

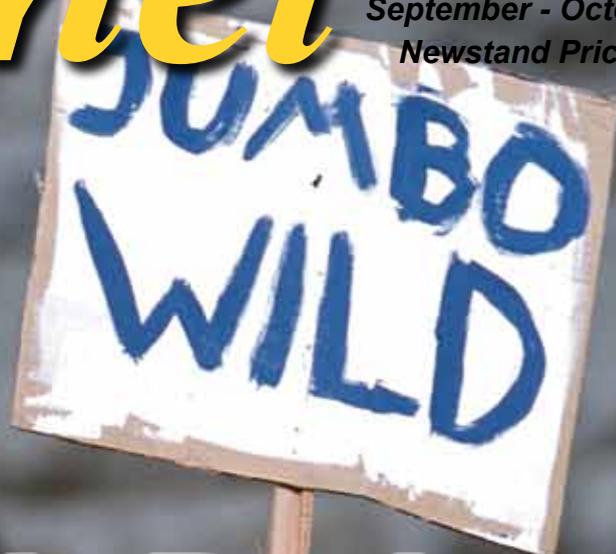
Shuswap Flooding • Geiger Counting at Red Rose Mine • Pesticide Guide

Special Issue  
on TOXICS  
Environmental News from BC and the World

# Watershed *Sentinel*



September - October 2012  
Newstand Price \$4.95



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**Chemical Kids**

**Pink Ribboned to Death**

**Canada's POP Strategy Fizzles**

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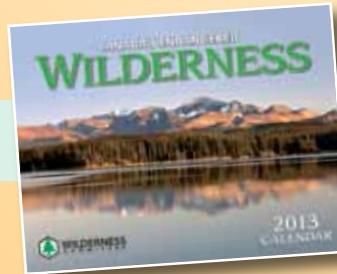
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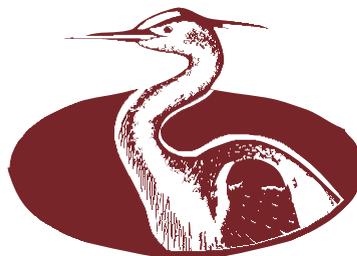


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# Watershed Sentinel



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Cover Photo from  
Jumbo Wild Rally in  
Nelson 2004,  
[www.dougpyperphoto.com](http://www.dougpyperphoto.com)



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SEPTEMBER-OCTOBER 2012



# Watershed *Sentinel*

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## GUEST EDITORIAL

### **Sick, Stupid and Sterile**

One of the most shocking statements I've ever heard was made by Judy Brady (see her article on page 26) at a breast cancer forum in the mid-1990s. Discussing the way in which persistent organic pollutants (POPs) bioaccumulate in fatty tissue, Brady pointed out that women, unlike men, had a means of expelling these contaminants: through lactation. Yes, Brady said, breastfeeding can help a woman reduce her risk of developing breast cancer, but at what cost? What cost indeed?

In September 1962, Rachel Carson's ground-breaking *Silent Spring* was published – a clarion call about the perils of pesticides. Soon afterwards the indiscriminate spraying of DDT on farm fields and suburbs in the US ended, followed in 1972 by an outright ban on its manufacture and use. Forty years later, DDT's metabolite DDE can be found in the bodies of 95% of Americans. These chemicals persist.

For decades, the standard test manufacturers had to pass before new chemicals were allowed into the marketplace was whether or not the chemical would kill more than one person in a million. (Aside from how preposterous this hypothesis is, as Peter Montague of the Environmental Research Foundation has pointed out, if regulators knew the name and address of this unlucky person, releasing the chemical would be pre-meditated murder.)

The chief concern for regulators was whether or not chemicals caused cancer in humans. This concern has certainly not led to a reduction in the number of cancers diagnosed every year. The so-called "war on cancer" launched 40 years ago by Richard Nixon, has, as Devra Davis points out in her article on page 24, been a spectacular failure. It has also been unforgivable, because regulators in Canada and elsewhere *know* what they need to do. Instead of removing known carcinogens from the environment, they blame the victim for their lifestyle or simply the poverty forcing them to live in highly polluted homes.

In 1996 another ground-breaking book was published. *Our Stolen Future* by Theo Colborn and Peter Myers detailed the wealth of scientific research highlighting the ability of many supposedly safe manmade chemicals to mimic hormones and – in impossibly minute doses – interfere with cognitive, reproductive and immune system development. Put simply, chemicals in our environment are making us sick, stupid and sterile.

Many doctors, as Bruce Lanphear explains on page 13, have no doubt that the increase in many previously seldom (or never) seen childhood ailments is the result of chemical contamination.

As the distinguished scientist Paul Ehrlich has asked, 50 years later what would Rachel Carson say?

*Miranda Holmes, Gabriola Island BC, August 2012*



# Around The World

Compiled by Susan MacVittie

## US Reactors Frozen

The US Nuclear Regulatory Commission (NRC) has put a hold on 19 final reactor licensing decisions in response to the landmark Waste Confidence Rule decision of June 8th by the US Court of Appeals for the D.C. Circuit.

The NRC action was sought in a June 18, 2012 petition filed by 24 groups urging the NRC to respond to the court ruling by freezing final licensing decisions until it has completed a rulemaking action on the environmental impacts of highly radioactive nuclear waste in the form of spent, or “used,” reactor fuel storage and disposal. The groups noted that most US reactor projects were already sidetracked by problems, including an inability to control runaway costs, and the availability of far less expensive energy alternatives.

—*Beyond Nuclear, Inc et al,*  
August 7, 2012

## Turkey Rejects GM

In view of public opinion and unfavourable reaction from non-governmental organizations, Turkey’s food trade body, the Federation of Food and Drink Industry Associations, has withdrawn an application to import 29 kinds of GM organisms. In addition, the Turkish Ministry of Food, Agriculture and Livestock responded to pressure from Greenpeace Mediterranean and has agreed to impose mandatory labelling for all animals fed with GM feed.

—*Greenpeace, August 16, 2012*

## EU Ship Fuel Laws

A new European crackdown on pollution from ships will require billions of dollars worth of investment by shipping firms on filter technology and by refineries on upgrades to produce cleaner fuels. EU rules have already forced ships to cut sulphur emissions in harbours.

—*Reuters, August 18, 2012*

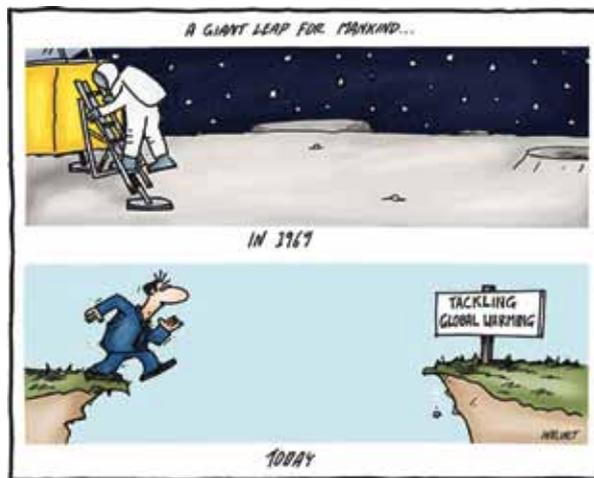
## Sea Ice Melting

The US National Snow and Ice Data Center reports that sea ice in the Arctic Ocean is likely to shrink to a record small size and keep on melting. The amount of sea ice in the Arctic is a potent global weather-maker, sometimes characterized as the world’s air conditioner. The decline of Arctic sea ice has happened faster than projected by the United Nations Intergovernmental Panel on Climate Change five years ago. Scientists say these are clear signs of climate change spurred by human activities, notably the emission of heat-trapping greenhouse gases including carbon dioxide.

—*Reuters, August 21, 2012*

## Robot Detects Sharks

Great white sharks swimming off the California coast should be protected under the US Endangered Species Act, according to environmental groups that contend there are fewer than 350 left in Californian waters.



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Commercial fishing by US and Mexican vessels is the primary threat.

A floating robot has been deployed to track great white sharks in the Pacific as part of efforts to understand the giant predators. The “wave glider,” which from above looks like a yellow surfboard, picks up signals from tagged fish up to 1,000 feet away in the ocean and then sends their positions to researchers via a satellite transmitter.

Scientists have only a hazy understanding of where great white sharks swim in the oceans.

—*Reuters, August 16 and 18, 2012*

## EU Unemployment Rises

Unemployment in the European Union continued at over 11% in July, at the same time as inflation also rose, threatening even more jobs. The problems, now spreading to northern European countries like Germany, are in part triggered by a 12.4% increase in the cost of oil in the last two months. The European Central Bank said in June that the euro-area economy may shrink 0.1 per cent this year.

—*Bloomberg News,*  
August 31, 2012

# From Our Readers

## Landslides in the Kootenays

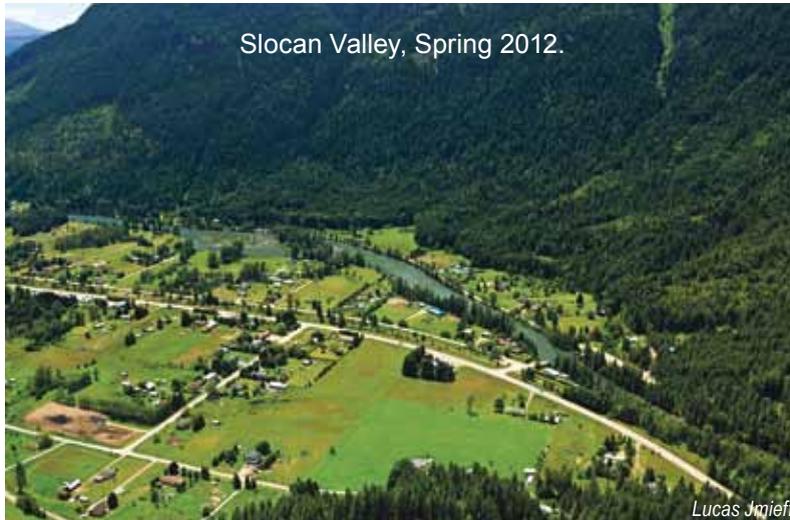
The Perry Ridge Water Users Association extends their sincere condolences to the victims of the Johnsons Landing landslide.

Our Association has tracked landslides in the Kootenays for close to 30 years. All of the experts, in many cases including the government's own, agree that British Columbia has many high risk areas and unstable areas, especially in the Kootenays. Peter Jordan in his Incidence of landslides report (see [www.perryridge.org](http://www.perryridge.org)) states that landslides typically increase by two to ten times from forest development.

Unfortunately, development continues to be planned on unstable terrain and increases the risk to residents below. Whether forest development added to the already existing risk of a high hazard at Johnsons Landing or not, hazard mapping could have prevented this. It is well known that roads and cutting increase water volume and sedimentation in the steeply incised creeks in the West Kootenays. The headwater areas, which drain very large areas of the mountains, all drain to the valley bottom where we live.

How many lives must be lost before the government admits that there are areas in the province where there should not be development and that these areas should be and should have been in the past removed from the Annual Allowable Cut?

We accept that climate change is bringing sudden and torrential downpours – all the more reason to stop planning into the areas above and around our homes. Climate



change itself is being exacerbated by forest removal.

We do not wish to show any disrespect to the victims of Johnsons Landing during their losses and grief. However, it is a long time overdue for the Government of BC to act responsibly, which they have not done, by ignoring advice and warnings from independent professionals.

*Marilyn Burgoon,  
Perry Ridge Water  
Users Association,  
Perry Ridge, BC*

## Debris

We have lived on the west coast for over 45 years and have watched myriad life forms wash in on

glass balls and other fishing floats long before plastic was common. It seems to us that the most invasive species, like diseased Atlantic salmon on the west coast, and human beings in every corner of the planet, are ignored, even sanctioned, but when something like this junk comes in, people and the media jump on it what is attached to it.

Yes, there are new species showing up, as we constantly alter the landscape and oceans, like broom showing up vividly alongside highways and in disturbed, often herbicided and gravelly soils. These are a pea variety that are putting more nitrogen into often depleted soils. There is no broom where old growth and evergreen forests grow.

Another thing that points to human's distance from understanding how nature works is the efforts of people to dispose of the Humpback whale that died on a White Rock beach, not too far from Vancouver's garbage dump where thousands of eagles are starving and living off junk.

There are some species that are parasitic and can become problematic but usually they survive due to human meddling and destruction in areas where ignorant but well meaning efforts to control it all are obvious.

*Suzanne Lawson, Tofino, BC*

[More Letters, Page 27](#)

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:

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# Have You Heard?

Compiled by Staff

## Multi-generational Impacts of Chemicals

Research by Washington State University reveals that prenatal exposure to five common environmental chemicals can result in multi-generational ovarian disease. Pregnant rats were exposed to DEHP and another phthalate, DBP, as well as BPA, the fungicide vinclozolin, the pesticides permethrin and DEET, dioxin, and “jet fuel,” a hydrocarbon mixture used to control dust on road surfaces.

Female pups developed ovarian problems closely resembling two ovarian disorders common to women. More alarming, these problems persisted in at least the next three generations – even though the younger animals were not exposed to the chemicals. In addition to the changes to the ovaries themselves, researchers also found epigenetic changes in the descendants of rats exposed to vinclozolin during pregnancy. This “proof-of-concept” study used higher doses of chemicals than people would typically encounter. Further investigation is urged.

—“*Environmentally Induced Epigenetic Transgenerational Inheritance of Ovarian Disease*,” *Public Library of Science*, 2012

## Stop BC’s GM Apple

Groups in BC’s Okanagan Valley want Okanagan Specialty Fruits to stop pursuing a genetically engineered (genetically modified or GM) “nonbrowning” apple which they say jeopardizes the reputation of the Okanagan as a pristine fruit growing area. The groups are also petitioning the BC government to take action.

The GM “non-browning” apple is engineered to keep from going brown after being cut and was designed for fast food companies and food processing companies. The technology was developed in Australia and licensed by Specialty Fruits.

A recent consumer poll found that 69% of Canadians do not want the GM apple.

The Canadian Biotechnology Action Network (CBAN) is working with groups to stop the GM apple. The petition can be found at [www.okanagongreens.ca](http://www.okanagongreens.ca)

—CBAN, August 14, 2012

## Toxins in Canada’s Lakes

A paper published in the *Canadian Journal of Fisheries and Aquatic Sciences* reveals that microcystin, a toxin produced by blue green algae (cyanobacteria), is present in Canadian lakes in every province, particularly in central Alberta and southwestern Manitoba.

Nutrient pollution is responsible for the algal blooms in lakes and waterways in summer months. Large blooms of cyanobacteria can cause fish kills, increase the cost of drinking water treatment, devalue shoreline properties, and pose health risks to people, pets, and wildlife. Microcystins are well-established as potent liver toxins to humans and other mammals, and are classified as possible human carcinogens. A major finding from the study is the strong association between low nitrogen-to-phosphorus ratios and high microcystin concentrations.

—*ScienceDaily*, August 14, 2012

## Ozone Destruction

Extreme summer thunderstorms are likely causing accelerated damage to the ozone layer over North America, as the frequency and strength of storms continue to increase, according to a study in the journal *Science*.

The water changes chlorine and bromine into the free radical ClO which reacts to cause ozone destruction, which in turn exposes Earth to higher doses of ultraviolet radiation.

—“*UV Dosage Levels in Summer: Increased Risk of Ozone Loss from Convectively Injected Water Vapor*,” *Anderson et al, Science*, August 17, 2012

## Clean Energy

Ford announced that it is revamping its Van Dyke Transmission plant to manufacture hybrid and plug-in hybrid car transmissions. The \$220 million investment will generate full-time jobs for 130 workers.

In New Jersey, PSE&G is building a 1 MW solar array in the town of Hackensack. Situated on six acres of land, the project is part of an initiative to reclaim land previously used as brownfields (contaminated land) and landfill and will generate power for 1,000 homes.

Two biofuel projects, located in Reno, NV and Harvey, LA are expected to generate a combined 64 full-time jobs, as well as 430+ engineering and construction jobs.

—*Environmental Entrepreneurs*, August 21, 2012



testing the air for themselves because of a lack of response from the oil company or government.

In all this, insisted Ott, over and over again, whether 23 years ago or two, the communities find themselves alone, with ruined environments, ruined industries, and lingering but unrecognised personal health impacts. Citizens, she said, are the victims of “lies and betrayal,” being sacrificed for the economy. Her response, especially to the issue of the proposed dilbit pipelines facing BC, is that crisis

provides the opportunity to reorganize, decide what wealth means in your community, and develop democratically-driven local economies, such as those championed by the Transition Town movement. “Protect your local wealth with local laws,” and work for real democracy. “We can believe in it. We can work for it. It’s not a goal, it’s a journey.”

Ott told the *Watershed Sentinel* that the recent upsurge in organizing activity through the Occupy movement is a massive opportunity for

movement building, with three and four generations of people coming together for social change. When asked, she suggested that the role of the experienced grassroots of the environmental movement now is to “Empower these folks,” sharing skills and historical knowledge.

Riki Ott said, the question she asked herself after the Exxon Valdez spill was: “I know enough to make a difference. Do I care enough?”



## Pipelines Update: The Rubber Stamp.....and Bouncing Back

by Susan MacVittie

### Keystone XL

An unlikely coalition of environmentalists, good ol’ boys, and Tea Party members mounted a court challenge against TransCanada over its right to exercise eminent domain, to run the Keystone XL pipeline across an opposing landowner’s property. A Texas judge ruled in favour of Keystone, but the opposition to pipelines is crossing political stars and stripes.

Closer to home, Canada’s National Energy Board said pump stations for the Keystone oil pipeline in Manitoba and Saskatchewan didn’t have alternative power supplies for emergency shut-down systems. TransCanada first argued that it was in compliance, and lost. It then asked for relief, and was denied. TransCanada has until September 17 to file a corrective action plan.

### Enbridge Northern Gateway

Joint Review Panel Hearings – Questioning Phase. Edmonton: September 4 -8, 17-28; Prince George: October 9-19, October 29-November 9; Prince Rupert: November 22-30, December 10-18.

The environmental review panel has asked Department of Fisheries and Oceans (DFO) for risk assessments on the nearly 1,000 waterways the pipeline would cross. The department was unable to provide those assessments because they haven’t been done yet. Critics say budget cuts limit DFO’s ability to conduct a full assessment. The federal registry of lobbyists shows 12 different lobbyists

at work for the pipeline proponent in 2011 and 2012. So much for the fate of the pipeline being based on science, not politics, eh, Stevo? [More on the fed’s cuts on page 22.]

People aren’t buying Enbridge’s spin. Though Enbridge responded to outcries about the deleted islands in Douglas Channel in its promo video by adding a disclaimer, a Vancouver duo got real and used stunning footage to produce, “This is not an Enbridge video.” And reports from across BC say when Enbridge’s ads appear in movie theatres, audiences boo them, or laugh.

### Pacific Trails Pipeline

In August the Unis’tot’en and Lhe Lin Liyin hosted the 3rd annual Unis’tot’en Action Camp near Houston, BC. A callout to activists brought people to the camp to take part in workshops and hear the perspectives of native activists. Exercising their right to give or withhold their free, prior and informed consent, activists turned away logging trucks that were clearing the path for the construction of the Pacific Trails natural gas pipeline. The proposed pipelines and their status are: Enbridge’s Northern Gateway (diluted bitumen, condensate – under Environmental Assessment); Pacific Trail (natural gas – active); Pembina Condensate (or Plateau Pipeline) – proposal dormant since 2006; and Kinder Morgan’s TransMountain – North (dilbit – a concept only). The terrain from south of Houston has resulted in three, maybe four, of these pipelines heading up the Morice River where it turns south of Houston, on their way to the Clore, Hault, and Kitimat Rivers, into Kitimat at the point where the resistance camp is built. Perhaps, it’s time for an un-Occupy movement....

—CBC News, *Montreal Gazette*, *Vancouver Sun*,  
*The Tyee*, August 2012

# Chernobyl on the Cheap?

*After the Fukushima disaster, the Watershed Sentinel and the BC Environmental Network got together to purchase a GammaScout™ Geiger counter to use for citizen survey work on potential sources of radiation. We plan to put the Geiger counter on the road, sending it to volunteers in communities around BC and Alberta to test for hotspots. Activist Dave Stevens has been working with the equipment around Smithers BC, and he and a friend were our first Gamma scouts, going on an expedition to an old mine site.*

*by Dave Stevens*

There are a lot of old mines in BC where uranium is present. One of these is the abandoned Red Rose Mine, near Hazelton, BC. Minfile, the BC Mineral Inventory, shows that Red Rose mine produced silver, gold, tungsten and copper.

On August 2nd, 2012 my friend and I travelled to the mine with a Geiger counter to see if we could pick up any elevated gamma radiation. We did.

The hike in is about 4½ hours of steady uphill, mostly on a good quad track, with a few stream crossings and a little bushwhacking. We

got close to where we thought the mill must have been back in 1954, when this site was last worked, and found old collapsed buildings strung out along the road, graffiti, old pieces of equipment, bottles and just plain junk in every direction. The road in was straight glacial till, boulders and coarse gravel mixed with clay. Overgrown with alder but quite passable. On our left was a nice flat sandy patch that had obviously been used as a campground. Happy to be rid of our packs, we voted to set up here.

We had our Geiger counter and GPS running throughout the hike in, getting gamma readings of about 0.1 or maybe as high as 0.2 microSieverts/hour. Nothing to get

excited about. But in our campground, when we checked it, we were getting readings in the 0.4 to 0.9 range, the highest we'd seen. We planned to leave our packs and shelter at the camp at about 800 metres, and then the next day hike up to the old mine site, around 1700 metres, with just minimum supplies.

The next morning we set out up the switchbacks across a steep scree slope until we hit a slide-gouged gully across the slope. Our predecessors had clearly been there often enough to have worked up a new set of steeper switchbacks, so we took the path of least (or in this case most) resistance. About 2½ hours up the trail we found the mine site. Fantastically beautiful landscape. Fantastically ugly mess. Talk about abandoned! Some buildings standing, some with roofs, some without, an old bunkhouse, machine shop, office, core shack, dump, every imaginable kind of clutter. Up a short sharp slope from the mine camp was an adit (an entrance to an underground mine) with a wooden door and a higher gamma reading.

Back down to a lower adit and a six inch pipe and pool, laced with malachite and who knows what else. We got a water sample. High levels again.

Back down to the mill, just a tad uphill from our camp. Higher than background readings but not by much. Found a seep, took a water sample. Tracked an overgrown path back to our camp. Hmmmm.... All that sand.... Turns out we had camped on the lowest level of the mill tailings. And so had many others as it seemed from all the tire tracks. I guess those tailings account for the higher readings we were getting there. Ordinary readings in Smithers over a 24 hour period as I write (August 14, 2012) are 0.1 microSieverts./hour. The campsite readings were higher than anything we'd seen on the way in. We had been get-



*Photos by Morgan Hite*



ting about 0.1 or maybe 0.2 microSieverts/hr., here we regularly got as high as 0.7 or 0.8 or 0.9. Although all the references I looked up say that Sieverts are not linearly computable from the Geiger counts, the records we gathered were pretty linear.

But there are gotchas. The Geiger counter is calibrated to count all particles received, but to calculate Sieverts as if the source were Cesium 137. The source we were exposed to, however, is known to be uranium oxide. The more energetic emitted photons will have a higher health effect, which is what Sieverts represent. So the effect is underestimated using this device, but what we found was cause enough for concern, never mind the fine print.

Conclusion? Waste disposal standards were not adequate at the time to deal with this issue of radioactive waste, and we still have uranium oxide lying around in high enough levels to be of concern. In this case the high altitude and difficulty of access are likely to be adequate protection for the moment. What will happen to dissolved uranium we don't know. We also don't know what stand-

ards would be in effect if a new owner decides to explore or reopen the workings. Uranium has a half-life of 4.47 billion years. Cause enough for concern, even if it isn't Chernobyl.

I'd like to acknowledge the able assistance of Ian Douglas, intern at the Bulkley Valley Museum for much valuable research on the site. Morgan Hite, backpacker cook extraordinaire, supplied 2,000 very tasty calories per day and much good companionship and GPSness.

[Note: blog posts at [www.choked.ca/d622](http://www.choked.ca/d622) have links to photos, tracks, waypoints, video from this trip and an expanded narrative.]

Dave Stevens is an air pollution activist with a strong interest in the ultimate particulate pollution – radioactive fallout. He's also a hiker and trail food gourmand.



## Make it Count!

Your donation will help with the training to learn how to use and monitor the Geiger counter, interpretation of the results and posting of data to the *Watershed Sentinel* HotSpots webpage.

Please send your donations, payable to the *Watershed Sentinel*, to "Make It Count," c/o Box 1270, Comox BC V9M 7Z8 or go to [www.watershedsentinel.ca](http://www.watershedsentinel.ca) and click on the Make it Count button. Thank you. We guarantee we will make every penny count.

Contact the *Watershed Sentinel* to borrow the Geiger counter for up to two weeks.

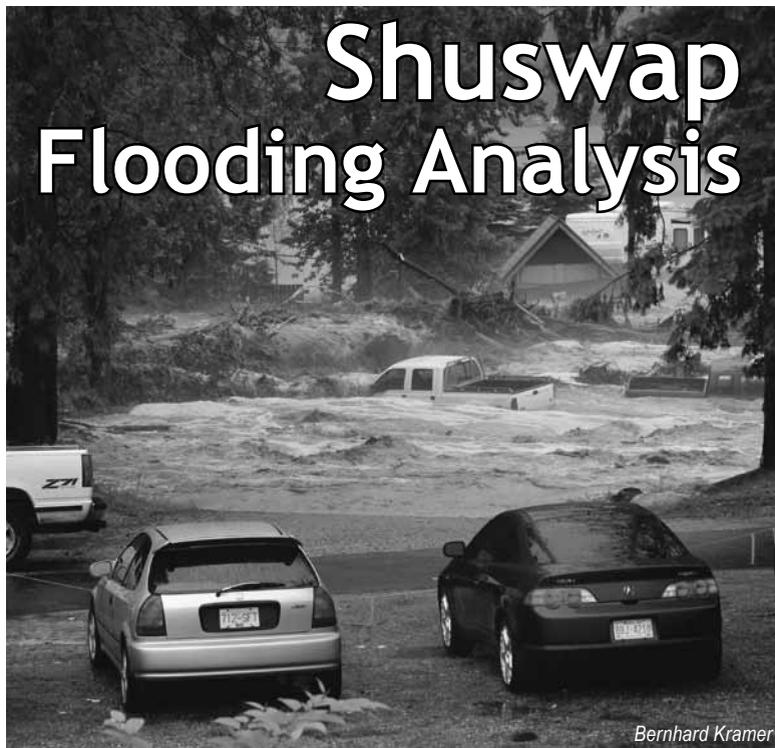
# Shuswap Flooding Analysis

by Jim Cooperman

It was fifteen years ago that the last wash-out devastated the Mara Lake area, when a debris flood swept down Hummingbird Creek and tore up the highway and parts of Swansea Point. This year the damage was even greater and there were two events, one in Sicamous Creek and the other in Hummingbird and Mara Creeks which join together just above the highway. In 1997, the slide occurred because after 5 days of heavy rain, a poorly designed cutblock channeled too much water into an inappropriately placed culvert that diverted water onto a steep slope, which then gave way into the creek.

It appears that the major cause of this year's massive flood events was simply inadequate culverts that could not channel the amount of water and debris unleashed by upwards of 80 mm of rain that fell on the remaining snow in the mountains. For the Swansea flood, another obvious factor is clearcut logging, which has been extensive in the watersheds. According to the "Compendium of Forest Hydrology," the loss of forest cover results in a significant increase in the amount of water entering streams, which increased from 5 to 70 per cent.

When the flow in streams is at a peak flow rate, stream banks tend to erode and often trees can block the creek and when the dam bursts



## *Abnormal is the new normal*

it creates a debris flow slide that can cause major damage. However, the lack of debris in the flood at Swansea Point, indicates that neither of the creeks plugged up as Hummingbird is still scoured from the 1997 event and Mara Creek held up. This time it was the culvert under the highway that plugged with a few trees and when the water overtopped the highway, it took out the pavement and proceeded to tear up the roads in the residential area and damage houses and cabins. In 2004, the BC government announced its intention to construct a bridge and debris basin, but Swansea residents were unwilling to undertake the responsibility and costs of maintenance, given that no other community in the province has this liability.

The Sicamous Creek wash-out was more of a natural event, as there is much less logging in this watershed, and most of the logging that has occurred was part of the Sicamous Creek research project that includes selective logging and very small blocks. The intense rain gener-

ated more water than the culvert under the Skyline Road could handle and according to Ministry of Forests engineering officer Lyle Knight, the road washed out. The resulting sediment and high flow then joined with the high flow from the other channel and began

eroding stream banks along the main stem of the creek. The debris plugged the highway bridge forcing the flow along with the debris into the Waterways Houseboat property and also to the south into the 2-Mile subdivision.

The damage to the Waterways property and to its business was so extensive, that the houseboat company is suing the provincial government and the District of Sicamous for \$1.7-million. The court documents state, "The natural channel that formed the banks of Sicamous Creek was altered when the road was built and a culvert was installed in place of the natural channel," and logging after the road was built increased the flow of water in the creek. Also, "The forest service road effectively became a dam that caused a large volume of water and debris to accumulate," and as a result "A torrent of water, mud, sand, boulders, trees and other debris was unleashed." Waterways wants to be compensated for the \$400,000 they spent on the cleanup, the \$800,000 of customer refunds and another \$500,000 for lost

business.

Compounding the potential for problems such as we are seeing now in the Shuswap is climate change, as the planet warms and as more moisture enters the atmosphere the frequency of severe weather patterns increases. Abnormal has become the new normal, with the increased likelihood of both deluges and droughts, as well as either overly warm or overly cold weather at unexpected times of the year.

Given the predictability of damaging floods and slides in floodplains, one might wonder why governments continue to allow floodplain developments. The town of Sicamous approved a massive condo development for Waterways Houseboats for the property now covered in mud and debris in the Sicamous Creek floodplain, despite submissions by local residents warning of the potential for this disaster. Fortunately, the development has not yet been built because if it had been, it would have been thoroughly damaged and damage to the adjacent properties to the south would likely have been more severe as the concrete walls would have channeled the water to the south.

In the case of Swansea Point, in 2007 the Columbia Shuswap Regional District approved the Hummingbird Resort recreational development de-

spite the likelihood of floodplain problems. However, they did insist on a covenant that acknowledged the property's potential flood hazard and thus protected the CSRD, the Ministry of Transportation and the province from "claims against them related to damage from the hazard." Only much appreciated, but now deceased Area

**It appears that the major cause of this year's massive flood events was simply inadequate culverts that could not channel the amount of water and debris unleashed by 80 mm of rain that fell.**

CDirector Ted Bacigalupo voiced any concern, "We cushion ourselves from the legal aspect, but we don't necessarily provide a safe environment for the people. The risk is still there."

This year's flood has become another one for the record books, as lake levels rose to nearly the flood level of 1972. Creeks and rivers were all running at peak levels. Fields that had been covered in manure were covered with water, massive amounts of debris

and organic matter went into the lake, which increased the potential for another algae bloom.. When the water finally subsides, the Shuswap definitely needs to find ways to adapt to climate change and installing larger culverts and bridges should be at the top of the list.

As for the entire province, the damage in the Shuswap and the storm related disasters in the Kootenays, especially the massive debris torrent at Johnson's landing, should be a wake-up call. Extensive mapping is needed of all watersheds that could pose risks to settlement areas and a warning system should be developed so that residents are made aware of when it is necessary to leave their homes. British Columbia is indeed one of the most beautiful places in the world to live, but given the challenges we face due to climate change, protective measures are needed in rural areas where there are greater risks from the increasing number of fires, slides and floods.



Jim Cooperman was editor of the BC Environmental Report and the BCEN Forest Caucus coordinator for a decade. He lives above Shuswap Lake and is the president of the Shuswap Environmental Action Society:

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# Since Silent Spring

In 1962 Rachel Carson sounded the warning about the impacts of pesticides and other manmade chemicals on human and environmental health.

In an article written to mark the 50th anniversary of the publication of *Silent Spring*, distinguished scientist Paul Ehrlich points out: “Many people have the impression that climate disruption is the worst environmental problem humanity faces, and indeed, its consequences may be catastrophic. But the spread of toxic chemicals from pole to pole may be the dark horse in the race.”

After all, as Ehrlich observes, there is a mass of evidence which should “alert humanity to the risks of toxifying Earth from pole to pole with synthetic chemicals.”

Fifty years later, we look at some – though by no means all – of the most recent research on toxic chemicals and health.

We – and the scientists who have contributed articles to this special section of *Watershed Sentinel* – also ask: Are our governments doing enough to protect us?

We asked Miranda Holmes, who spent a decade working on toxics and genetic engineering for Greenpeace and other environmental organizations in Canada and the UK, to edit this special section, which is sponsored by Reach for Unbleached..

# Protecting Children:

## The Neglected Legacy of Rachel Carson

“As the tide of chemicals born of the Industrial Age has arisen to engulf our environment, a drastic change has come about in the nature of the most serious public health problems. Only yesterday mankind lived in fear of the scourges of smallpox, cholera, and plague that once swept nations before them.... Today we are concerned with a different kind of hazard that lurks in our environment – a hazard we ourselves have introduced into our world.”

—Rachel Carson, 1962

by Bruce Lanphear

At the turn of the 20th century, the greatest threat to the health of children was infectious diseases, like cholera, tuberculosis and typhoid.

The development of vaccines and antibiotics played an important role in reducing deaths from infections, but the single greatest factor in reducing death rates and improving life expectancy was altering the environment to make it inhospitable to infectious agents: providing access to clean water, better housing and sanitation.

Over the past 50 years, the burden of childhood illness and disability has shifted from infectious disease to chronic conditions like asthma, diabetes and obesity, and behavioural problems, such as autism and ADHD.

Several environmental contaminants and pollutants contribute to these disabilities that collectively afflict about one in five children. These contaminants include (but are by no means limited to) lead, mercury, tobacco, air pollutants, DDT, organophosphate pesticides and PCBs.

The good news is that we have the opportunity to prevent many of these childhood disabilities. The sanitarians of the early 20th century understood that uncovering a pattern of disease was often sufficient to act, sometimes decades before the bacterial or viral agents were discovered. One way to apply that lesson today is by revising the way we regulate environmental chemicals and pollutants.

Currently, environmental chemicals are “innocent until proven guilty.” They can be introduced without being fully tested for toxicity: indeed, of more than 200 industrial chemicals known to have neurotoxic effects in adults, only a handful have been tested for neurotoxicity at lower (subclinical) doses.

Rachel Carson’s work led to the insecticide DDT being banned in the 1970s, but one recent study found that its metabolite, DDE, can be detected in 95% of Americans.

Moreover, a chemical is only taken off the market or a pollutant regulated when harmful effects are proven definitively; by convention, this means that a chemical or pollutant has to be proven toxic in laboratory experiments and in a series of epidemiologic (human) studies, which usually take decades to complete. In the interim, millions of people, including children and pregnant women, will have been exposed and possibly harmed.

Thousands of chemicals are currently in the environment, making it difficult to attribute disability or disease to any one particular chemical.

For persistent chemicals, even when harmful effects are identified, stemming the tide of exposure may be the most that can be accomplished.

Rachel Carson’s work led to the insecticide DDT being banned in the

1970s, but one recent study found that its metabolite, DDE, can be detected in 95% of Americans. DDE has been linked with diabetes, preterm birth and diminished IQ scores in children. PCBs, which have been linked to lower IQ scores and thyroid dysfunction, have been banned for decades; however, they are routinely detected in newborns and children around the world; exposure is nearly universal.

Our experience with lead, tobacco, PCBs, mercury, and other toxicants indicates that Canada and the US should adopt the precautionary principle and identify toxicants before they are marketed and widely disseminated in the environment.

**“One part in a million sounds like a very small amount – and so it is. But such substances are so potent that a minute quantity can bring about vast changes in the body.”**

Fifty years ago, Rachel Carson warned us about the toxicity of even small amounts of chemicals, like pesticides. We now know that, depending on when an exposure occurs in a child’s development, an environmental chemical can result in irreversible effects at concentrations in the parts per billion. In fact, for a given exposure, the effects of some chemicals are greater at lower levels of exposure.

*Continued on Page 14* ⇨



## Vancouver A City of the Future?

There is no question that the urban environment impacts on the health of children, but what would a healthy community look like?

In many ways, Vancouver fits this description.

The city has low levels of air pollution and relatively low rates of smoking.

The city is built to encourage walking, bicycling, and use of public transit; the number of major highways cutting through the heart of the city is minimal. And its inhabitants seem to live longer, healthier lives.

In 2005-09, Vancouver's life expectancy at birth was 82.6 years, which – if it were a country – would rank second only to Japan.

In addition, Vancouver has begun an initiative to become the world's greenest city by 2020, an effort that includes sustainable industries, low levels of air pollution, and a citywide goal of walking, cycling, or using public transportation for at least half of all trips taken.

This vision is in stark contrast with cities of the past that aspired to attract industry, only to end up with high levels of air pollution and widespread sprawl centred around cars and highways.

—BL

### ↪ Children continued

**“For the first time in the history of the world, every human being is now subjected to contact with dangerous chemicals, from the moment of conception until death.”**

Researchers have found strong links between exposures to environmental toxicants and behavioural problems. ADHD, which affects about one in 10 children, is on the rise among US children. We found, in a study of over 3000 children, that those who had higher blood lead concentrations were two and a half times more likely to have ADHD than children with the lowest exposure. We also found that tobacco exposure magnified the effects of lead; children who were in the highest lead category and were prenatally exposed to tobacco smoke were eight times more likely to have ADHD than children who had neither exposure.

Other chemicals which are routinely found in pregnant women and children, such as organophosphate pesticides and PCBs, have also been linked to the development of ADHD. The long latency between exposure and the onset of ADHD makes it difficult to establish these links with absolute certainty, but these studies raise troubling questions about a regulatory system which essentially allows children to be exposed to environmental contaminants until there is definitive proof that they are toxic.

The incidence of autism has increased dramatically. Autism has a genetic component, but the rapid increase in the condition points to an increase in one or more environmental risk factors. A few early studies have found that the risk of autism increases in children if their mother lived near a highway during the third trimester of pregnancy. Autism may be a “test

case” for the ubiquity and variety of man-made chemicals and pollutants. It would not be surprising if a chemical (or combination of chemicals acting together) were contributing to the increase in autism.

Another group of chemicals, endocrine-disrupting chemicals (EDCs), are raising new questions about how chemicals may cause harm. Several researchers have found that prenatal exposure to phthalates and Bisphenol A was associated with a decreased anogenital distance (a condition linked to later problems with infertility), decreased “masculine” play behaviours in boys, and hyperactivity in three-year-old girls. Bisphenol A has been banned by Health Canada for use in baby bottles, but many other routes of exposure for pregnant women still exist.

While most of the evidence on the effects of EDCs concerns sex hormones or the thyroid, some EDCs (known as “obesogens”) can mimic hormones involved in the development of obesity. The chemical tributyltin is one possible obesogen. A study in adolescent girls also found an association between obesity and phthalates.

More than a quarter of Canadian children are considered either overweight (17%) or obese (9%). In the United States, childhood obesity has more than trebled in 40 years. Obese children are more likely to become obese adults, who are at heightened risk for type II diabetes, cardiovascular disease, and some cancers. Diabetes is also on the rise in young people, where it can have especially serious health consequences (compared with a later onset). While many factors contribute to the rise in obesity, there is mounting evidence that some chemicals may also play a role.

**"Thalidomide and pesticides represent our willingness to rush ahead and use something new without knowing what the results are going to be."**

Thalidomide was an early and dramatic warning of our failure to regulate drugs. Widely prescribed in the 1950s to treat morning sickness at doses established to be non-toxic for adults, the drug turned out to have devastating effects on fetuses.

Many environmental exposures, which are often beyond our control, including environmental chemicals and contaminants, can have substantial and lifelong implications for children. Unfortunately, these subtle effects are unlikely to be recognized.

Tragically, as David Rall, former director of the National Institute of Environmental Health Sciences, once remarked, "If thalidomide had caused a ten-point loss of IQ instead of obvious birth defects of the limbs, it would probably still be on the market."

**"The choice, after all, is ours to make. If, having endured much, we have at last asserted our 'right to know', and if, knowing, we have concluded that we are being asked to take senseless and frightening risks, then we should no longer accept the counsel of those who tell us that we must fill our world with poisonous chemi-**



American robins killed by DDT, 1961 at Michigan State University. From *Introduction to Ornithology*, 3rd Edition, 1975. (Creative Commons)

See also Paul Ehrlich, "As *Silent Spring's* 50th anniversary nears, what would Rachel Carson be saying now?" *Environmental Health News*, 25 June 2012. [www.environmentalhealthnews.org](http://www.environmentalhealthnews.org).

[ehs/news/2012/commentary-paul-ehrllich-on-rachel-carson](http://ehs/news/2012/commentary-paul-ehrllich-on-rachel-carson). Paul Ehrlich is the Bing Professor of Population Studies and President, Center for Conservation Biology, Department of Biology, Stanford University. His many publications include *The Population Bomb* and *The Betrayal of Science and Reason: How Anti-Environment Rhetoric Threatens Our Future*, both co-authored with his wife, Anne Ehrlich.

**als; we should look about and see what other course is open to us."**

It's not impossible to change the way we regulate chemicals. Other governments have already adopted the precautionary principle. In 2007 the European Union instituted the REACH Program, which requires manufacturers to prove that chemicals are safe before they are marketed.

Surely the children of Canada and the United States deserve as much?



Bruce P. Lanphear, MD, MPH, is a Professor of Children's Environmental Health at BC Children's Hospital, Vancouver.

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# Canada's POPs Strategy Fizzles

*Current efforts to address Persistent Organic Pollutants are insufficient to protect vulnerable populations and ecosystems*

by Fe de Leon and Olga Speranskaya

As their name suggests, persistent organic pollutants (POPs) are toxic substances which persist for a long time in the environment. POPs bioaccumulate (magnify) in the food chain, increasing in strength as, say, microscopic traces on phytoplankton are consumed by small fish, then larger fish, then mammals (including humans). POPs can travel thousands of miles before they are brought back to earth by cold climates. Thus, the people and animals of Canada's Arctic (recently listed by the Blacksmith Institute as one of the top 10 most polluted places on earth) bear the toxic body burden of their industrialized southern neighbours.

The long list of human and environmental health impacts associated

with POPs includes cancer and reproductive, developmental, cognitive and behavioural disorders. Many are known to interfere with foetal development in humans and wildlife.

The global nature of this threat led to the creation of the United Nations Stockholm Convention aimed at curtailing the production and use of POPs. Canada was one of the first countries to sign and ratify the 2001 convention.

Minimal action was required in Canada to address the original 12 POPs (also known as the Dirty Dozen), as the production and use of many of these substances had already been regulated. Canada completed a National Implementation Plan and Action Plan, as required under the Convention.

Recognizing the legitimate concerns of indigenous and environmental groups, the government included

representatives of both in national stakeholder engagements and in international delegations on POPs elimination.

## Chemicals Management Plan

In 2006 Canada released a Chemicals Management Plan (CMP) designed to assess and manage priority substances. The CMP is not designed to specifically address POPs and thus has its limitations as a program for meeting elimination targets. However, it is ideal for identifying substances with POPs characteristics.

Canada has made significant contributions to the research involved in expanding the list of POPs for inclusion in the Convention. While the original Dirty Dozen were industrial chemicals or (like dioxins) by-products of production, many of the 10 POPs subsequently added are present in consumer products. In addition to research into the risks associated with these POPs, Canada has taken a leading role in reviewing and highlighting alternatives.

In the 11 years since the signing of the treaty the threats posed by POPs have not diminished. Research suggests many more POPs require urgent global attention, while the work to eliminate the original 12 POPs is far from complete.

## Recycling & Waste Management

One challenge which countries must address is the safe disposal of POPs-contaminated waste.

Unfortunately, the situation in Canada is piecemeal, with hazardous waste disposal falling under provin-

## Climate change worsens POPs threat

Most worrying are the implications of the Canadian government's decision to walk away from its Kyoto Protocol obligations to act decisively to curb emissions of greenhouse gases. This decision not only jeopardises global efforts to mitigate climate change, but also significantly undermines any efforts by Canada to reduce global POPs contamination.

As reported by the United Nations Environment Program (UNEP) and the Arctic Monitoring and Assessment Program (AMAP) in *Climate Change and POPs: Predicting the Impact*, climate change increases the planet's vulnerability to highly toxic chemicals. For example, higher temperatures can make wildlife more sensitive to exposure of certain pollutants. In the Arctic region, climate change can alter the exposure levels of marine mammals, such as seals or polar bears, through a variety of means including changes in long-range atmospheric and oceanographic transport, along with the melting of the ice caps. Levels of some POPs detected in the Arctic are very high in top predators which are the basic traditional food – and thus source of POPs exposure – for indigenous people.

## Original Dirty Dozen POPS (2001)

Substance	Use	Exposure & health effects
Aldrin	Pesticide	Most exposure is through dairy products and animal meats.
Chlordane	Pesticide	Exposure occurs mainly through the air. Chlordane has been detected in the indoor air of residences in the United States and Japan.
Dieldrin	Pesticide	Primary exposure is through food. Dieldrin was the second most common pesticide detected in a US survey of pasteurized milk.
DDT	Widely banned pesticide	DDT has been detected in food from all over the world. Long-term exposures have been associated with chronic health effects. DDT has been detected in breast milk.
Dioxins	Unintentional by-product of the manufacture and disposal of chlorinated substances	Food, particularly animal products, is the major source of exposure. Dioxins have been associated with a number of adverse effects in humans, including immune and enzyme disorders and chloracne, and are classified as probable human carcinogens.
Endrin	Pesticide	Primary exposure is through food
Furans	Unintentional by-product of the manufacture and disposal of chlorinated substances	Food, particularly animal products, is the major source of exposure for humans. Furans have also been detected in breast-fed infants.
Heptachlor	Pesticide	Food is the major source of exposure. Residues have been detected in the blood of cattle from the United States and from Australia.
Hexachloro-benzene (HCB)	Pesticide and by-product of the manufacture of certain industrial chemicals	HCB has been found in food of all types. A study of Spanish meat found HCB present in all samples. Mothers also pass HCB to their infants through the placenta and through breast milk.
Mirex	Pesticide	Mirex is one of the most stable and persistent pesticides, with a half-life of up to 10 years. The main route of human exposure is through food, particularly meat, fish, and wild game.
Polychlorinated biphenyls (PCBs)	Industrial compound	Consumption of PCB-contaminated rice oil in Taiwan in 1979 caused pigmentation of nails and mucous membranes and swelling of the eyelids, along with fatigue, nausea, and vomiting. Due to the persistence of PCBs in their mothers' bodies, children born up to seven years after the Taiwan incident showed developmental delays and behavioural problems. Similarly, children of mothers who ate large amounts of contaminated fish from Lake Michigan showed poorer short-term memory function. PCBs also suppress the human immune system and are listed as probable human carcinogens.
Toxaphene	Pesticide	Toxaphene can persist in soil for up to 12 years. For humans, the most likely source exposure is food.

cial jurisdiction. The federal government has failed to establish minimum standards or a national POPs program which would ensure all provinces meet Canada's obligations under both the Stockholm Convention and the Basel Convention on the Control of

Transboundary Movements of Hazardous Wastes.

Although federal recycling guidelines do exist, these are voluntary in nature and do not effectively address the growing concerns under the Stockholm Convention about the

potential exposure to POPs posed by lax recycling (or disposal) of electronic and other goods containing toxic materials.

Recent research by the International POPs Elimination Network

*Continued on Page 18* ⇨

⇐ *POPS continued*

(IPEN) revealed that several of the POPs listed in the Stockholm Convention are present in new consumer products in Canada.

For example, the study, conducted in six countries including Canada, found high levels of polybrominated diphenyl ethers (PBDEs) in recycled foam carpet pads. Two of the PBDEs found are listed under the Stockholm Convention. One or both were found in 88% samples of foam padding from Canada, Hungary, and USA. Half the samples contained PBDE levels exceeding the hazardous waste limit established by the European Union.

Canada's ability to meet its POPs elimination obligations has in some instances been limited by its own principal piece of environmental legislation, the 1999 Canadian Environmental Protection Act (CEPA). Following the signing of the POPs treaty in 2001, no attempt was made to address the following shortcomings:

- CEPA does not require the government to assess the environmental and health impacts of low-dose concentrations of POPs.

The long list of human and environmental health impacts associated with POPs includes cancer and reproductive, developmental, cognitive and behavioural disorders.

- Exemptions exist in CEPA for POPs and other toxic chemicals which are “present as a contaminant” in products or if “the substance is incidentally present.”

- The Act fails to define terms such as “contaminant” and “incidentally present,” creating a loophole which could allow the ongoing use of and discharge into the environment of many POPs and other toxic chemicals.

Recent legislation by the Harper government calls into question Cana-

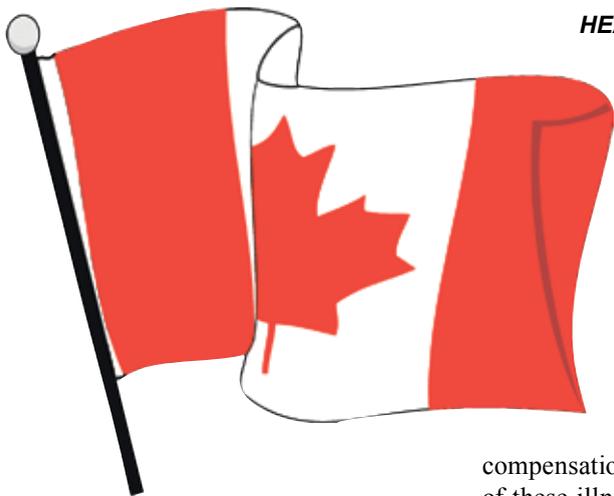
da's ability and commitment to eliminating POPs. (For full details, see “Bill C-38: The death of the environment” on page 22.)

Clearly, Canada's commitment to the Stockholm Convention has diminished since 2001. The recent dramatic changes to environmental protection in Canada raises the level of concern that POPs elimination in this country can ever be achieved. The Canadian government's attitude towards its international environmental treaty obligations isn't just business as usual – it's business above all else. The consequences for Canadians and their environment – particularly in the Arctic – could be devastating.



Fe de Leon is researcher with the Canadian Environmental Law Association. Olga Speranskaya is Co-Chair of the International POPs Elimination Network.

<b>POPs Added Since 2004</b>	
<b>Substance</b>	<b>Use</b>
Chlordecone	Pesticide
Endosulfan	Pesticide
Lindane Hexachlorocyclohexane (HCH)	Pesticide
Alpha hexachlorocyclohexane (AlphaHCH)	HCH isomer
Beta hexachlorocyclohexane (BetaHCH)	HCH isomer
Hexabromobiphenyl (HBB)	Flame retardant
Hexabromodiphenyl ether and heptabromodiphenyl ether, commercial octabromodiphenyl ether (C-octaBDE)	Flame retardant
Tetrabromodiphenyl ether and pentabromodiphenyl ether, commercial pentabromodiphenyl ether (C-pentaBDE)	Flame retardant
Perfluorooctane sulfonic acid, its salts and perfluorooctane sulfonyl fluoride (PFOS and PSOSF)	Firefighting foams, textiles, household cleaning products, pesticides
Pentachlorobenzene (PeCB)	Industrial compound, fungicide and unintentional by-product of combustion



by Mae Burrows

# Asbestos

## Still Killing Canadians

What do you think is the leading cause of workplace deaths in Canada? Falling from heights? Machine-related accidents? Exposure to toxic materials?

The answer is exposure to toxic materials and one material in particular – asbestos.

Many Canadians believe that asbestos is banned in this country. They think the scandal is that we continue to mine asbestos and export it to India and other developing countries where it is handled by – and threatens the health of – unprotected workers. Only the last statement is actually true.

Asbestos is still common in a wide range of industrial products in Canada, including roof sealants, textiles, plastics, door seals for furnaces, caulking, paper, and components for the military.

Canadian workers are also exposed to asbestos in building demolitions and renovations. Since there are no building registries providing inventories of where asbestos is located, workers may undertake a repair in a school, office, or public building, hospital, or private home and suddenly find themselves surrounded by asbestos.

Mesothelioma, the cancer most closely related to asbestos, asbestosis and related lung cancers take more lives than any other occupational disease, yet more than 50% of these victims did not or could not apply for

compensation. As a result, the costs of these illnesses are shifted onto the already over-burdened public health-care system.

Quebec, where all asbestos is mined in Canada, has the highest rate of mesothelioma on the planet.

The World Health Organization estimates that more than 107,000 people die each year from workplace asbestos-related diseases.

Many of these deaths could have been prevented if workers were equipped with protective gear and took all the right precautions. Unfortunately, the majority of exposures occur in the non-regulated construction industry. In a recent case in Vancouver, an owner of a small company doing asbestos removal was found to be recruiting youth from drug recovery centres, not informing them of their right to know and be protected, and not even telling them they were working with asbestos. Although that particular case went to court, the workplace practices it reflects are all too common.

To reduce these senseless deaths, the first priority must be a building registry which lists an inventory of locations where asbestos is present. Information and enforcement about correct health and safety practices must become part of the culture. Doctors need to ask their cancer patients about their occupational exposure history. Further, there needs to be a registry for workers to cite any exposure they have had to asbestos. Should they get sick later, there will be a record to aid them in obtaining compensation.

Given that asbestos is a known carcinogen and killer, why do we still produce it?

The labour movement in Canada has taken a progressive stand. The Canadian Labour Congress and most unions have called for the end to the development of the asbestos industry in Canada and a transition program for displaced workers.

The major labour body in Quebec, the Confederation of National Trade Unions, has passed a resolution opposing the production, use, and export of asbestos saying, “This would honour those who fought and died for health and safety, and point out that the life of an Indian worker, just like that of a Quebecer, cannot be blindly sacrificed in the name of a job.”

And yet the Charest government continues to pour millions of dollars into the industry, while the Harper government refuses to sign the Rotterdam Convention, which merely requires that when asbestos is exported from Canada it is labelled as a carcinogen.

The thousands of asbestos-related deaths are preventable. Saudi Arabia, Japan, the European Union, and Australia have all banned asbestos. Canada should, too.

Then we can move on to the next silent killer in the workplace.



Mae Burrows is a BC-based environmental and occupational educator. For more information on asbestos worldwide, visit the International Ban Asbestos Secretariat website:

[www.ibasecretariat.org](http://www.ibasecretariat.org)



Imaya with organic peach

Photo by Paula Rodriguez de la Vega

# Pesticide Residues in Our Food

What does clean really mean?

The majority of studies on which the guide is based involved testing samples after they had been washed or peeled

by Miranda Holmes

For the past eight years, the Environmental Working Group (EWG) has been analysing the pesticide testing done by the United States Department of Agriculture (USDA) and the Food and Drug Administration (FDA).

EWG's annual *Shopper's Guide to Pesticides in Produce* ranks pesticide contamination for 45 popular fruits and vegetables, measuring the contamination in six different ways:

- Percentage of samples tested with detectable pesticides
- Percentage of samples with two or more detectable pesticides
- Average number of pesticides found on a single sample
- Average amount (in parts per million) of all pesticides found
- Maximum number of pesticides found on a single sample
- Total number of pesticides found.

It is worth noting that the majority of studies on which the guide is based involved testing samples after they had been washed or peeled – alarming for consumers who believe

these measures to be adequate protection from pesticide residues.

The guide flags the 12 most contaminated fruits and vegetables and the 15 least contaminated. Full details from the 2012 guide are available at [www.ewg.org/foodnews](http://www.ewg.org/foodnews).

Amongst the findings of the 2012 guide :

- 98% of apples sampled had detectable levels of pesticides.
- Domestic blueberries tested positive for 42 different pesticide residues.
- 78 different pesticides were found on lettuce samples.
- Every single nectarine USDA tested had measurable pesticide residues.
- As a category, grapes have more types of pesticides than any other fruit, with 64 different chemicals.
- Thirteen different pesticides were measured on a single sample each of celery and strawberries.
- 52 pesticides were detected on sampled peaches, including residues of highly toxic organophosphates.

## Organophosphates

This year EWG added an extra category (Dirty Dozen Plus) for green beans, kale and collard greens. Although these vegetables did not meet the normal criteria for inclusion in the top 12, they were flagged as foods to avoid because, along with bell peppers and nectarines, they showed potentially unhealthy levels of organophosphate (OP) residues.

OP insecticides are known neurotoxins. Although their use in agriculture has decreased in recent years, exposure is still widespread.

A study by Stephen Rauch of BC Children's Hospital (published earlier this year in *Environmental Health Perspectives*) linked prenatal OP insecticide exposure with lower birth weight and shorter gestation. Rauch notes that these pregnancies began after OPs were restricted for most uses. He also flags other studies linking prenatal exposure to OP insecticides with abnormal reflexes, reduced cognitive abilities, and attention deficit/hyperactivity disorder (ADHD).

## HEALTH & TOXICS

All of which makes another new element of EWG's annual guide particularly alarming.

### Baby Food

This year, for the first time, the USDA also looked at pesticide residues in baby food.

Nearly 200 samples each were tested of green beans, pears and sweet potatoes prepared and marketed as baby food. All the samples dated from 2010.

Green beans prepared as baby food tested positive for five pesticides, among them, the OP methamidophos (found in 9.4% of samples) and the OP acephate (7.8% of samples).

According to EWG's calculations: "A 22-pound (10kg) child eating one four-ounce (113g) serving of green beans sold as baby food with the maximum methamidophos level found would consume 50% of EPA's acute risk value, a measure of allowable risk. The risks would be higher if the beans were contaminated with a second organophosphate, acephate, which causes the same damages to the brain and nervous system. Lighter babies, those fed more than four ounces of green beans or those fed green beans with organophosphate residues daily would be at even greater risk."

Pears prepared as baby food showed significant and widespread contamination, with 92% of samples testing positive for at least one pesticide residue. More than a quarter of samples were tainted with five or more pesticides. The pesticide iprodione (identified as a probable human carcinogen) was detected in three samples.

EWG notes that iprodione is not registered for use on pears and that its presence in this popular baby food "constitutes a violation of FDA regulations and the federal Food, Drug, and Cosmetic Act".

One bright note is the fact that sweet potatoes (included in EWG's

Clean Fifteen list) used in baby food had virtually no detectable pesticide residues.

### How Clean Are the Fifteen?

The EWG guide stresses that consumers should opt for organic when purchasing fruit and vegetables on the Dirty Dozen list.

The group also emphasizes that produce on its Clean Fifteen list are not necessarily free of pesticide residue. They are simply the least likely to be contaminated.

What they do state is that the majority of these fruit and vegetable samples had no detectable pesticide residues and, of those which did, multiple pesticide residues were extremely rare.

### What Does This Mean in Canada?

According to Statistics Canada, nearly 60% of our food imports (in dollar terms) come from the US, the vast majority of which is fruit, vegetables and fish. It is therefore reasonable to assume that pesticide residues are imported with this produce.

More importantly, in 2010 Health Canada and the US EPA adopted the Organisation for Economic Co-operation and Development (OECD) standards for maximum residue limits (MRLs) for pesticides in food. So the allowable pesticide residues for Canadian-grown fruit and vegetables are the same as those for the US produce detailed in the EWG report.

The Canadian Food Inspection Agency (CFIA) does test produce for pesticide residues, but only flags for concern the samples which exceed their MRL. For example, a May 2012 CFIA report on apples, tomatoes, lettuce and small berries simply stated that 99.6% were at or below their MRLs. Of the 11 samples which failed, CFIA stated: "Further assessment determined that these products

### Dirty Dozen™

- 1 Apples
- 2 Celery
- 3 Sweet bell peppers
- 4 Peaches
- 5 Strawberries
- 6 Nectarines (imported)
- 7 Grapes
- 8 Spinach
- 9 Lettuce
- 10 Cucumbers
- 11 Blueberries (domestic)
- 12 Potatoes

### Clean 15™

- 1 Onions
- 2 Sweet Corn
- 3 Pineapples
- 4 Avocado
- 5 Cabbage
- 6 Sweet peas
- 7 Asparagus
- 8 Mangoes
- 9 Eggplant
- 10 Kiwi
- 11 Cantaloupe (domestic)
- 12 Sweet potatoes
- 13 Grapefruit
- 14 Watermelon
- 15 Mushrooms

would not pose a health risk to consumers."

In announcing the adoption of the current standards, Health Canada said: "Both Health Canada and EPA agree that the OECD MRL Calculator provides statistically robust and scientifically-defensible MRLs."

### Meanwhile in Europe

Health Canada may consider its pesticide residue standards defensible, but they are certainly not the most stringent.

The MRLs set by the European Union are often much lower than Canada's. Taking just two examples from the pesticides flagged above:

- At 25 parts per million the current Canadian MRL for iprodione is two and a half times higher than that set by the EU. (The recent CFIA survey found iprodione residue on 56 samples of berries – strawberries were the highest at 33).

- The Canadian MRL for the OP methamidophos is 10 times higher than the EU MRL. (CFIA also found residues of methamidophos on 12 lettuce.)



Miranda Holmes is a former journalist and toxics campaigner. She is now an associate editor of *Watershed Sentinel*.



# Bill C-38

## The death of the environment

by Darryl Luscombe

Bill C-38, *The Jobs, Growth and Long-term Prosperity Act*, received Royal Assent and became law in Canada on June 29th, 2012. The Omnibus Budget bill is the most targeted attack on democracy, the environment and environmental advocates by any Canadian government in history.

The Harper Government has decided that pollution and oil are the route to prosperity for our country. The primary focus of the attack is to weaken democratic values and enact a policy of arbitrary exclusion and decision making.

### Greater Power to the Minister

The Bill significantly rewrites the *Canadian Environmental Protection Act* (CEPA) to limit its scope and permit greater Ministerial discretion over which projects are subject to review and scrutiny.

Whereas CEPA required an environmental assessment whenever a federal department exercised a certain range of powers or provided financial assistance, the new CEPA 2012 only subjects “Designated Projects” to Environmental Review. “Designated Projects” will be determined by regulation and at the discretion of the Minister for the Environment.

If a project is “Designated,” the Canadian Environmental Assessment Agency (CEAA) will determine if an Environmental Assessment is required. Projects which will be subject to screening, must be posted to the Agency’s website within 10 days of the receipt of the project proposal and the CEAA must complete its screening within 45 days. Public input at this stage will be limited to the first 20 days of the process.

This is an incredibly short time frame for the CEAA to carry out a screening assessment and it would be naïve to assume that it will be any more than a series of checks against a standard set of criteria. In fact, the new CEPA also allows for “Class Screening” to apply to projects that fall into certain categories or classes of project, although these are not specifically defined in the Act itself.

It is important to note that one of the criteria in determining if an Environmental Assessment will be required is, “s20(1)(c)(iii) ... public concerns warrant a reference to a mediator or a review panel.” As such, public input at this early stage can be seen as critical to ensure projects undergo a thorough review of the potential environmental impact.

If the initial screening determines that a project should be subject to an Environmental Assessment, the legislation sets only four Responsible Authorities to conduct them: the Canadian Nuclear Safety Commission (CNSC), the National Energy Board (NEB), the CEAA, or a Review Panel.

Under the previous CEPA, more than 40 Federal Agencies could be tasked with this role, depending on the project and where the predominant risk to the environment was present in the proposal or various other triggers the project invoked. Bill C-38 does provide for other responsible authorities to be designated at the Minister’s discretion, although there are no triggers or requirements for any other agencies to be given the lead role in the review process.

### Final Decision to the Minister

If the Minister determines a project should be referred to a Review Panel for assessment, the final decision maker in the process will be the Minister. If any of the three federal agencies or a review panel find that a project may result in “significant adverse environmental effects,” the decision must be sent to Federal Cabinet for review and the Cabinet will determine if the project should proceed or not.

### Strict Time Limits

Strict time limits are imposed in Bill C-38 for the assessment process. If a project is subject to an environmental review by any of the three lead agencies (CNSC, NEB, or CEAA), the assessment must be completed within 365 days after the project is initially listed on the CEAA website. If the Minister refers the project to a Review Panel, the timeline is extended to two years for a final decision.

One important point is that the time limits are not necessarily as strict as they appear. If a Responsible Authority or a Review Panel requires the proponent of a project to conduct environmental studies, such as collecting baseline



A New Canadian Flag; by garcilazo

.....  
 Harper has cut the funding for a number of marine research programs, including the Department of Fisheries and Oceans (DFO) contaminants program.  
 .....

data, the time limits are extended by the time required to carry out those studies. The Minister may also extend the deadline by a discretionary period of up to three months.

However, if the Minister determines that the timeline has been exceeded, the legislation provides for the Minister to make a decision based solely on the information available at that point of the process.

The insidious nature of this rewriting of CEPA does not stop there. One of the most contentious provisions of the new Act is the definition of an “Interested Party,” that is, who can have standing to appear before a Review Panel or present evidence to an Environmental Assessment. The legislation states that, “interested party means, in respect of an environmental assessment, any person or body having an interest in the outcome of the environmental assessment **for a purpose that is neither frivolous nor vexatious.**” [emphasis added]

This provision appears to give incredible discretion to exclude public participation at the whim of a federal agency or the Minister. Especially given that a common definition of vexatious is, “Causing or tending to cause annoyance, frustration, or worry.”

### Cuts to Core Science Research

Equally serious is the Harper government’s attack on science and the ability of the Canadian public service to provide impartial scientific advice in the public discourse. Through petty and seemingly vindictive and narrow minded ideology-based decisions, Harper has cut funding for many of the core scientific research areas in which Canada has provided leadership and clarity to the world on key environmental issues.

One glaring example is cutting funding to the Experimental Lakes Area (ELA) research station in Ontario. This research station was instrumental in proving the reality of acid rain and the devastating effects of industrial pollution

on forests and ecosystems around the world. The ELA is an unique research facility, which has been able to monitor and elucidate key environmental impacts on the terrestrial environment for over 40 years for a very small cost. Once this facility is closed, the baseline data they have been diligently collecting for all those years will be lost. The staff will disperse and go to countries that value knowing about the impact of humans on the environment.

Similarly, Harper has cut the funding for a number of marine research programs, including the Department of Fisheries and Oceans (DFO) contaminants program. This effectively eliminates the federal government from any monitoring of toxic pollutants in the marine environment. Canada has been, up until now, a world leader in monitoring the impact of Persistent Organic Pollutants in marine mammals.

### Fast Tracking Tar Sands Export

It is difficult not to see the gutting of science in DFO, the changes to CEPA and the major gutting of the habitat protection provisions of the Fisheries Act in any other way than as a means of fast-tracking the export of tar sands oil from Alberta to Asian markets.

After all, if you have no idea what the consequences of your actions are, what the conditions were before you begin, then you have no worries about approving the dirtiest and most destructive projects.

It is obvious the Harper Government has decided that pollution and oil are the route to prosperity for our country, and the primary focus of the attack is to weaken democratic values and enact a policy of arbitrary exclusion and decision making.

The real question is whether we, Canadians, are going to accept this fundamental attack on our values, or whether this is the time to organise and speak out. For me, silence is not an option.



Dr Darryl Luscombe has a PhD in Chemistry and has been involved in toxics issues globally for the past 20 years. He lives in rural BC and spends his time working as a short-order cook, a photographer, and as an environmental consultant.

# The Chronic War on Cancer

*I am not smart enough to know what kind of system will best identify and address the preventable causes of cancer in our environment. I just know that what we have been doing doesn't work.*

by Devra Davis

**By the turn of the 18th century**, the path-breaking Italian physician Bernardino Ramazzini had documented more than three dozen different cancer-prone professions. At that point the disease was still uncommon and usually lethal.

Ramazzini did not know which specific part of the job caused which maladies, but he knew that people in many different jobs were subject to risk, including miners of coal, lead, arsenic and iron, metal gilders, chemists, potters, tinsmiths, glassmakers, painters, tobacco workers, lime workers, tanners, weavers, coppersmiths, mirror makers, painters, sulphur workers, blacksmiths, apothecaries, cleaners of privies and cesspits, farmers, fishermen, soldiers, printers, confectioners, carpenters, midwives, wet-nurses, and corpse carriers.

For each of these trades, he explained what particular agents or conditions he thought gave rise to certain classes of illness. Those who worked with dust and fire, for example, tended to suffer from weakened lungs, unstoppable coughs and occasionally suffocating tumours of the lung.

Ramazzini was an observant doctor with a penchant for record keeping. He noted that nuns tended to be free of cancer of the cervix, then one of the most common fatal tumours of women. At the same time, those who lived celibate lives were more often plagued by breast cancers than other women. Ramazzini speculated that both of these anomalies could be related to the same cause – nuns didn't bear children but underwent a lifetime of menstrual cycles uninterrupted by

pregnancy or nursing. His theory that something associated with the failure to bear children affected cancer risk remains a central tenet of cancer research today.

Ramazzini believed that those who learned of workplace hazards had a simple moral duty to warn workers about the risks of their em-

**History has not been kind to scientists like Rachel Carson, Sam Epstein or Janette Sherman, who warned long ago about the need to curb environmental exposures to agents which could promote cancer.**

ploy and urge them to lower those risks for themselves, their families and their towns. He offered this modification of Hippocrates' ancient advice: "When a doctor visits a working class home he should take time for his examination; and to the questions recommended by Hippocrates, he should add one more – What is your occupation?"

By the 1930s scientists around the globe were certain – and were prepared to say so publicly – that many widely used agents caused cancer in humans, including ionising and solar radiation, arsenic, benzene, asbestos, and synthetic dyes and hormones.

And yet, since World War II, whenever and however information on the cancer hazards of the workplace and the environment has been generated, it has typically been discredited, dismissed, or disparaged. History has not been kind to scientists like Rachel Carson, Sam Epstein or Janette Sher-

man, who warned long ago about the need to curb environmental exposures to agents which could promote cancer.

At the 1971 launch of President Nixon's so-called war on cancer, proof that how and where we live and work affects the chances we may get cancer was basically ignored. Astonishing alliances between naïve or far too clever academics and folks with major economic interests in selling potentially cancerous materials have kept us from figuring out whether or not many modern products affect our chances of developing cancer.

We all know people who lead perfectly clean, even exemplary lives and still get cancer. The first thing most cancer patients ask is: What did I do to make this happen? The answer often is: Not a bloody thing.

We live in a sea of synthetic estrogens and other hormones and we are routinely exposed to materials that never previously existed. The producers of these agents take comfort in the fact that any one of them, tested by itself, looks fairly benign when gauged by various scientific measures of carcinogenic potency.

Still, it defies common sense and basic biology to assume that just because a single agent looks all right when tested on its own, we can safely encounter hundreds of such materials all at once. You would never take all the different pills in your medicine chest in one swallow, even though ingesting one or a few is fine. Why, then, should we accept that there is no danger in being subjected to combinations of agents without precedent in human history?

It may shock you to learn that of the 100,000 chemicals commonly used in commerce, most have not been studied as to their ability to affect our health. In 1983 and again in 1998, the US National Academy of Sciences confirmed that we have no public record of the toxicity of three out of every four of the top 3,000 chemicals in use today. Despite declarations by industry of their intent to close this gap, in reality it would take dozens of years and billions of dollars to do so.

It can take three weeks to approve a new chemical for use and 30 years to remove an old one.

**Chronic ailments do not** conveniently become evident when people suddenly succumb to symptoms neatly in one locale. Instead, cancer and neurological disorders arise over years of time as a result of assorted triggers in our lives that may reflect where we have worked, what we have eaten, and where we happen to live now and in the past.

The difficulties of unravelling the complex factors that contribute to current patterns of disease cannot be overstated. But their complexity does not mean that they need to remain unresolved mysteries.

We are heavily invested in doing things as we always have, working out of places that have just been that way forever. Entire costly systems are built on wireless technologies and other electric-powered advances.

We know they work extraordinarily well. We live with them, depend on them and can't imagine life without them. We hope they don't harm us. We can't imagine not using cell phones, not ordering diagnostic radiation tests to resolve medical problems or not taking greater numbers of drugs to treat disorders that didn't even exist years ago. At this point, we can't easily know whether any of

these breakthrough technologies carries any long-term hazard.

Does the absence of agreed-upon proof of these potential hazards mean that they are not dangerous? There's got to be a better way to build our world than waiting for enough bodies to drop or sicken before we decide we've got a problem.

We've got several looming health problems that require fundamentally different solutions than the technologies that gave rise to them. Why are more children developing cancer and learning problems? Our ability to know whether unexplained patterns of disease are linked in any way with modern technologies and medica-

**It may shock you to learn that of the 100,000 chemicals commonly used in commerce, most have not been studied as to their ability to affect our health.**

tions is severely hampered by a closed system that leaves us no independent means to evaluate such growing public health problems. We are only asked to do so after a pattern of disease has become so overwhelming that it makes network news.

There are some dangerous conditions or technologies on which we depend that can't be torn down and built over. We are like the puzzled man in an old cartoon holding a box labelled "toxic rubbish," standing by three mail slots: local, out of town, and far away. We'd like to send all our garbage as far away as we can, but every day the lonely planet we inhabit seems to get smaller.

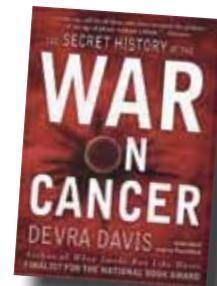
There is no safe place for some of our trash. Hermaphroditic polar bears and gender confused Beluga whales are being found in the Arctic Ocean with levels of pollutants in their fat that would qualify them for burial in a toxic waste site. Children

with autism or other brain defects, tumours or leukemia, and young men with testicular cancer, lower sperm count and testosterone are increasing everywhere. Fewer baby boys are being born in many industrial countries. Are these things coming to light only because some people are looking for problems? How do we figure out whether other parts of the modern world are placing us at risk for coming down with health problems we could avoid?

**I am not smart enough to know** what kind of system will best identify and address the preventable causes of cancer in our environment. I just know that what we have been doing doesn't work.

To reduce the burden of cancer today, we must prevent it from arising in the first place, and we have to find new ways to keep the millions of cancer survivors from relapsing. No matter how efficient we become at treating cancer, we have to tackle those things that cause the disease to occur or recur. I believe that if we had acted on what has long been known about the industrial and environmental causes of cancer when this so-called war first began, millions of lives could have been spared – a huge casualty rate for which those who have managed the war on cancer must answer.

◆  
Devra Davis, PhD MPH, is internationally renowned for her work on environmental health and disease prevention. She is the founder of the Environmental Health Trust, and the author of the acclaimed book *The Secret History of the War on Cancer*.



# I Hate Pink

by Judy Brady

Ever since it dawned on me that having been swaddled in a pink blanket set me on a course of considerably more limited choices than those available to the baby wrapped in a blue blanket, I've been wary of anything that comes in pink. But in October it's impossible to avoid pink. Breast Cancer Awareness Month (BCAM) is upon us and millions of little pink ribbons on millions of lapels exhort us to be "aware" of breast cancer.

Awareness aside, the real truth about cancer is out. The vast majority of breast cancers (and other cancers, as well as numerous other human diseases) are linked to the proliferation of chemical and nuclear contaminants in our environment.

The response from polluting industries to this growing body of evidence has been the creation of BCAM, invented to divert public attention from their dirty practices.

The unremitting message every October is that the answer to the breast cancer epidemic lies in getting a mammogram and raising more money for "cancer research." Nary a word is ever said about why we are getting sick and dying in increasing numbers.

The inspiration for BCAM came from Zeneca, a pharmaceutical/chemical/ biotechnology company, when it was still a subsidiary of the British company, Imperial Chemical Industries.

Since its inception, BCAM in the United States has been controlled by the now independent and renamed AstraZeneca (the pharmaceutical arm of Zeneca), which has become a permanent partner in the cancer establishment. AstraZeneca boasts that it has spent "millions of dollars" on BCAM publicity, in return for which they retain the right to okay or veto every poster, pamphlet, or advertisement issued under the aegis of BCAM.

Zeneca is the third largest producer of pesticides in North America, with sales valued in the billions of dollars annually. AstraZeneca is the leading producer of tamoxifen, the most widely prescribed drug for breast cancer. A few years back Zeneca completed a takeover of Salick Health Care centres which treat cancer patients across the US. So AstraZeneca, the wizard behind BCAM, is first contributing to the increase in breast cancer, then profiting from its treatment with cancer drugs, and finally wrapping it all up by controlling cancer care centres.

**It is estimated that over 22,000 women and men in Canada will be diagnosed with breast cancer this year and nearly ten times as many in the United States. Almost a quarter of these people will die.**

Other companies have been quick to jump on the gravy train. A few years ago, the *Wall Street Journal* ran a story with the headline, Linking Products to Breast-Cancer Fight Helps Firms Bond with Their Customers. According to the article: "Companies are finding out that

the pink ribbon, symbol of breast-cancer awareness patterned after the red AIDS ribbon, can help them connect with female customers."

Lining up behind the big money are some breast cancer organizations like the Susan G. Komen Foundation, which hosts the annual "Race for the Cure" in major US cities every October. [In January 2012 the Komen Foundation entered into a marketing agreement with the Canadian Breast Cancer Foundation (CBCF). - Ed]

For the past several years, the Komen Foundation has raised a few extra millions from a partnership with BMW in a nationwide program called "The Ultimate Drive." Their silence regarding the relationship between cancer and benzo(a)pyrene, one of the chemicals belched from the exhaust pipe of every car, is not surprising.

The Foundation has also received financial support from organizations like the Chlorine Chemistry Council (trade association of the chlorine chemical industry). It's also not surprising that their literature fails to mention the link between cancer and exposure to dioxin, an ubiquitous chemical largely produced as a byproduct from the incineration of any material containing chlorine.

Cancer now gobbles up a full 10% of the total annual health care budget in the US. It will soon overtake heart disease and be the leading cause of death in this country. In the meantime, our slim environmental regulations are being systematically dismantled by an industry-friendly, pro-free-trade government, while we are being drowned in a sea of little pink ribbons.

I hate pink.



Judy Brady is one of the breast cancer activists interviewed in the NFB's documentary *Pink Ribbons, Inc.* This acclaimed exposé of "pink washing" is now available for rental or download from the NFB website: [www.nfb.ca/film/pink\\_ribbons\\_inc](http://www.nfb.ca/film/pink_ribbons_inc).

# More From Our Readers

## Oil and China

Recently Russia and China have blocked the UN from taking action to stop the human rights abuses occurring daily in Syria. So here we are in Canada about to do business with China in a big way. They want to increase their ownership in Canadian tar sands and our “all Canadian government” wants to ship as much oil as we can to China. Perhaps we need to rethink the whole concept of doing business with the supporters of human rights abuses. The only real meaningful way to deal with the ecological damage from oil emissions is to cap the extraction of fossil fuels from the earth.

*Jim Wight, Victoria, BC*

## Give Geoengineering a Break

My subscription recently lapsed, and while pondering whether to renew it, along came Joyce Nelson’s article on Geoengineering to help make up my mind. For starters, the article should have been titled Geo-Clique for that is all it concentrated on.

Naming and finger wagging are poor substitutes for evidence-based research. It makes no sense to condemn geoengineering outright in its entirety or because of those backing it. Rather, as an extension of applied science and technology (which together have given us most everything we value in today’s developed societies), geoengineering must be reviewed as with any other advancement in the sciences.

*Brian Mason, BC*

## Geoengineering Moratorium

Thank you for the the article on geoengineering by Joyce Nelson. It provides context to understand what’s going on in our stratospheric atmosphere and the need for a global moratorium on geoengineering. This research ties in with the comprehensive documentary by Michael Murphy “What in the World are they Spraying?” A local production called “The Chemtrails Conspiracy” recently made by members of the environment community and the organization We are Change Victoria.org documented local Chemtrail sightings over Victoria. I hope readers will watch these DVDs on YouTube and demand immediate accountability from industry and the environment ministers!

For every species other than humans, the biggest environmental issue on Earth is Humanity. If we don't change our ways, seriously and thoroughly change, then nature will eventually leave us behind and carry on without us.

—Rex Weyler, “Nature: A System of Systems,”  
August 22, 2012, [www.greenpeace.org](http://www.greenpeace.org)

Information is available at The Independent Thinker’s Chemtrails Fact Sheet, [www.About The Sky.com](http://www.About The Sky.com).

*Sue Hiscocks, Victoria, BC*

## Geoengineering Caution

I certainly appreciated the update on geoengineering in the last issue. The “geoengineers” are a scary lot, paying scant heed to the laws of unintended consequences, and generally have considerable opportunity for personal profit on the side, such as Mr. Keith with his company, prestigious invites, and a pipeline to Bill Gates’ wallet for research funds. They are “cornucopians” for the most part, believing in near infinite energy resources to fuel business-as-usual. Hence the need for a climate “techno-fix” which they believe is incredibly cheap compared to doing anything serious about the obvious transgressions by humankind of ecological and other limits on this planet.

Joyce Nelson’s article was balanced and informative – hopefully most of your readers will agree that the gee whiz kids should be kept in their conference rooms as opposed to running uncontrolled experiments on our atmosphere and us.

*Dave Hughes, Whaletown, BC*

Participatory, Independent,  
Democratic, Grassroots  
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# Protect the Watershed, Protect the Lake

by Anna Noble

It is a shock for many people to learn that Comox Lake, the primary drinking water supply for over half the population in the Comox Valley, is an unprotected watershed. Located within the beautiful Comox Valley on Vancouver Island BC, the lake and its encompassing areas are ideal for boating, swimming, camping, rock climbing, hiking, biking and more. However, private land ownership surrounds the watershed, and raw water samples are starting to show increasing indicator organisms for contamination. "Removing industrial logging from the watershed would improve water quality and potentially save considerable public spending on drinking water treatment. Including it as part of Strathcona Park would allow for better regulation and control of recreational use," David Stapley, Project Manager of the Comox Valley Conservation Society (CVCS), declares. Comox Lake has been the primary drinking water source since 1967, and alternate large water supplies have yet to be found.

CVCS is working with the Friends of Strathcona Park (FOSP), and members of the Courtenay Fish and Game Club, located on Comox Lake. Developed by the Comox Valley Land Trust, the CVCS is a regional conservation planning framework initiated to stop the loss of ecological areas in the Comox Valley. The initiative to protect the Comox Lake watershed was spurred along by the Wilderness Committee (WC). WC hopes to increase the amount of protected ecological land on Vancouver Island from the existing 12% up to 24%. Several environmental organizations were approached for suggestions of areas that currently require some level of protection, and the Comox Lake watershed and Pearl Lake were cited as important areas.

Between 1991 and 2002, Comox Valley experienced a dramatic loss and fragmentation of sensitive ecological lands. Only 13% of the land is now protected, and 90% of that land is in Strathcona Provincial Park. "We want to see all of Comox Lake watershed protected to varying degrees," declares Kel Kelly, FOSP.

When the Strathcona Park boundary was originally created in 1911, the height of land that naturally defines watersheds was not always used, allowing many of these areas to be heavily impacted by logging and intensive recreational use. The CVCS is proposing to expand the park borders to the adjacent height of natural watershed/tributary boundaries.

The primary drinking water supply for over half the population in the Comox Valley, is an unprotected watershed.



Photo by David Stapley

As well as increasing drinking water protection for Comox Valley residents, adding the Comox Lake watershed to Strathcona Park will provide sufficient habitat protection for wildlife while also creating natural views and recreational areas. "It is important to acknowledge that in BC recreational use is provided through access to crown land," explains Stapley, however, "these opportunities do not exist on eastern Vancouver Island as there is almost no crown land." An increase in park access will result from the addition of the Comox Lake watershed to Strathcona Park, as it is presently limited due to logging company restrictions for public access on privately-owned forest land. This is of great interest in order to expand eco-tourism such as hiking, bicycling, kayaking and more.

The CVCS is identifying and mapping important environmental factors such as: sensitive areas, threatened animal and plant species and wildlife corridors. In order to avoid ethical disputes, the CVCS and the FOSP acknowledge the need to include areas to accommodate off-road recreationalists such as ATV's and snowmobiles, hunting and fishing, First Nations traditional uses and rights, as well as the equestrian community. The groups also recognize that some controlled, small-scale logging could be ecologically appropriate as it could enhance biodiversity.

The CVCS will be proposing various levels of protection for areas in the Comox Lake watershed and will use guidelines to determine whether an area will become an expansion of Strathcona Park, an ecological reserve (highly restricted access and activity) a conservation area (slightly more flexible than park areas), or a motorized vehicle area for off-roading activities.

"Now is the perfect time for people who want to see enhanced and expanded protection of wilderness and watersheds to lobby the provincial and federal NDP caucus. They are the governments-in-waiting, and seeking some commitments from them to include specific protection measures in their policy platforms now would be an important thing to do," Kelly declares.



Anna Noble is interning at the *Watershed Sentinel* for the summer.



*Approval of the Jumbo Glacier Resort came as a surprise in BC, but, even more surprising, the Jumbo deal and the Canada-EU trade deal could both expire together*

# Jumbo

Where Even the Politics are Wild

Photo by Lucas Jmieff

by Joyce Nelson

Ever since the BC Liberal government surprised residents of BC's Kootenays with its March 20, 2012 approval for the controversial Jumbo Glacier Resort, people have been asking: Why now? After all, the Jumbo Resort proposal has been around since 1989 and has been successfully opposed by local people for more than twenty years.

Then, on May 1, the Liberals introduced Bill 41, which included an amendment to the *Local Government Act* buried in a miscellaneous list. That amendment allows for the "incorporation of a new mountain resort municipality...whether or not there are residents in the area," as long as the proponent "has entered into an

agreement with the government with respect to developing alpine ski lift operations, year-round recreational facilities and commercial overnight accommodation within the area..." Just days later, on May 16, Bill 41 passed third reading.

Invermere Mayor Gerry Taft recently told East Kootenay News Online Weekly, "Developers who wish to rezone land have to follow a process that includes public hearings and a final decision by officials who are accountable to the residents who elected them. This legislation would empower a [cabinet] minister to give developers a special status that bypasses the democratic process and undermines the ability of local citizens to control

development. The ability of the proposed Jumbo Resort, and other potential developments, to bypass the land use process and get their own municipality status without residents is an affront to local communities. This is far beyond a bad idea. The loss of democracy is a slippery slope, even slipperier than some land speculators and receding glaciers."

Columbia River-Revelstoke MLA Norm Macdonald said in a recent press release, "Despite the fact that the majority of residents in the area do not support the development of a ski resort in the Jumbo Valley, the BC Liberals are determined to push ahead. And they are willing to go to incredible lengths to make that happen."



Photo by Doug Pyper



Photo by Lucas Jmieff

So, to the question of “why now?” we can add: Why quickly enable what Michelle Mungall, NDP MLA for Nelson Creston, calls a “ghost-town resort municipality,” whose mayor and council would be appointed by provincial cabinet to “govern no one and be accountable to no one as they [make] land use decisions impacting an entire region”?

### Slippery Slopes

One answer to those questions is revealed here for the first time. A director of Glacier Resorts Ltd., the proponent for Jumbo, is directly involved in promoting the controversial Comprehensive Economic and Trade Agreement (CETA), being negotiated in secret between Canada and the EU since May 2009, with the goal of signing it in 2012.

Celso Boscaroli, a Glacier Resorts Ltd. director since at least 2008, has, as President of the Italian Chamber of Commerce in Canada-West (ICCC-West), been a primary advocate for CETA since at least 2011. Boscaroli, who ran unsuccessfully in New Westminster-Coquitlam-Burnaby in the 1997 federal election, has long been a BC Liberal Party insider.

An amendment to the Local Government Act, buried in a miscellaneous list, allows for the “incorporation of a new mountain resort municipality... whether or not there are residents in the area”

Boscaroli’s advocacy efforts for CETA are in part funded by the European Union through three grants for the ICCC-West’s EU-Canada Partnership project, which not only promotes “the enhanced EU-Canada Economic Partnership,” but (according to its website, <http://eu-canada.com>) is also “working with local business organizations and involving the provincial

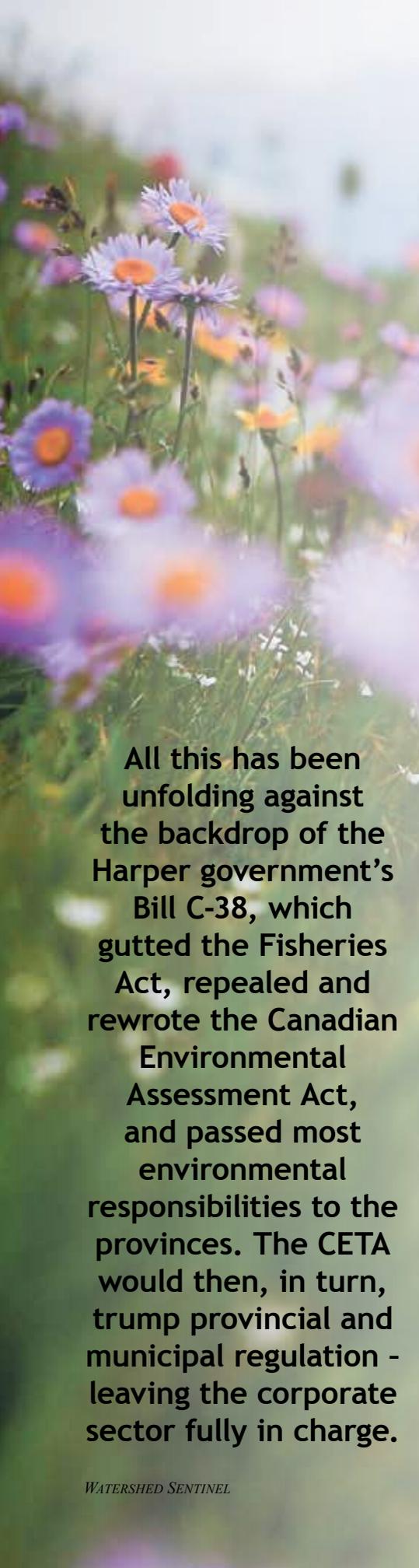
CETA negotiators and policy makers.” Along with the EU, the sponsors for the ICCC-West’s EU-Canada Partnership project include the Canadian federal government, the government of British Columbia, the government of Alberta, NCTM – a large Italy-based law firm, the Italian Chamber of Commerce in Brussels, and the PostMedia Network (which owns newspapers across Canada).

### CETA

Calling CETA “a de facto corporate bill of rights,” Paul Moist, national president of the Canadian Union of Public Employees (CUPE), on July 10, 2012, released a legal analysis of leaked CETA negotiating texts and said the trade deal would “trump provincial powers over natural resources and public services” and “override areas of provincial jurisdiction set in the Constitution.” Moreover, CETA would undermine provincial and municipal powers to ensure that local public procurement contracts go to local businesses.

By July, more than 40 municipalities – including Victoria, Burnaby, North Vancouver, Saskatoon, Toron-

Continued on Page 32 ⇨


 ⇐ *Jumbo continued*

to, Mississauga, Hamilton, Ottawa, and Montreal – have formally asked to be excluded from CETA, especially from its restrictions on public spending and delivery of public services.

Blair Redlin, a Burnaby-based researcher with the Canadian Union of Public Employees, last year told the *Georgia Straight* (July 7, 2011), “What the Europeans want is just simply an open-tender, free market approach,” noting that CETA would give the EU access to federal, provincial and municipal procurements worth more than \$100 billion per year. “What that means,” Redlin said, “is that they want to prohibit local governments from being able to prefer local suppliers and local businesses.”

Redlin also said that CETA could provide an opening for huge European water companies, like French multinationals Suez and Veolia, to push for the privatization of Canada’s public water system.

As a European organization called Corporate Europe Observatory has revealed, by 2009 the EU was asking that 72 countries would have to “liberalize” their public water services and give unlimited market access to European companies in order to trade with the EU. According to the Council of Canadians, after Mexico signed a comprehensive trade deal with the EU, it saw the takeover of electricity and water utilities by EU companies, as well as the doubling of its bilateral trade deficit.

Calling the scope of CETA “mind-boggling,” the *Globe & Mail’s* Gary Mason wrote (July 15, 2011) that “60 per cent of municipalities in BC have economic-development strategies that include local procurement and hiring. This is why the Union of BC Municipalities passed a motion at its annual meeting last year [2010]

opposing CETA – a vote that mostly went unreported by the media.”

CUPE, the Council of Canadians, the CAW, the Canadian Centre for Policy Alternatives, the Trade Justice Network and others have been trying to alert Canadians to the dangers of CETA since at least 2010. Apparently, it was because of this activism that the ICCC-West’s EU-Canada Partnership initiative was launched.

Their website states: “Media coverage of the CETA negotiations in Canada has been mixed with increasingly negative viewpoints appearing in proportion to coverage of recent political and financial crises in some [European] member states and of vociferous lobbying by a few anti-CETA groups. By undertaking a media campaign in partnership with Postmedia Newspaper Network, ICCC will ensure objective coverage.”

On March 7, 2011, Boscarriol hosted and moderated a discussion on “EU-Canada Relations: Recent Developments” at the Vancouver Club, with the EU Ambassador Matthias Brinkman, Canada’s Deputy Chief Trade Negotiator Ana G. Renart, and a provincial official. By November 2011, Boscarriol was hosting International Trade Minister Ed Fast for a Vancouver speech on CETA at the ICCC-West, with Boscarriol telling Fast, “Our members welcome the government’s efforts to strengthen the transatlantic linkages that make our economies stronger.”

Meanwhile, thanks to “bankster” bailouts and other factors, Italy’s economy was starting to spiral into crisis, along with much of the EU, with unemployment levels skyrocketing to record levels.

### **Junket to France**

Then, in February 2012, even before the approval of Jumbo’s Master Plan was announced, a junket of Jumbo backers, led by Kootenay East

**All this has been unfolding against the backdrop of the Harper government’s Bill C-38, which gutted the Fisheries Act, repealed and rewrote the Canadian Environmental Assessment Act, and passed most environmental responsibilities to the provinces. The CETA would then, in turn, trump provincial and municipal regulation - leaving the corporate sector fully in charge.**

MLA Bill Bennett, flew to France to discuss possible investment in Jumbo (and another ski resort planned for Valemont) with European companies. The junket members reportedly met with France Neige International – a ski resort association representing dozens of ski resorts in the French Alps; Compagnie des Alpes – a French government-controlled ski resort operator for resorts in France, Italy and Switzerland; and the Caisse des Depots et Consignations (CDC).

The CDC describes itself as “a fully French state-owned financial institution” with \$322 billion in assets. It invests in some 400 private equity funds and is a major shareholder in a variety of multinationals, including (according to one of its websites) “the following companies which focus on construction of infrastructure for transport, water and environment: Veolia, Eiffage, Vivendi and France Telecom.” Clearly, the Caisse des Depots et Consignations is one of the most powerful financial institutions in all of Europe.

When the junket returned to BC, Glacier Resorts Ltd. vice-president Grant Costello told the *Invermere Valley Echo* (Feb. 23), “In a short period of time we were able to build new relationships with a diverse group of French government officials, mayors, entrepreneurs, and corporate executives all of whom are interested in exporting their knowledge and experience to North America through the gateway of the Kootenays.”

### Business Forum

Just days later, March 14-16, the GLOBE 2012 businessfest met in Vancouver. Part of the conference included the “EU-Canada Business Forum on the Environment,” which the EU-Canada Partnership website calls its “very first event.”

The description of that event reads: “The business forum brings to-

gether Canadian and European SMEs [small and medium enterprises] in the environmental sector to discuss the state of the industry and developments arising from the Comprehensive and Economic Trade Agreement (CETA) currently under negotiation by Canada and the European Union.”

Giving the Welcome Remarks were Celso Boscaroli (as President of the ICCC-West), Anna Biolik, Regional Director for Foreign Affairs and International Trade Canada, and Janet Quiring, Director of International Trade at BC Ministry of Jobs, Tourism and Innovation.

The event was co-sponsored by the Government of British Columbia (which has subsequently been hosted by the EU-Canada Partnership project at an event in Milan touting the province’s “opportunities” for investment in areas such as “green energy, conventional and offshore oil/natural gas, coal and coal-bed gas”).

Less than a week later, on March 20, the BC government announced its approval for Jumbo Resort.

### Trade Barriers

The busy Celso Boscaroli then went to Montreal. From April 13-17, the 2012 World Summit/National Spring Conference of the Canadian Corporate Counsel Association met in Montreal to discuss “how global legal issues will influence domestic cases and vice-versa.”

Celso Boscaroli gave a major power-point presentation called “Bilateral Ambition: Canada, the EU and the Comprehensive Economic and Trade Agreement (CETA)” where he spelled out the “current obstacles” to a successful trade agreement and to fully liberalized trade: provincial regulations; public procurement; supply management; market access; intellectual property; monopolies and state enterprises, among others.

While Boscaroli was enlighten-

ing his fellow corporate lawyers on CETA, the Harper government dispatched 18 cabinet and deputy ministers to hold press conferences across the country on the “benefits” of CETA; it also created a new webpage about the deal.

Then on May 9, ICCC-West announced that it “is organizing an 18-month long programme of business forums, seminars, conferences and convivial events across Canada and in Europe to promote business opportunities for SMEs and the creation of a platform for cooperation in anticipation of CETA’s finalization.”

Just days later, the controversial Bill 41 was passed, creating the opportunity to incorporate mountain resort municipalities with no residents.

All this has been unfolding against the backdrop of the Harper government’s Bill C-38, which gutted the *Fisheries Act*, repealed and rewrote the *Canadian Environmental Assessment Act*, and passed most environmental responsibilities to the provinces. The CETA would then, in turn, trump provincial and municipal regulation – leaving the corporate sector fully in charge.

No wonder it’s being called “a corporate bill of rights.”

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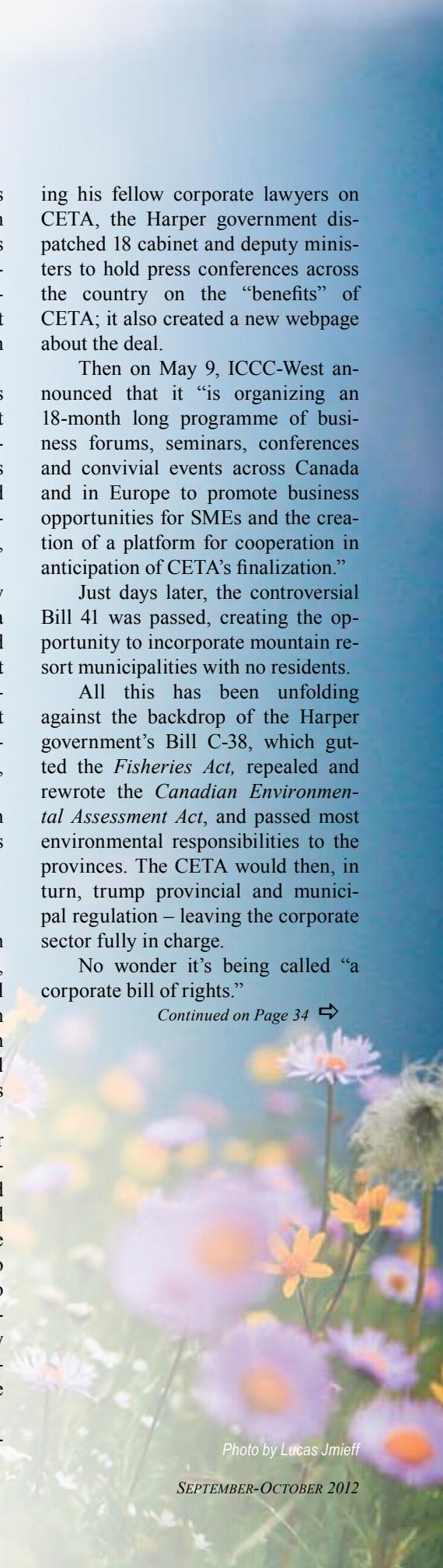


Photo by Lucas Jmief

← *Jumbo continued*

**“Capital Flight”**

Oberto Oberti, the President and CEO of Glacier Resorts Ltd., kindly emailed to me the names of Glacier’s board of directors (The list with other details about the Board of Directors is available at [www.watershedsentinel.ca](http://www.watershedsentinel.ca)). Oberti also emailed “Quick Facts” about Jumbo, including this statement: “Employment Equity Plan has been proposed to ensure preferential treatment of local residents and First Nations members.”

But according to the *Calgary Herald* (June 14, 2012), CETA would “enable trained professionals and tradespeople to cross borders and work.”

Indeed, Glacier Resorts Ltd. director Celso Boscaroli specializes in immigration law at Vancouver law firm Watson Goepel Maledy LLP.

Oberto Oberti also emailed a document that shows how relatively small in size Jumbo would be by comparison to other BC ski resorts like Panorama, Sun Peaks, Whistler, and a second document containing a 2007 published statement by Glacier’s Grant Costello: “At build-out, in 20-30 years, the [Jumbo] resort will have only a handful of permanent residents

One of the reasons the Harper government is pushing for CETA to be signed in 2012 is that it fears the results of provincial elections in BC and Quebec.

just like Panorama has now after 40 years.”

It’s hard to interpret the word “handful” here, but it’s a very curious statement, given that Jumbo’s government-approved water supply from groundwater sources amounts to an “ultimate extraction rate” of 20 litres per second. That works out to 1,728,000 litres per day.

Assuming a generous 250 litres per person per day, by my calculations 1,728,000 litres is sufficient to provide the daily needs – drinking, bathing, laundry, cooking, washing the limousine – of some 7,000 permanent residents. But if there are to be only “a handful of permanent residents” at Jumbo, and 3,000 daily visi-

tors, why would Glacier Resorts Ltd. need the approved 20 litres per second of water?

The answer may lie with the CETA trade deal, and with that “mountain resort municipality” status that Jumbo, and other BC ski resorts being planned, can obtain.

According to the *New York Times* (June 10, 2012), the EU is currently experiencing “capital flight,” with money leaving the region. “From Italy, Greece, Spain and other countries in the European currency union, the affluent these days are moving money into hard assets valued in something other than euros, which have been plunging in value.” What better “asset” than water?

Having an incorporated municipality with no residents, the proponent and its investors, under CETA, could do just about anything they want with the groundwater – privatize it, form a private utility, sell the water by pipeline across the border. What’s to stop them? And if somehow they were stopped, under CETA they could sue: not just for compensation, but (potentially) for compensation for lost future profits.

**Stopping CETA & Jumbo**

Oberto Oberti told the *Times Colonist* (March 21), “My hope is we will see the opening day for Christmas 2014.”

*Business In Vancouver* (April 10, 2012) reported that Grant Costello “doesn’t expect any brush to be cleared to make way for the project until mid-2013 at the earliest. He said the company’s environmental certificate [which expires in 2014] has 195 conditions, some of which are preconstruction requirements.”

Opponents to Jumbo – including the Ktunaxa First Nation, Wildsight, and many others – have clearly drawn a line in the snow on this project. If they were to team up with CETA op-



Photo by Lucas Jimieff

**Ktunaxa First Nation Apply for Judicial Review**

In late July the Ktunaxa Nation announced their formal decision to apply for judicial review of the BC Government’s recent approval of the Jumbo Glacier Resort. The resort would be built in the heart of what the Ktunaxa call Qat’muk (GOT MOOK), the home of Grizzly Bear Spirit. The First Nation has opposed the resort since it was first proposed.

—e-Know.ca, East Kootenay Online Weekly, July 2012

ponents, they would be even more formidable.

NDP MLA Norm Macdonald told *The Tyee* (March 21) that if the NDP wins the election scheduled for May 2013, it would be possible to reverse the decision on Jumbo.

One of the reasons the Harper government is pushing for CETA to be signed in 2012 is that it fears the results of provincial elections in BC and Quebec. As Sean Smith, a community-based organizer with the CAW, has written (*CCPA Monitor*, Sept. 2010), "...before CETA can be officially signed and sealed, it requires the approval of every provincial government. So it is particularly vulnerable to public pressure – just one Premier can derail it."

Similarly in Europe, 27 member-nations of the EU would have to approve CETA. Currently, the leaked chapter on intellectual property is causing controversy because of potential threats to internet use, privacy, free speech and other issues.

The same CETA chapter proposes to raise pharmaceutical drug costs in Canada by \$3 billion per year, which reportedly bothers some Canadian premiers.

Sean Smith puts it well: "Canadians need to learn that the CETA talks have nothing to do with giving Canadians a good alternative to American markets and forging closer ties with happy Swedes and Danes and other progressive Europeans. That mythical EU is disappearing faster than a Greek pension and is being replaced by a corporatist continent that thrives on things like Bulgaria's minimum pay of 97 Canadian cents an hour. (No, that's not a typo.) It's up to us to break through the veil of secrecy and fantasy that has been thrown over these trade talks, expose the deceptive spin, and tell Canadians what CETA is really about."

## CETA

### (Canada-EU Comprehensive Economic and Trade Agreement)

"One of the aspects of CETA most worrying for local leaders is the deal's potential to undermine public control over water and other key municipal services. The leaked initial offer showed that the EU companies want access to contracts in Canadian local government services, going so far as to name specific local utilities, public transit agencies, and other public services in dozens of municipalities across the country... It's interesting to note that many EU municipalities have taken their own water back under public control after problems with privatized water systems (often privatized under the same EU firms that are trying to get into the Canadian market)."

— Rob Duffy, Director of the Columbia Institute, *CCPA Monitor*, June 2012

"The Harper government sees CETA as a way to further deregulate and privatize the Canadian economy while increasing corporate power and undermining our democratic options for the future. The EU trade deal could: unfairly restrict how local governments spend money and [could] ban 'buy local' policies; add up to \$3 billion to the price of drugs; increase Canada's trade deficit with Europe, leading to significant job losses; empower European corporations to attack environmental and health measures; undermine protections for health care and culture in past trade deals; create pressure to increase privatization of local water systems, transit and energy; strip farmers of their rights to save seed."

— The Council of Canadians

"With most of our private sector already owned by US corporations, the planned privatization and sale of much of our public sector to European business firms will complete our country's transformation into a foreign-controlled vassal-state."

— Sean Smith, CAW activist now with Trade Justice Network, *CCPA Monitor*, September 2010

CETA and Jumbo Glacier Resort could expire together. The next few months will be crucial.



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

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by Joe Foy

If you want to know about someone, you have to come inside their home and hang out. It's the same with Mother Nature. You can't just stand out on the front porch – you have to come inside nature's home and stay a while.

That's what brought a friend and me to the wilds of Garibaldi Provincial Park this past August. We had sought a valley with no park trails or direction signs. With a pencil we circled the map at Snowcap Creek on the east side of the park.

Our first day of backpacking brought us to a good place to camp beside the creek on a sand bar. Fresh bear tracks meandered down the riverside. In the evening the howling started. Wolves – calling to each other. They sounded mighty close to us. Several hundred metres perhaps. We didn't know. Whenever I have tried hollering in the forest my voice pretty much disappears amongst all that wood, moss, stone and rushing water. Those wolves sounded clear and close – like they were just beyond the tree line that bordered the sand bar. We stared into the darkening forest trying to discern any movement. Eventually the howling stopped and the stars came out.

We were less than a day's travel from our city homes – but our camp was a room with a different view.

A couple of days later, while crossing Snowcap Creek on a log, I slipped and fell in. I remember thinking before I started the log crossing that if I fell into the torrent, swollen with summer snow melt, I'd risk being swept over a waterfall just a bit downstream. To be extra careful, I had decided to crawl across the log. However, I had almost made it to the other side when my left hand sud-

denly slipped, and pushed down by my pack, I toppled over into the creek on the upstream side of the log. I clung to the log for a split second, but the current tore me loose and forced me under.

Time slowed right down. I kicked bottom hard and hit bottom. When my head broke the surface I could see I was close to the river bank, so I kicked bottom again and grabbed a hold of the shore. Six seconds. From the moment I fell in to the moment I grabbed the shore was six seconds. I had thought I was a goner. I hauled my pack onto the shore, and celebrated being alive.

We were less than a day's travel from our city homes – but our camp was a room with a different view

For eight days, my friend and I backpacked the Snowcap Creek Valley. We wandered amongst huge old growth Douglas fir and red cedar trees. We drank from quiet mountain streams and were awed by thundering falls and rapids. While in the high country we sheltered in our tent as lightning flickered and flashed and thunder boomed, echoing from peak to peak.

Only a couple of weeks earlier I had made a presentation to the BC gov-

ernment's Timber Supply Review Panel – a committee made up of MLAs from both the governing Liberals and the opposition NDP. The panel was looking at ways to deal with a timber supply shortfall brought about by the record breaking pine beetle epidemic of the past few years.

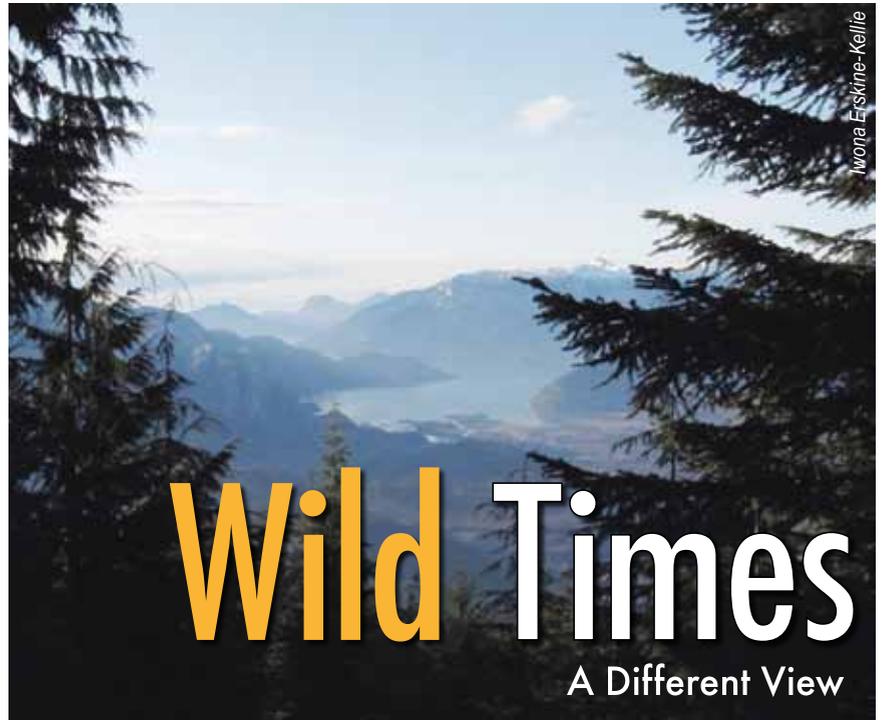
I and other conservationists had recommended that the amount of logging be decreased, that raw log exports be banned, and that the protection of wilderness and old growth forests be increased, to protect both the environment and woodworker jobs.

However the panel didn't see it that way and came out with a recommendation to allow logging in some previously protected old growth forests.

So what did my Snowcap Creek experience teach me? I believe we are going to have to kick like hell to get that recommendation quashed so those old growth forests, and the wildlife that depends on them can survive.



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



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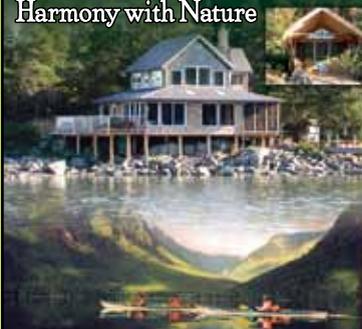
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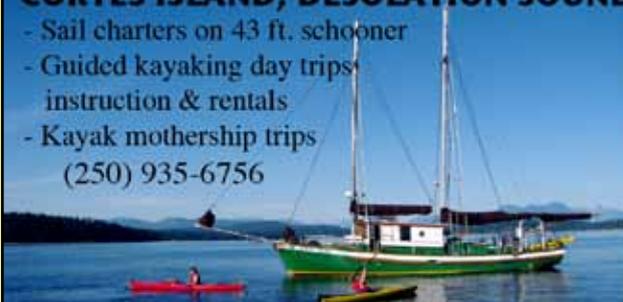


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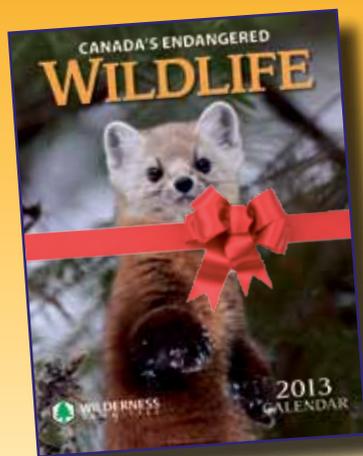
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