25 yr	0.32	Under Review	Kitimat or Prince Rupert	AltaGas Ltd. (50%); Idemitsu Canada Corp (Japan)(50%)
Aurora Liquefied Natural Gas Ltd.	25 yr	3.12	Under Review	Prince Rupert, Grassy Point	CNOOC Ltd. (Nexen - China); INPEX Corp. (Japan - minority); JGC Corp. (Japan engineering company - minority)

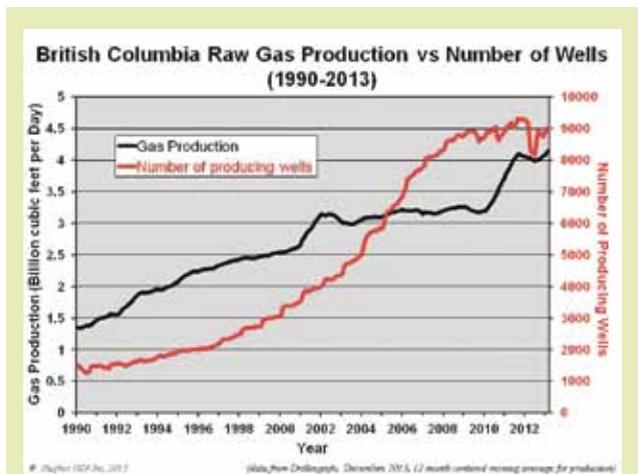
**Table 1 – LNG export applications approved or under review by the NEB. Approved applications total 14.6 bcf/d with an additional 3.4 bcf/d under review.**

**BC Gas Production and Shale Realities**

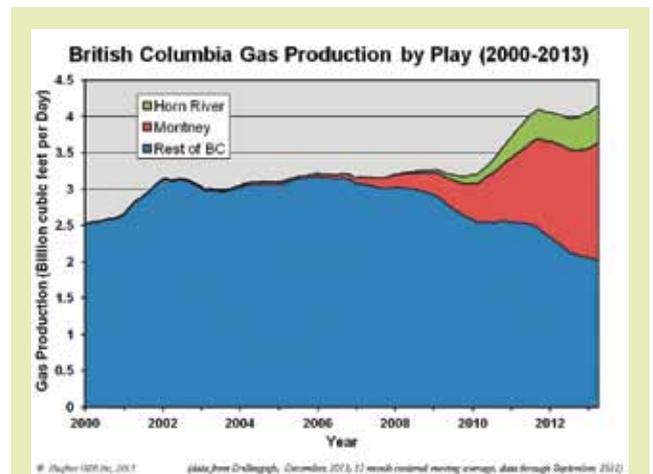
BC gas production has been underway since the 1940s. As of September, more than 25,000 wells had been drilled, of which 9,080 are currently producing. Although production has tripled from 1990 to the present, the number of wells required has increased six-fold (Figure 2).

The much trumpeted shale “revolution” in the US has extended to Canada and much of the hope of greatly expanding BC gas production for export is based on the application of large scale horizontal drilling and multi-stage high volume hydraulic fracturing (fracking) of shale – and

*Continued on Page 32* ➡



**Figure 2 – British Columbia raw gas production versus the number of producing wells from 1990 through 2013.**



**Figure 3 – BC gas production by play illustrating the importance of the Montney (tight gas) and Horn River (shale).**

⇐ BC LNG continued

tight-gas reservoirs. Two such plays have come into prominence in BC in the past few years – the Montney and Horn River. Other evolving plays include the Cordova Embayment and Liard, although exploration there has been much more limited. Without the Montney and Horn River, BC gas production would be in steep decline (Figure 3).

An analysis of shale gas in the US reveals high well- and field-decline rates, which require an escalating drilling treadmill to maintain production. The shale- and tight-gas plays of BC are similar. Figure 4 illustrates the average well production decline profiles for the Horn River, Montney and the rest of BC using data from Drillinginfo, a database of production data from all BC wells.

Horn River wells are on average more productive than the Montney and the BC average, but have well production declines averaging 80 per cent in the first three years, compared to 61 per cent for the Montney and 69 per cent for the BC average. Field decline in the Horn River, based on production from all wells drilled prior to 2012, averages 37 per cent, meaning that without new drilling, production would decline by 37 per cent in one year. This compares to an average overall decline of about 26 per cent for all BC gas fields.

Field declines of 26-37 per cent per year require considerable numbers of new wells to offset – the number of which can be readily calculated given the average productivity of new wells and the magnitude of the supply gap that must be filled.

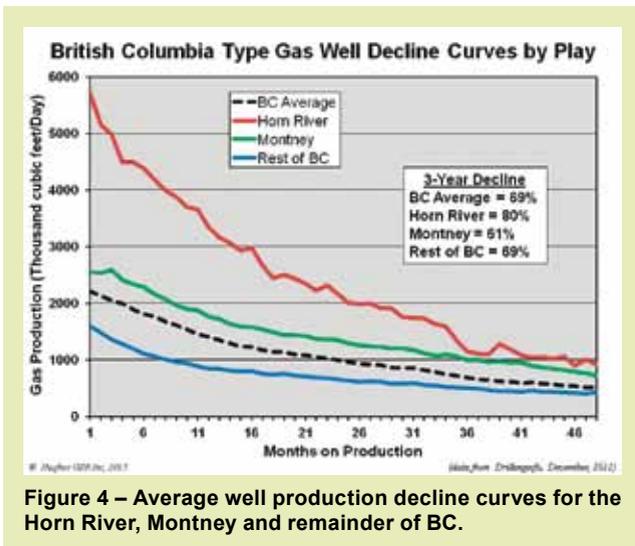


Figure 4 – Average well production decline curves for the Horn River, Montney and remainder of BC.

**Production and Wells Required**

The gas production required to meet various export levels is illustrated in Figure 5. The assumption in Figure 5 is that no company is going to spend several million dol-

lars per well to drill a lot of surplus capacity until close to the time that the LNG export facilities would be in service. Hence drilling and production is assumed to ramp up in 2017 ahead of the LNG terminals projected start up in 2020.

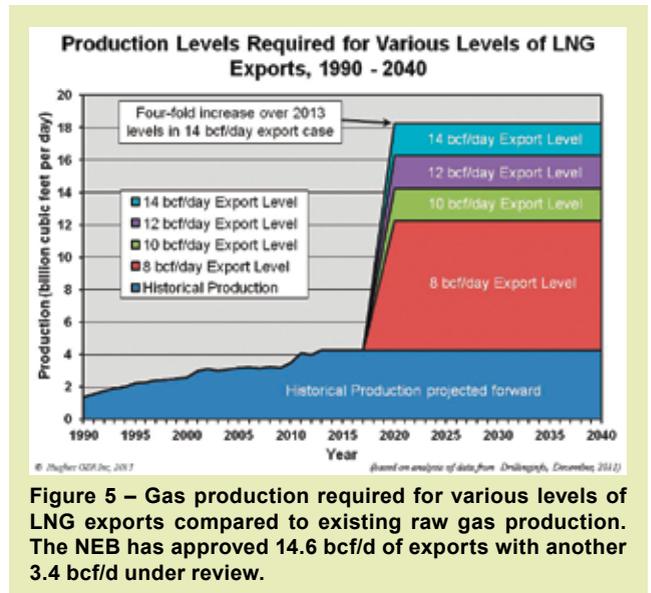


Figure 5 – Gas production required for various levels of LNG exports compared to existing raw gas production. The NEB has approved 14.6 bcf/d of exports with another 3.4 bcf/d under review.

So how many wells would this take? Assuming the existing productivity of new wells and field decline rates are maintained, Figure 6 illustrates the cumulative number of new wells that would be required to meet various export levels through 2040. Achieving the 14 bcf/d production level of gas for export would require drilling nearly 50,000 mostly fracked wells over the next 27 years, which is nearly double the more than 25,000 oil and gas wells drilled since the 1950s in BC. The 8 bcf/d export case would re-

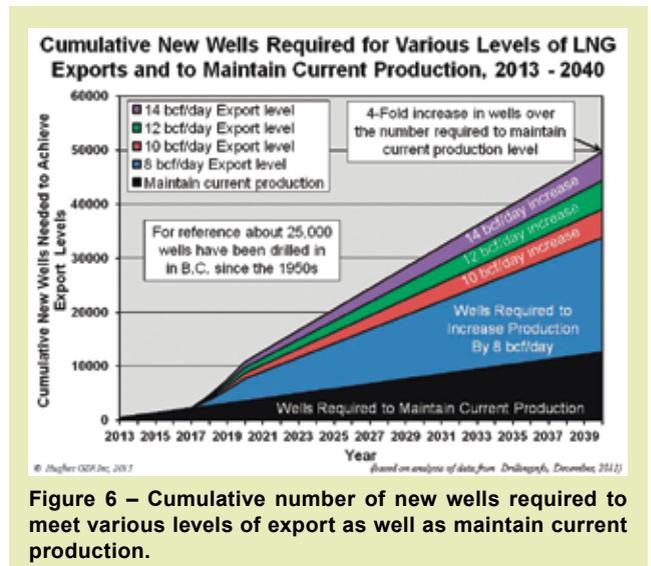
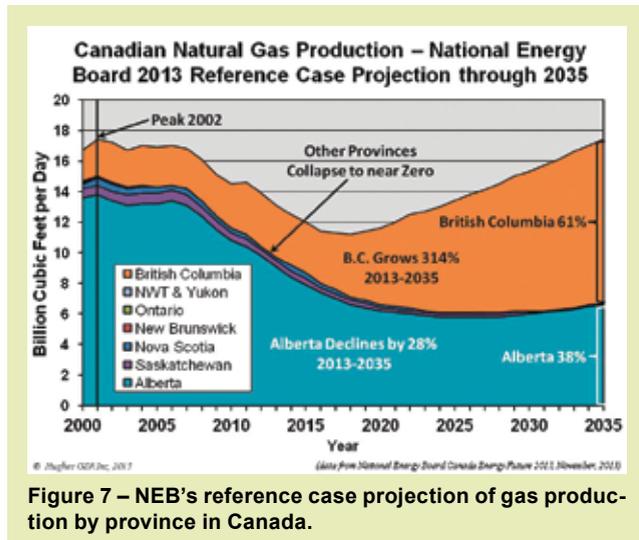


Figure 6 – Cumulative number of new wells required to meet various levels of export as well as maintain current production.

quire 34,000 new wells by 2040. Production levels and the number of wells would in actuality have to be even higher as the gas typically has 10 per cent or more carbon dioxide and other impurities that must be removed to make “marketable” gas (typical shrinkage is 12-15 per cent). Furthermore this does not include the likely use of gas for power to liquefy the LNG, which would require the production of up to an additional 15 per cent. Hence this projection of the number of wells required is very conservative and likely underestimated by 15-30 per cent.

**Is the NEB Looking After Our Interests?**

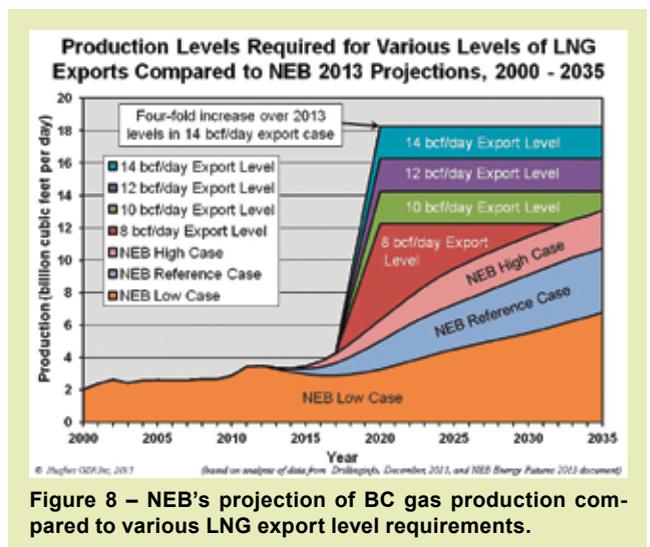
The NEB published a “Canada’s Energy Future” report in November 2013, which provided low, high, and reference cases for energy production and demand in BC and Canada through 2035. Gas production is forecast to decline radically in every province but BC in its reference case (Figure 7).



**Figure 7 – NEB’s reference case projection of gas production by province in Canada.**

In its low production scenario, the NEB admits that Canada will become a net gas importer by 2017 and remain so thereafter. In its reference case, the NEB suggests Canada will have no more than 4.5 bcf/d of export capacity by 2035 – YET IT HAS APPROVED LNG EXPORTS OF 14.6 BCF/D STARTING IN 2020. On the face of it, approving all of these export applications would appear to be a serious dereliction of the NEB’s mandate, which, as noted earlier, is to ensure that the long term energy security interests of Canadians are looked after.

Figure 8 compares the NEB’s projections for BC gas production to the requirements of the approved permits. In no case are the NEB’s forecasts even close to meeting these requirements. The NEB’s reference case forecast would see 57 trillion cubic feet (tcf) of gas recovered by 2035, whereas



**Figure 8 – NEB’s projection of BC gas production compared to various LNG export level requirements.**

the 14 bcf/d export case would require 120 tcf – more than twice as much (to put this in perspective only 25 tcf of marketable gas has been recovered in BC since the 1950s, and BC’s remaining recoverable marketable gas reserves were just 33.5 tcf at year end 2012).

The NEB forecasts falling production everywhere else in Canada, and current BC production is largely committed to existing uses, so one must ask where all the gas will come from for these LNG dreams – and at what cost to the long term energy security of Canadians?

**Environmental Considerations**

In 2012 the BC Oil and Gas Commission published a report that detailed water consumption and induced seismic activity associated with fracking in northeast BC. Fracking would be the principal technology used to ramp up gas production for LNG exports. In addition to the earth tremors induced by fracking, the report documented water consumption in wells in the Horn River Basin that averaged over 16 million US gallons per well. This is much higher than the typical fracked well in the US at about 5 million gallons. Water consumption is correlated with the number of frack stages which is increasing as operators strive for higher production. The well with the largest number of frack stages cited in the report (27 stages) consumed 36 million gallons along with 5,484 tonnes of sand and other chemicals (Montney wells are reported to average considerably less at 3 million gallons each).

If the BC government’s LNG dreams become a reality and 50,000 new wells are drilled by 2040, what would the water consumption look like? Figure 9 illustrates the rate

Continued on Page 34 ➔

⇐ BC LNG continued

of drilling that would be required to achieve various export levels. In the 14 bcf/d export case drilling would have to grow to more than 3000 wells/year and then decline to nearly 2000 wells/year to maintain production. To put this in perspective, 3000 wells/year, each consuming 10 million gallons of water, is more than the total water consumption of Calgary, a city of over a million people. The difference between Calgary and fracking is that in Calgary the water is treated and returned to the environment, whereas with fracking much of the water injected remains permanently in the reservoir, and of what returns to the surface little is recycled – most is injected into disposal wells permanently removing it from the hydrological cycle.

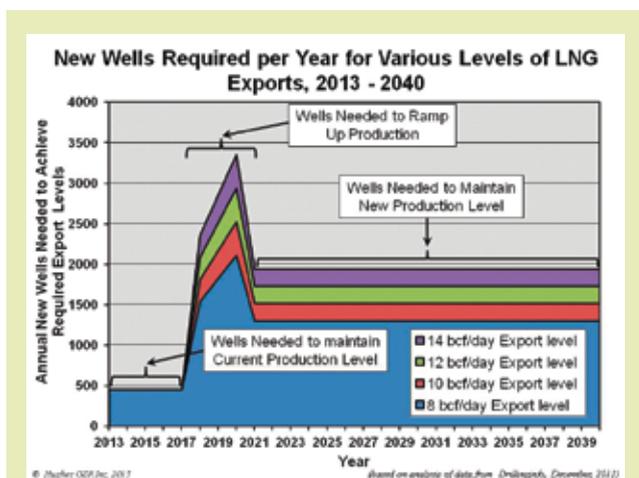


Figure 9 – The rate of annual drilling required to meet various LNG production targets illustrated in Figure 5.

Where would this water come from and what are the implications? Other documented concerns with fracking are potential groundwater contamination through casing failures, improper frack water disposal, industrial footprint, and greenhouse gas emissions from vented methane and carbon dioxide.

Environmental organizations in many parts of the world oppose fracking and moratoriums are in place in Quebec, New York State, Maryland and France.

**Implications**

The LNG export plans of the BC government are unlikely to be realized at the scale envisioned and must be seriously questioned.

Given the gas production forecasts of the NEB, which show production falling in every province but BC, the large scale export of gas will compromise Canada’s long term energy security. The NEB assures us that even if Canada becomes a net gas importer by 2017 (as in its “low case”

forecast), shale gas in the US will be available at low prices. This is by no means a certainty given the fundamentals of US shale gas production and cost, as well as its own LNG export plans.

The NEB appears to have violated its mandate to ensure Canadian energy security by approving seven LNG export applications, which add up to more than the current gas production of all of Canada, and far exceed even its most optimistic projections of BC gas production. To put this in perspective, the US, which produces five times as much gas as Canada, has approved only four export projects with a total capacity of less than half that of the NEB approvals.

The public would be well advised to demand more from their government than an improbable LNG fix to address crucial long term energy security, environmental, and fiscal problems.

Arm-waving assertions by BC politicians of more than 950 tcf of recoverable resources are misleading, as they convey none of the geological and economic uncertainties in these estimates, nor the scale of the environmental and technical challenges in attempting to recover them. Natural gas is a finite, non-renewable resource; however it will continue to be an important energy input to BC and Canada for the foreseeable future. Liquidating BC’s gas resources as quickly as possible is not a sustainable energy plan. Long term energy sustainability must of necessity involve a reduction in our reliance on non-renewable resources and a vision of how to get there.



David Hughes is a geologist and veteran of three decades with the Geological Survey of Canada. He is president of Global Sustainability Research and a Fellow of the Post Carbon Institute.

A version of this paper with all endnotes (omitted here for space) is available at [www.watershedsentinel.ca](http://www.watershedsentinel.ca) or by contacting editor (at) watershedsentinel.ca.

Sponsored by  
**glasswaters  
foundation**

# On Cortes Island with the Geiger Counter

by Christian Gronau



In December, I had the loan of the “Gamma-Scout” Geiger counter from the *Watershed Sentinel*/BC Environmental Network and conducted a casual survey of various locations on Cortes Island in northern Georgia Strait, BC.

**No radiation hot-spots were found.** There are no indications that the 2011 disaster in Fukushima has had any measurable effect on our local environment. As far as levels of ionizing radiation are concerned, Cortes Island appears safe.

Here is a simplified account of what the “Gamma-Scout” observed: the beach kelp is clean; the forests

are quiet; the soils are fine; even the rocks produced almost nothing, which is to say that all tested samples read zero above general background radiation.

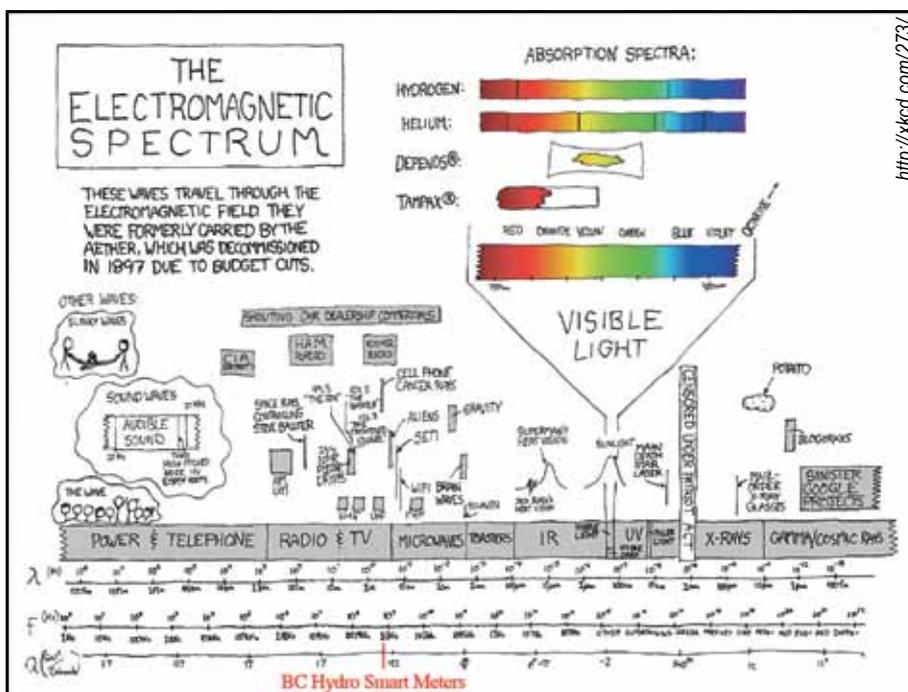
The background values I have established are hovering around 50% of what they are in Heidelberg – the place where the instrument was manufactured. Indeed, the Cortes background levels are slightly below global-average. By the safety margins placed on nuclear industry workers and uranium miners by the National Research Council of Canada, Cortes Island is exposed to only 1.4% of the allowable dose. (Global average is 1.74%.)

The topic of radiation is fraught with hazards: it is complex to the point of being confusing (the jumble of measurement units alone – Roentgen, Curie, Becquerel, Gray, Rad, Rem, Sievert – is enough to make even the experts cringe). It certainly doesn’t help that the term “radiation” encompasses widely-differing phenomena, from the warm glow of your fireplace to the radioactive blast of a nuclear explosion.

The distantly-related concerns about non-ionizing radiation coming from Smartmeters have been brought to my

attention. It seems somewhat silly to worry about single Watt microwave bursts, a few times per day, from a power pole usually many yards away, while sitting in a home office with WiFi routers, remote controls and cell phones cluttering the place

(and maybe a microwave oven in the kitchen). As far as Fukushima is concerned, the danger is far from over: were another major earthquake to strike now, the consequences for Japan could be truly catastrophic – but it would take some extraordinary circumstances to affect the North American west coast in any major way.



For the time being at least, we have little to fear.

Some places on this planet have very high natural radiation levels, without any apparent negative health consequences to the resident population. Finland, for instance, receives 10 times the amount Cortes Island gets.

Life evolved and adapted on this planet to the constant and inescapable bombardment by cosmic and terrestrial radiation. There are indications that natural background radiation is of some benefit to the immune systems of living organisms, by activating and exercising cellular and gene-repair mechanisms. We are more deeply connected to the universe than we may think.

Christian Gronau studied palaeontology and geology in Germany. He and his wife live on Cortes Island.

Friends of Cortes Island has purchased a “Gamma-Scout” and will be monitoring any impact the aquatic Fukushima plume might have on west coast waters.

A larger view of the graphic is available at [www.watershedsentinel.ca](http://www.watershedsentinel.ca)



# Wild Times

## Riverside Reflections

*Text and Photo by Joe Foy*

I was sitting as still and as quiet as I could in the bow of the little river boat, doing my best not to scare away the brilliant blue kingfisher perched on a branch just above my head.

This past February I was with a half dozen people from various parts of the world on a guided nature tour, gliding through water that looked like chocolate milk. We hit the jungle-lined riverbank with a gentle thud. Happily the little bird stayed put, and I was able to get off several shots with the camera. With my eye glued to the viewfinder, our guide hissed in my ear a warning, then urgently pointed at a tangle of roots, about two metres from where I sat. I turned and stared intently at the muddy jumble on the riverbank and was startled to see the golden eyes of a python looking right back at me! This was my introduction to the amazing Kinabatangan River, located in the Malaysian state of Sabah, on the island of Borneo.

For anyone interested in seeing an abundance of wildlife species up close in a natural habitat, the Kinabatangan River is like a real life visit to Jurassic Park. It's a big, brown river that starts in the highcountry of north Borneo's interior and snakes its way, across a wide plain to dump into the Sulu Sea near the port of Sandakan. In some ways it reminds me of the Fraser River near my home in New Westminster, BC. But only after a short time on the Kinabatangan, it became clear I wasn't in New West any more. Its river banks are overhung with tall tropical trees, vines hanging down

into the soil laden water. From time to time crocodiles float up to the surface to have a peek and a grin, then disappear in a muddy swirl.

The Kinabatangan River is a kind of time capsule, with wildlife here that are long gone in other parts of southeast Asia. Wild Asian elephants and even rhinos still roam the forest, alongside species found only on Borneo, like the proboscis monkey. The area is also home to one of Earth's wildlife superstars – the old man of the forest, the orangutan.

The jungle here is thick. Seeing wildlife, even wildlife as big as an elephant would be a difficult slog – were it not for the Kinabatangan. Floating out on the river with the help of local guides, the jungle-clad river banks become an incredible showcase of nature's diversity.

The variety of life in Malaysia's wild forests is mind-bending. Research has discovered that new species of trees can be found every few kilometres, which makes this forest very different from my neck of the woods back in British Columbia.

It was however, a bittersweet visit. Seeing this kaleidoscope of life face-to-face was both amazing, and heartbreaking at the same time.

On the long bus ride to the Kinabatangan I was shocked to see the amount of lands covered in oil palm tree plantations. By the time I made it to the river bank, I had travelled for hours and hours through a landscape where the wild forest had been utterly eliminated to make way for vast corporate-owned oil palm tree plantations.

But it was my look at Google Earth that made me gasp. Palm oil plantations crowded the river at every turn, erasing the wild forest, and the wildlife that had lived there. In many sections of the Kinabatangan only a narrow remnant of the once vast wild forest remains, with the wildlife there hanging on by a thread. One of the reasons that I could see so much life from the boat I was in, was that this riverside forest is the last stand for many species in this area.

What is driving all this terrible destruction? Two things. Money and lack of indigenous land rights. Vast quantities of palm oil are exported to countries around the world, including Canada, to be used in consumer items from soap to junk food. Tribal land rights in Malaysia and Indonesia

are trampled on to make way for the expanding plantations.

What can the average Canadian do about this? It turns out there are lots of things. Do a bit of research and try to eliminate as best you can products that contain palm oil, which

Support indigenous land rights here at home – because I believe that every win here will have positive influence around the world

may be listed as vegetable oil. Support organizations such as Greenpeace and Rainforest Action Network and their anti-palm oil campaigns.

And most importantly, support indigenous land rights here at home – because I believe that every win here

will have positive influence around the world.

By supporting the Tsilhqot'in Nation and their fight against the New Prosperity Mine at Fish Lake, or by supporting the Treaty 8 First Nations in their fight against Site C – we not only defend justice and human rights – we give local wildlife a chance at survival – and we may just give species like the orangutan a fighting chance too.



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

# Watershed Sentinel

Box 1270, Comox BC V9M 7Z8  
Ph: 250-339-6117  
orders@watershedsentinel.ca  
www.watershedsentinel.ca



News & views for a sustainable future since 1991

**Yes! Sign me Up for news from the grassroots!**

**FROM:** \_\_\_\_\_  
ADDRESS: \_\_\_\_\_  
CITY: \_\_\_\_\_ PROV: \_\_\_\_\_  
POSTAL CODE: \_\_\_\_\_ PHONE: \_\_\_\_\_  
EMAIL: \_\_\_\_\_

**This is a Gift To:** \_\_\_\_\_  
ADDRESS: \_\_\_\_\_  
CITY: \_\_\_\_\_ PROV: \_\_\_\_\_  
POSTAL CODE: \_\_\_\_\_ PHONE: \_\_\_\_\_  
What to say on your gift card announcement:

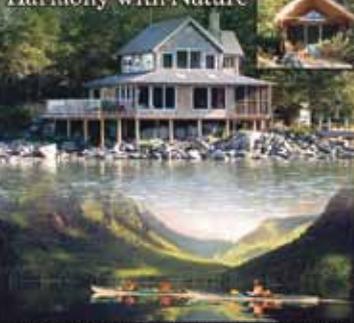
- Electronic subscription 1 year (5 issues) \$15, 2 years \$30
- 1 year (5 issues) Canada \$25 (USA \$35)       2 years Canada \$40 (USA \$60)
- Bundle\*\* for a year: 5/\$40 \_\_\_ 10/\$70 \_\_\_ 15/\$100 \_\_\_ 20/\$125 \_\_\_ 25/\$150 \_\_\_ 50/\$300 \_\_\_
- Donation \$20 \$50 \$100 \$200 Monthly \$\_\_\_\_\_ a month\*\* (See Sustainers Page for details)

**\*\* Bundle subscribers and monthly donors receive a free subscription**

VISA Mastercard Number \_\_\_\_\_ Expiry: \_\_\_\_ / \_\_\_\_

Total Enclosed \_\_\_\_\_ Payable to Watershed Sentinel. Thank you very much!

**Desolation Sound**  
Harmony with Nature

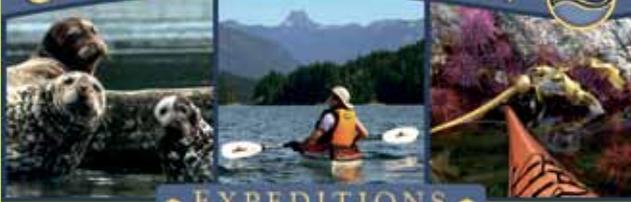


Luxurious Waterfront Lodge, Cabins & Platform Tents  
Kayak/Yoga Retreats - Meetings  
Wildlife & Bird Watching - Clubs  
Family & Group Holidays

**TAI-LI-LODGE**  
Cortes Island, British Columbia

1-800-939-6644 or 1-250-935-6711 • [www.taililodge.com](http://www.taililodge.com)

**COAST MOUNTAIN**



EXPEDITIONS

Tours - Daytrips - Lessons - Rentals  
Quadra Island B&B Kayak Hostel  
250-285-2823

[www.CoastMountainExpeditions.com](http://www.CoastMountainExpeditions.com)

  
**west coast**  
EXPEDITIONS

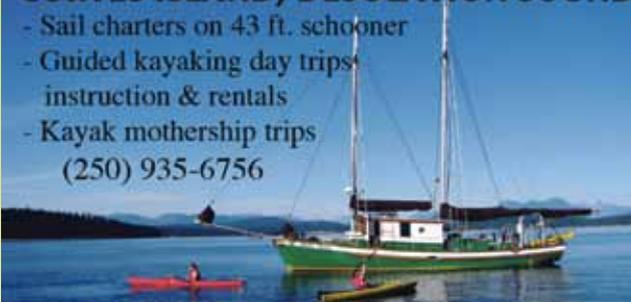


Connect • Experience • Refresh  
Kyuquot, Northwest Vancouver Island  
[westcoastexpeditions.ca](http://westcoastexpeditions.ca)

**MISTY ISLES ADVENTURES**  
**CORTES ISLAND, DESOLATION SOUND**

- Sail charters on 43 ft. schooner
- Guided kayaking day trips instruction & rentals
- Kayak mothership trips

(250) 935-6756



[www.MistyIslesAdventures.com](http://www.MistyIslesAdventures.com)

*Not a Subscriber yet?*

**Save 30%**



- ✓ 5 smart jam-packed issues a year
- ✓ Save on 2 years subscription (10 issues)
- ✓ Try our electronic subscription (\$15/year)

**Subscribe now for only \$25**

[www.watershedsentinel.ca](http://www.watershedsentinel.ca) - [orders@watershedsentinel.ca](mailto:orders@watershedsentinel.ca)

If undeliverable, return postage will be paid by:

Publications Mail Agreement No. 40012720

Postage Paid  
at Comox BC  
Canada  
V9M 7Z8



Watershed Sentinel  
Box 1270,  
Comox BC  
Canada V9M 7Z8