

Watershed

Sentinel



Sharing ECONOMY



Fraud Made Legal
Tax havens

Glyphosate & Fish
CN sprays rail lines

Big Dams
Drought and disaster





Fair Vote Canada

The basic democratic principle that every Canadian's vote should be **equal and effective**, regardless of where you live or for whom you vote, remains unfulfilled in our current electoral system.

The Problem:

First-Past-The-Post (FPTP) inevitably distorts overall election results, usually giving Canada "false majority" governments. It also denies half of all voters representation when they don't pick a "winner".

Over and over, our current system delivers 100% of the power to parties who obtain less than 40% of the vote. It's the nature of the system. Canada is one of only three OECD countries still using an antiquated, 12th century Winner-Take-All system. 80% of OECD countries use some form of proportional representation.

The Solution:

Proportional Representation is about fairness. Everyone should have equal and effective votes for equal and fair representation.

Peer-reviewed research has shown that countries using PR tend to outperform those using winner-take-all systems on measures of democracy, quality of life, income equality, environmental outcomes and economic growth.

Why? Because the electorate had more power to effect change.

Winner-take-all voting

- False majorities where Parties with less than 50% of the vote can obtain 100% of the power. Since WWI, 12 out of 17 majority governments have been false majorities.
- In every election half of all voters are unable to elect a representative aligned with their values
- Political division is artificially exaggerated, making regions appear more partisan and politically opposed
- Low voter turn-out with troubling low levels among young people
- Staggering public apathy and indifference
- False majorities promote hyper-partisan competition and the excessive concentration of political power in the Prime Minister's Office
- Strategic voting becomes an imperative where you 'hold your nose' to vote for 'the lesser of two evils'
- Distorts voter intention and leaves many communities without a real voice in their government.
- Some Canadians will never have a representative
- False majority governments can fail to reflect the priorities of most Canadians

Proportional Representation

- Most votes counts toward electing a representative
- People are more encouraged to vote and turnout can be up to 7.5% higher
- False majorities should no longer occur
- Voter intention is respected - 39% of the vote should equal 39% of the seats
- More women and minorities are elected and Parliament reflects a wider range of political views
- Abuses of power are curtailed and Parliament is less adversarial
- Voters are more satisfied with the quality of their country's democracy
- Higher scores on health, education, environment and standards of living
- More fiscally responsible and stable
- As degree of proportionality increases, income inequality decreases
- Reduces the need for strategic voting
- Delivers policy supported by the majority with greater continuity and stability

www.fairvote.ca

Features



Tax Havens

Fighting tax fraud by making it legal, and more spin from the Trudeau government on the other Paris agreement.

Alternative Futures

Only by working together and cooperating have human beings become the semi-sapient species we are. From food co-ops to a myriad of housing arrangements, from credit unions to worker-owned enterprises, we see the roots of this cooperation all around us.

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Editorial

Delores Broten

That Dam

They are calling it “Black Monday,” the day the BC NDP, as a unanimous caucus, turned its back on indigenous rights and on a sustainable future, and approved the Site C dam on the Peace River. We could rail on about the arguments they dismissed – geotechnical, financial, electrical demand forecasts. We are shocked at the rather unbelievable advice they chose to follow, despite competing viewpoints of equal or higher merit. But all that has been done.

In a small example that illustrates the lack of credibility, one NDP backgrounder says, “99% of Class 1-5 agricultural lands (capable of crop production) in the Peace Agricultural Region will not be affected by Site C. Permanent loss of approximately 3,800 hectares of class 1-5 agricultural lands leaves approximately 2.7 million hectares of Class 1 to 5 lands available...”

Uh huh. Class 5 land is suitable mostly for pasture or tree farms; Class 1 land – the really good stuff – is in the valley bottom.

Numerous theories have been raised by the angry and perplexed voters who expected more from this government: Death threats? Water exports? Big labour calling the shots? Water for fracking? Energy for LNG exports? The latter two seem most likely.

Whatever convinced the caucus to acquiesce, with this decision, the NDP has slammed the door on alternative green energy developments, including those promoted by First Nations, and – importantly – on the new climate-and-war resilient economy such development would inherently support.

Now the Yellow Stakes raised in the campaign to Keep the Peace are the stakes in the heart of the BC NDP, a party that could not separate its futile dreams of an industrial past from the new uncharted future.

The future laps at our doors, and the BC NDP chose to dam it.

Delores Broten, Comox, BC, December 2017

At the 'Shed

Do we look different? This issue we are using a printing process with UV dried ink, which should give a crisper look and is less toxic.

Attention Subscribers! The insert in the magazine is to attract new subscribers. You do not need to use it to renew your subscription. When the time comes, you will receive a friendly notice offering you an early bird discount for your renewal.

Big Thank You to the generous folks who have been sending in donations – you are helping sustain the *Sentinel*, as well as warming our hearts! Big thanks also to those who get and distribute a bundle – we get lots of new subscribers from folks who find the *Watershed Sentinel* at the doctor’s office or local coffee shop. You are helping a lot.

Heiltsuk heroes (take II)

Spill Response

Just two weeks before a loaded fuel barge broke free from its tug off the coast of Bella Bella (Heiltsuk waters) on Nov. 26, 2017, the Heiltsuk nation released initial plans calling for an Indigenous Marine Response Centre (IMRC). The proposal is in response to the spill of over 100,000 litres of diesel by the Nathan E. Stewart tug barge in Seaforth Channel in October 2016, and the lack of “world-class spill response” promised by the Liberal government. The Heiltsuk were instrumental in responding quickly to both crises.

The IMRC would be located in Heiltsuk territory where the majority of incidents on the central coast occur, be staffed by trained crew familiar with the local marine environment and equipped with vessels and equipment expressly designed for central coast conditions, and would respond to 100 per cent of incidents in the area in five hours or less.

—www.heiltsuknation.ca,
November 27, 2017

Highway robbery

Expired Permits

Nestlé has extracted one billion litres of water from their Aberfoyle well since their Permit to Take Water, which allowed extraction of up to 3.6 million litres a day, expired on July 31, 2016. The Council of Canadians and Wellington Water Watchers are demanding that the Ontario government phase out permits for single-serving, disposable bottled water products and deny all applications for any new permits from bottled water companies indefinitely.

—www.canadians.org,
November 27, 2017

Peel victory

Yukon Land Use

In a unanimous decision, the Supreme Court of Canada has overturned a Yukon Appeals Court ruling that rolled back years of land-use planning for the Peel watershed region in north Yukon, a vast expanse of sub-Arctic wilderness. The Supreme Court ordered the Yukon government to consider a final recommendation proposed in 2011 by an independent commission. It would protect about 80 per cent of the area from development. The Yukon government, in 2012, sought to discard that plan in favour of its own, which would protect just 30 per cent of the area.

The ruling ends a five-year legal battle between the Yukon government and a group of First Nations and environmental groups.

—www.cbc.ca,
December 1, 2017

Fish farm boost

Millions

The federal government is supporting the market development of Canada’s aquaculture industry with an investment of \$2.48 million. The investment will support the Canadian Aquaculture Industry Alliance (CAIA) as it works to increase awareness and demand for Canadian farmed fish and seafood in the US, Asia and Europe. CAIA’s executive director stated, “this program continues to help our industry to establish new and long-term global demand for Canadian farmed seafood products like salmon, mussels, oysters and more.”

—www.foodincanada.com,
November 22, 2017

Mines in BC

Digging In

Approved: The Murray River metallurgical coal mine in central BC, in habitat of the threatened Central Group of southern mountain caribou. The feds said they would work with First Nations to stabilize the herds.

Rejected (unofficially, by EA): The Ajax copper/gold mine near Kamloops and in sacred traditional territory. The mine had been assessed by the Stk’emlúpsenc te Secwépemc Nation and opposed by the city of Kamloops. Its final fate will be decided in federal cabinet.



©Gord McKenna

Dismissed: Two judicial reviews brought by Taseko Mines against federal rejection of the New Prosperity mine at Fish Lake (Teztan Biny). Taseko had challenged the constitutionality of the *Canadian Environmental Assessment Act, 2012*. The Federal Court ordered court costs to be repaid to the Tsilhqot’in.

Egg nog consultation: A proposed amendment for Mt. Milligan copper/gold mine north of Prince George would allow for extraction of 1.8 million cubic metres of water per year for 2 years from Esker and Philips Lakes, for use in tailings ponds. Public consultation runs from December 27, 2017 to January 10, 2018.

—*Canadian Environmental Assessment Agency, BC Environmental Assessment Office, December 2017*

Letters

Duplicitous Sh***

(In response to a query about where the geotechnical reports on Site C might be found)

They probably don't exist. Although, ya never know... Tinkerbelle might exist... Snow White and all seven little f****rs might exist... it's hard to know what does and does not exist... "I think therefore I am" or something... ya know... if we can IMAGINE a thing then maybe it exists in some form somewhere... it's all very zen, isn't it...

Judith Sayers has written an excellent piece [<https://fnbc.info/blogs/judith-sayers/black-black-monday-and-bad-day-mother-earth>] about this arse-licking bit of duplicitous shyte ... I assure you it, unlike these geotechnical reports which are in question, it does exist...as does Judith herself... she is a heria.

I voted CCF until they became NDP, then I voted NDP even though there were a couple of times I had to hold my nose, however, this perfidious shyte has shifted my focus and I'm quite sure come the next election I'll vote Green... not because I'm impressed by their ideas around economy and finance, because I'm not and they need to wake up, but as a protest.

Geotechnical reports? "We don't need no steenkin geotechnical reports"... DANG, eh?
Who'd'a thunk it?

—Anne Cameron
Tahsis, BC

Small but Mighty

Stewarts have got the message—Thank you kindly for a great little but super potent magazine—Our renewal will soon be in the mail.

—Keiko and Allen Stewart,
Hagensborg, BC

Beyond Banksters and Site C

Dear Michelle [Mungall, BC Minister of Energy, Mines and Petroleum Resources],

Thank you for your heartfelt reply about the NDP decision to go ahead with Site C. I believe your government is making a grave error with this decision, and I truly hope that some way it can be changed. Have you read *Beyond Banksters* by Joyce Nelson? I believe it explains the real reason why your government has made this decision. I wish politicians would be more honest in talking about how they are pressured from behind the scenes to make decisions that so negatively affect the health of our land and our people.

—Eleanor Wright
Lillooet, BC

Fetch the Microscope!

Hallo, hallo: The reason to have *Watershed* [Sentinel] is to read and learn about all your very interesting reports. Page 33 about Site C Final Report + Disruptive Factors – I had to fetch a microscope to

be able to read it. With all my respect... this amazing magazine is to be read. The yellow and white and orange is almost impossible to read. It would be very nice to have all these reports and all the magazine readable. Love your magazine. Lots of greetings.

—Mexi
Cyberspace



Editors' note: We, too, (along with a handful of subscribers) noticed the print job on the Nov/Dec issue was not up to snuff. We sent out an email to all our subscribers to give them access to the (crisp, clear) digital version, did some sleuthing with a magnifying glass, and discovered that the printers made a mistake with the paper they used. They assure us they've taken steps to ensure that it won't happen again. The silver lining to this mini-fiasco is that they're letting us try out lower-energy-footprint, solvent-free UV printing technology – which is also supposed to result in a better print job – for free on our January issue.

The Watershed Sentinel welcomes letters but reserves the right to edit for brevity, clarity, legality, and taste.

Anonymous letters will not be published. Send your musings and your missives to: **Watershed Sentinel**, Box 1270, Comox BC, V9M 7Z8
editor@watershedsentinel.ca or online at www.watershedsentinel.ca

Fish Farms

Injunctions granted against Indigenous salmon defenders

by Claire Gilmore

T'isn't the easiest season for the fish farm activists on our coast.

On December 22, 2017, the BC Supreme Court granted injunctions to Marine Harvest and Cermaq, requiring wild salmon defenders to vacate fish farm sites at Burdwood, Sir Edmund and Cypress (Cermaq), and Midsummer Island (Marine Harvest).

The decision follows four months of direct actions by members of the Musgamagw Dzawada'enuxw, 'Namgis, and Mamalilikulla nations and others aimed at removing open-net pen salmon farms from their traditional territories. Actions have included the occupation/monitoring of fish farm sites, delivering of eviction notices from the nations to the fish farm companies, occupations of government offices, solidarity rallies, and a Wild Salmon Matriarch Camp, which began on October 13 and is currently in front of John Horgan's office in Victoria.

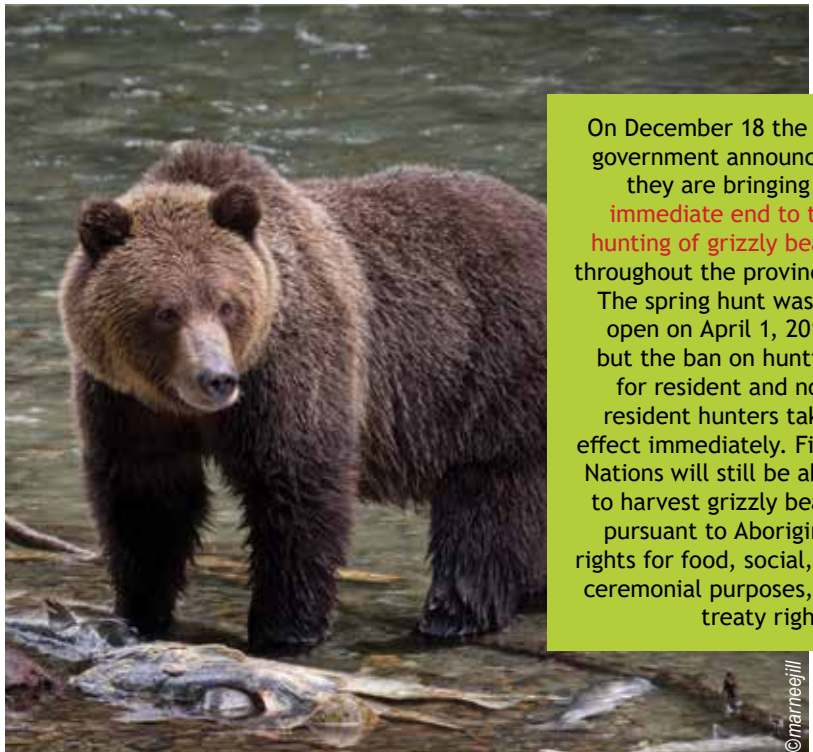
The injunctions highlight the incapacity of our legal system to handle indigenous rights issues, particularly around interpretations of "trespassing." In his *Reasons for Judgment* for the Marine Harvest decision, the judge who granted the injunctions against wild salmon defenders Molina Dawson, Karissa Glendale and unnamed others stated, "These cases are often the product of government decisions and government policy. It is not the role of courts, generally speaking, to examine or involve themselves in the

wisdom of such policies." He cited numerous reasons for the decision including Marine Harvest's stated safety concerns for both the occupiers and fish farm staff, and alleged intimidation of staff, but eventually came around to "Interference with the Plaintiff's Operations" – Marine Harvest's concerns over its ability to restock the pens with smolts in a timely manner – "Such restocking is essential to the business of the Plaintiff."

Such restocking would also have the pens loaded with still-growing fish at the time

that the farms' licenses of occupation are set to expire in June 2018 – giving the companies a strong case for renewal of those licenses.

Meanwhile, First Nations leaders and defenders on-the-ground continue to act, and have made it clear that they will not give up in their defense of wild salmon as long as open-net pen fish farms continue to operate in their territories.



On December 18 the BC government announced they are bringing an **immediate end to the hunting of grizzly bears** throughout the province. The spring hunt was to open on April 1, 2018, but the ban on hunting for resident and non-resident hunters takes effect immediately. First Nations will still be able to harvest grizzly bears pursuant to Aboriginal rights for food, social, or ceremonial purposes, or treaty rights.

©mameejill

Glyphosate & Fish

CN has been spraying BC rail lines without a permit



The rail line, seen here (left) just before spraying began, is located within habitat for grizzly bears and other wildlife.

by Erica Stahl

Wild salmon just can't seem to catch a break right now. From bloodwater from farmed fish plants to the anti-spawning mats Kinder Morgan placed along its proposed pipeline route, wild salmon in British Columbia are facing threats from human interference at every point in their life cycle. We can now add exposure to glyphosate to the list.

Between July and October 2017, CN Rail contracted a company to spray herbicide containing the chemical glyphosate along the 100-kilometre stretch of track that follows the Skeena River from Terrace to

Prince Rupert. The Skeena is the second largest salmon river in Canada and provides rich habitat for many iconic species. Since the herbicide spraying, a ribbon of dead vegetation follows the rail line on both sides, all the way along the river.

Luanne Roth, the T. Buck Suzuki Environmental Foundation's energy campaigner for the north coast, was appalled when she saw the effects of the spraying. The line of dead vegetation went right to the water, despite the fact that there are supposed to be no-spray buffers to protect fish-bearing streams and rivers.

Luanne asked the Province to investigate, and she hired an independent environmental consultant to analyze the sprayed area. Her environmental consultant found evidence of glyphosate on plants directly overhanging salmon habitat. BC's Pest Management Regulation states that generally, a two to five metre pesticide-free zone must be maintained when spraying glyphosate close to a fish-bearing river or stream.

Glyphosate is an active ingredient in many commercial herbicides, including Roundup. It is an extremely potent and

indiscriminate agent – it will damage or kill any plant it comes into contact with, unless that plant has been genetically modified to withstand glyphosate application.

While there are conflicting opinions from credible scientific sources about the effects of glyphosate exposure on humans and the environment, it is certainly a situation where the precautionary principle should apply: glyphosate is listed as a carcinogen in the state of California, a probable carcinogen by the International Agency for Research on Cancer, and the European Union, while not viewing it as a carcinogen, recognizes it as toxic to aquatic life. The Province of BC has recognized that glyphosates are highly toxic to amphibians.

One aquatic toxicology specialist, commenting on CN's spraying, noted that with exposure to glyphosate "fish could experience changes to their ability to smell, micro and macroscopic changes to their tissues and possible mutations to their blood."

As if this weren't bad enough, CN did not have legal authority to spray herbicides while this work was done. The company used to have a legally-required Pest Management Plan (PMP), but it expired on May 3rd, 2017 and CN did not renew it.

Pest Management Plans as a form of regulation are rather weaker than we'd like – the provincial government generally does not even review them. Nonetheless, without a PMP, CN is only allowed to spray 20 hectares of its railway infrastructure with herbicides.

The provincial investigations begun as a result of Luanne's complaint found that over 1800 hectares of CN Rail's right-of-way were sprayed with herbicides in

the course of this work, and there were numerous other instances of non-compliance on the part of the contractor.



The line of dead vegetation went right to the water, despite the fact that there are supposed to be no-spray buffers to protect fish-bearing streams and rivers.

But here's the real kicker. The Pest Management Plan that CN Rail allowed to expire, the one that would have permitted the spraying of herbicide along the Prince Rupert-Terrace rail line, was for the entire province. The Provincial investigation revealed that spraying on CN rail lines has been taking place all around the province this summer, after CN's PMP had expired.

Some of the places identified in the Provincial report as having been sprayed without a PMP were Fort Nelson, Fort St. John, Dawson Creek, Prince George, Nechako, Bulkley, Telkwa, Skeena, and Lillooet. If CN rail lines or rail yards were sprayed with herbicides in your area after May 2017, it is likely that the spraying was illegal.

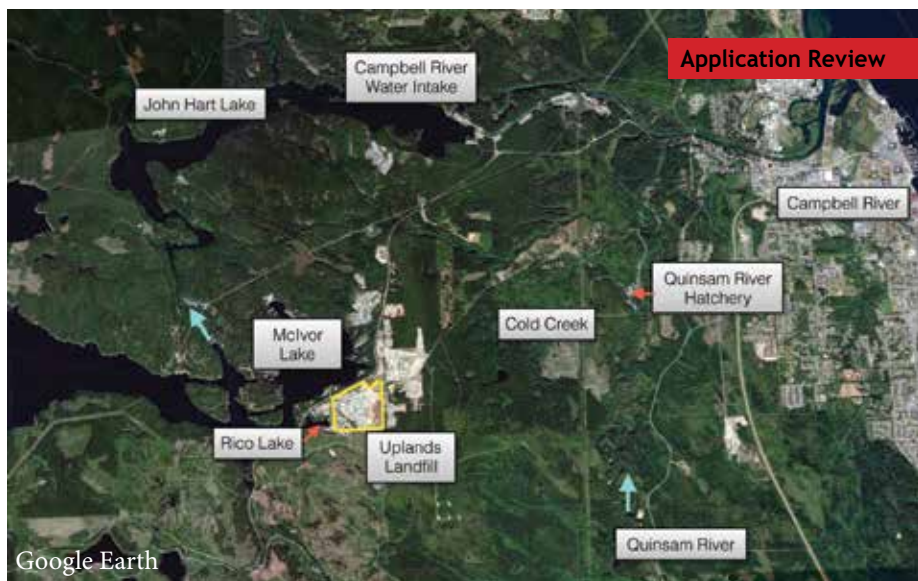
Luanne received support from West Coast Environmental Law's Environmental Dispute Resolution Fund (EDRF) to look into options for legal action against unpermitted activities on the CN rail line. If you think herbicides were applied illegally in your area after May 3rd, 2017, you can contact Luanne or the EDRF to learn more about your options:

- Luanne Roth, North Coast Energy Campaigner, T. Buck Suzuki Environmental Foundation, LuanneRoth2@gmail.com 250-621-4201 or 778-884-5888 (cell)
- Erica Stahl, EDRF Liaison Lawyer, West Coast Environmental Law estahl@wcel.org 604-684-7378 (or toll-free at 1-800-330-9235)

Erica Stahl is a lawyer with West Coast Environmental Law and this piece was originally published on the blog at www.wcel.org/law-alert-blog

Landfill Déjà Vu

Campbell River gravel pit applies to hold toxic wastes



Google Earth

Ask Minister of Environment George Heyman to protect BC's drinking water at www.crecweb.com/reports

by Leona Adams

Campbell River's drinking water and salmon habitat may be at risk from a gravel-pit-turned-landfill, owned by Upland Excavating Ltd. (Upland). The Campbell River Environmental Committee (CREC) is ringing alarm bells about the recent, possibly unpermitted, dumping of toxic creosoted timbers and medical waste there. CREC is also concerned about plans to use the site, which sits next to the community's drinking water supply, for long-term storage of potentially contaminated construction and demolition waste and contaminated soils.

Upland has applied to the Ministry of Environment (MOE) for an Operational

Certificate to upgrade their site to a landfill and to store contaminated soil as well as demolition waste which can be contaminated (including with hydrocarbons). The application is similar to the one for the Operational Certificate at Shawnigan Lake landfill that MOE gave and finally cancelled due to contaminants leaving the site, causing a do-not-use-water advisory.

The proposed landfill is located at 7295 Gold River Highway, Campbell River, BC. It is adjacent to Rico Lake to the west, which drains to McIvor Lake, Campbell River's drinking water supply, during the rainy season.

The final elevation of the proposed landfill is above Rico Lake and McIvor lakes. Proposed ditches and swales rated for a 1-in-100-year rainfall will not handle Campbell River's precipitation, which BC Hydro identified as having two 1-in-150-year rain events in November 2016.

Upland's site sits over a large sand and gravel high-vulnerability class IIA aquifer, with west groundwater drainage to Rico Lake and east groundwater drainage to Quinsam River and to Cold Creek, which feeds the DFO Quinsam River Fish Hatchery.

Although background sediment sampling should be a basic application requirement, no sediment sampling in Rico Lake or McIvor Lake has been required for comparison in future years. Also, sampling in small creeks to the east has not been required.

Leachate could exceed Contaminated Sites Regulations. Sulphate, chloride and manganese are identified as untreatable. Parameters are proposed to meet drinking water CSR guidelines, but not the BC aquatic guidelines.

The response from the MOE points out that under the Regional District Waste Plan, Upland is required to upgrade to satisfy current ministry guidelines, including upgrading to an engineered lined landfill with leachate collection and treatment. That is correct, but the upgrade should not increase the quantity of waste from 3,200 cubic metres a year to 25,000 cubic metres a year, nor from inert waste

Once the timbers were removed from the dam they were stockpiled and then moved to a disposal site

to waste that may be contaminated and to contaminated soil, as Upland's application proposes. Liners have been known to fail. A 2001 Environment Canada publication stated: "It is now accepted that all landfills will eventually release leachate to the surrounding environment...."

Engineer and expert hydrogeologist Dr. Gilles Wendling finds that critical data is missing from the reports from Upland's consultant, GHD. Upland's own third-party hydrologist agrees with Dr. Wendling that more investigation is needed to the west and east of the site Rico Lake and Campbell River's water supply are still at risk.

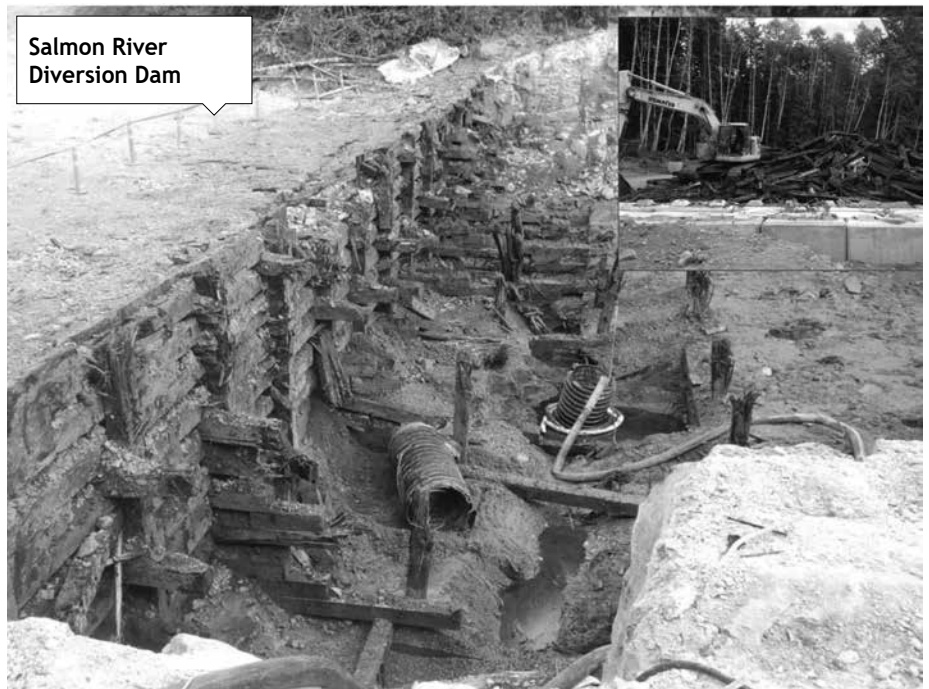
Creosote and medical waste

In August 2017, Upland deposited contaminated coal-tar creosoted timbers from the decommissioning of BC Hydro's Salmon River Dam into the upper level of their site.

When CREC notified the MOE of this non-compliance, we were informed that similar waste has been allowed at Upland's site regardless of Upland's existing permit that waste must be inert and also only deposited in the centre of their gravel pit. (We were also told that similar sites in BC have been allowed to deposit similar waste – so if you have a private landfill in your community you may wish to check it out.)

CREC was then informed by the Minister's office that "inert" meant that the waste will not leach to any significant extent. However, it was reported in the local paper that workmen became ill when removing those timbers.

BC Hydro tested the pools of contamination, seen in a decommissioning picture, to be hydrocarbons (creosote). Also, giv-



en the date the timbers were installed, there would be 40 years worth of creosote left in the timbers to continue to leach. The MOE accepted Upland's consultant's testing of the creosoted timbers to be significantly below acceptable standards.

The MOE compliance team inspected Upland's site and labelled the deposit of the creosoted timbers "compliance to be determined." While the inspector was there, the deposit of medical waste was observed and even though a picture in the Compliance Inspection Report showed medical waste with needles, MOE compliance called it "possible medical waste" with "compliance to be determined."

Professional reliance

When we had a change of government in BC, we thought nothing like the Shawnigan Lake landfill's risk to our drinking water would happen again. Sad-

ly, it looks like we may be wrong. I fear we still have to fight for the protection of our drinking water and salmon habitat and that the MOE will approve Upland's application, even though told by two out of three hydrogeologists that more investigation is needed.

This is a good example where the professional reliance model has failed, and continues to fail. Errors have been found in the Uplands and GHD application process, not by MOE, but rather by CREC. Risks to the only source of drinking water for Campbell River are real, and if fears prove true, there is no mitigation.

Leona Adams was born in Campbell River, BC. She has been the president of the Campbell River Environmental Committee since 2011 and was awarded the City Stewardship for Environmental Excellence award in 2013. Sal

Fossil-free

300-Day Record

Costa Rica's electricity was produced entirely using renewable energy for 300 days beginning January 1, 2017. The nation currently generates more than 99 per cent of its electricity using five different renewable sources; hydropower (78%), wind (10%), geothermal energy (10%), biomass and solar (1%). In 2015 Costa Rica went 299 days using only renewables.

—www.independent.co.uk
November 22, 2017

Farmer-to-farmer

Seed Sharing

The Center for Food Safety has launched the Global Seed Network – a non-profit peer-to-peer seed sharing platform to connect people around the world who are preserving, protecting, and regenerating the global seed supply. The online community is an innovative take on the social network: members create a profile and share rare and heirloom seeds as well as information via an online forum. The site, globalseednetwork.org, is now open for registration from new users.

The US alone has lost 93% of its fruit and vegetable seed diversity in the last 80 years. Five companies – Monsanto, Dow, Bayer, DuPont, and Syngenta – now own more than 60% of the global commercial seed supply. This corporate control of seed has decreased diversity and led to worldwide seed price increases, threatening rural livelihoods and driving millions of farmers out of business.

—www.centerforfoodsafety.org
April 25, 2017

Mine blocked

Brazil

In a powerful victory for indigenous rights in Brazil, Toronto-based company Belo Sun Mining has had its license to drill revoked by a federal court, dealing a significant setback to its proposed “Volta Grande” gold mine planned along the Xingu River. The court cited Belo Sun’s failure to uphold the right of local indigenous communities to prior consultation on the project’s social and environmental impacts, which would compound the destruction already wrought by the adjacent Belo Monte hydroelectric dam. A new licensing process will not be considered until Belo Sun has undertaken an “Indigenous Component Study” to measure the project’s impacts.

—www.amazonwatch.org
December 11, 2017

Glitter ban

For Cleaner Seas

A group of nurseries in southern England has banned the use of glitter among its 2,500 children to reduce the amount of microplastics entering the seas.

Alice Horton, research associate at the UK’s Centre for Ecology and Hydrology, told the Guardian, “Glitter is absolutely a microplastic and has the same potential to cause harm as any other microplastic [including microbeads, the subject of a government ban in the UK].... one nursery banning it is ... not going to change the world but [it] sets a target for others.”

—www.theguardian.com
November 17, 2017

Cautious optimism?

Mining Watch

Ottawa plans to create an independent office to oversee Canadian mining, oil and gas companies’ activities abroad. Nearly two-thirds of the world’s public mining companies are listed in Canada. Canadian mining and exploration companies were present in 102 foreign countries in 2015, and many are alleged to have been involved in human rights abuses in the countries where they operate.

—www.reuters.com
December 12, 2017

The Purpose of Jellyfish

Fish Food

Squid, sole, dogfish, herring and cod all feed on baby jellyfish – according to new research from the University of East Anglia and the Centre for Environment, Fisheries and Aquaculture Science (Cefas).

Until now there has been little known about the role of jellyfish in food webs. Predators are hard to identify because jellyfish are digested very quickly, but researchers were able to detect jellyfish which had been highly digested by studying tiny fragments of DNA present in fish gut samples.

The team found jellyfish DNA in nine of the 50 potential predators investigated – in whiting, herring, dragonet, Dover sole, dab, squid, sprat, poor cod, and lesser-spotted dogfish. Looking at the jellyfish life-cycle, the team suggested that the majority of jellyfish eaten would have been juvenile.

—www.uea.ac.uk
November 29, 2017

Right Whales

Taking measures to reduce whale deaths

by Susan MacVittie



Since June 2017, twelve North Atlantic right whales have died in Canadian waters plus another four in American waters. Many of the whale deaths have been attributed to vessel strikes and entanglement in fishing gear.

On November 8, 2017 the Minister of Fisheries, Oceans and the Canadian Coast Guard, Dominic LeBlanc, met with representatives from fishing organizations, marine transportation industries, and other stakeholders, to discuss concrete actions to better protect North American right whales. The meeting was held in Moncton, New Brunswick and echoed concerns raised at the North Atlantic Right Whale Consortium's annual meeting in Halifax in October.

Presenters said urgent action is needed for the 450 right whales still alive as of 2016, according to the latest population estimate, which does not include this year's losses.

The North Atlantic right whale is listed as an endangered species under the Species at Risk Act and is migratory. Collisions with vessels, entanglement in fishing gear and underwater noise are the most serious threats to the right whale population. A recovery strategy has been developed and the right whale is protected by various acts and regulations.

Right whales come to Atlantic Canadian waters to feed on rich supplies of their prey, which often happen to be in busy ship-

ping lanes and fishing grounds in the Gulf of St Lawrence. After the death of an eighth right whale in July, Fisheries and Oceans closed the snow crab fishery in part of the Gulf of St. Lawrence to try to keep whales from getting tangled up in fishing ropes.

The managing director of the Snow Crab Fishermen's Association from southeastern Cape Breton, Nova Scotia said he and other fishermen are already looking at ways to reduce the amount of slack rope attached to traps during the April-to-August snow crab season.

Minister LeBlanc said that the government will work with partners on the specific proposals discussed at the meeting, such as:

- adjusting existing fishing gear immediately,
- testing new gear technologies that would reduce the amount of rope in the water,
- putting measures in place to reduce lost fishing gear,
- adjusting fishing seasons to avoid periods when right whales congregate,
- enhancing whale sighting and detection information and timely sharing among partners and industry,
- including temporary speed restrictions in target areas and adjustments to shipping lanes based on accurate and timely whale sightings information,
- ordering boats to give right whales a 100-metre buffer zone, and
- improving collaboration and coordination across all sectors.

In August, Transport Canada imposed a temporary mandatory speed limit for the Gulf of St. Lawrence of ten knots on vessels of twenty metres or more, and fines were given to vessels who did not comply. Coastal communities, such as Gaspé, Quebec, saw cruise ships cancel their visits due to the slower speeds affecting their scheduling.

Researchers say the whales will return to the Gulf as early as May 2018.

Susan MacVittie is the *Watershed Sentinel's* east coast correspondent based in Prince Edward Island.

Rainforest Island?

Pacific Northwest forests are unharvestable carbon



by Jens Wieting

Time is running out for Vancouver Island's globally rare endangered old growth rainforest. The new BC government must act quickly for the rainforest, communities and the climate, before it's too late.

For millennia most of Vancouver Island was covered by old growth trees, many more than 1,000 years old. Indigenous peoples lived with and used the rainforest without destroying it. Now, after a century of large scale logging, the majority of these old growth rainforest ecosystems and more than 90 per cent of the biggest trees have been logged.

Instead of phasing out old growth logging, right now the pace of destruction is speeding up. This was revealed recently in a Sierra Club BC review of government data and satellite images

of the logging of remaining old growth rainforest on public and private lands on Vancouver Island.

The average annual amount of old growth logged between 2005 and 2015 was close to 9,000 hectares (equivalent to about 22 Stanley Parks). However, this annual amount jumped in 2016 to 10,700 hectares (equivalent to more than 26 Stanley Parks). This number is more than 10 per cent higher than the annual average in the 10-year period 2005–2015.

The destruction of coastal old growth is even more concerning in light of the fact that forests in other parts of the province are increasingly hit by wildfires driven by human-caused climate change. In British Columbia alone over one million hectares of forests burned in 2017 – the highest number since records

began. This resulted in skyrocketing provincial greenhouse gas emissions compared to average years in the past.

One of the most important recommendations of climate scientists is that the vast majority of fossil fuel reserves must be left untouched as “unburnable” carbon.

The same must apply to carbon-rich forest and other natural ecosystems. There is now no remaining pathway to saving our climate without swift, strategic action to reduce carbon emissions related to land use. This means that just like we have to set aside large fossil fuel reserves as unburnable carbon, we have to map and protect the world’s remaining carbon-rich old growth forests – such as the globally rare temperate rainforest ecosystems in the Pacific Northwest – as “unharvestable” carbon.

Here’s why this is so important: so far, these forests have been relatively resilient to climate impacts like fires and pests. They’ve been a much safer carbon sink compared to other forests. BC’s old growth coastal rainforests can store 1,000 tonnes of carbon per hectare, one of the highest rates on earth. They’re like a carbon bank, accumulating carbon in soil, trees and organic matter over millennia. Reducing emissions by avoiding logging of this old growth has immediate benefits for the climate.

Shockingly, about half of the carbon stored in these ecosystems is released in clearcut logging. Carbon is released from large amounts of waste wood left behind and exposed soils. This is often combined with slash burning, an egregious practice that releases millions of tonnes of greenhouse gases annually and must be phased out quickly. It can take centuries until the biomass reaches previous levels. This is time we don’t have.

Contrary to industry claims, more and more research shows that old trees store more carbon per year than young trees. A recent study found that the older a tree is, the better it absorbs carbon from the atmosphere, with almost 70 per cent of the carbon stored in trees accumulated in the last half of their lives. The new findings suggest that old trees store more carbon in proportion to their size.

And yet the destruction of Vancouver Island’s original old growth rainforest is occurring three times faster than primary forest loss in tropical rainforests. According to the UN Food and Agriculture Organization, tropical countries lost 10 per cent of their primary forests between 1990 and 2015. On Vancouver Island, old growth forest declined by 30 per cent over the same time period.

“Tropical countries lost 10 per cent of their primary forests between 1990 and 2015. On Vancouver Island, old growth forest **declined** by 30 per cent.”

Sierra Club BC has estimated the impact of one year’s worth of old growth logging on our climate. In our 2013 report *Carbon at Risk*, we found that one year of old growth logging on Vancouver Island alone essentially eliminated BC’s progress in reducing carbon emissions that year, releasing approximately 3 million tonnes of carbon dioxide into the atmosphere and nullifying the province’s progress in reducing annual emissions.

BC’s endangered old growth forests are one of our province’s best tools for fighting climate change.

The Great Bear Rainforest Agreements show that solutions are possible. The agreements met science-based conservation levels, strengthened First Nations’ rights, enabled conservation financing and forest carbon credit projects, and gave forestry companies certainty for logging under stringent standards. The reduced rate of logging is resulting in 600,000 tonnes of carbon emission reductions annually, benefitting the region’s First Nations with revenue from carbon credits.

New protected areas and conservation measures for Vancouver Island must respect First Nations’ rights and interests, enable a transition to sustainable second-growth forestry, reduce carbon emissions, and support diverse economic activities such as tourism. The Ahousaht Nation in Clayoquot Sound is leading the way in demonstrating alternatives. Their land use vision includes an end to industrial logging in their territory.

Sierra Club BC stands ready to work with the new BC government, First Nations, the forestry sector and other environmental organizations to increase protection of endangered old growth rainforest as a key part of our response to global warming. This summer’s wildfires and hurricanes are a stark reminder that the time to act is now. Please visit www.rainforestisland.ca and join our call for action.

Jens Wieting is the forest and climate campaigner for Sierra Club BC

Tax Havens

Making tax fraud legal and the other Paris agreement



by Joyce Nelson

It's not clear whether the Bill Morneau/Tax Revolt saga that roiled the media and Parliament throughout the last half of 2017 will continue in 2018, but it looks likely.

By mid-December pundits and politicians were calling for the Finance Minister to resign over conflict of interest charges connected with his shares in Morneau Shepell (his pension management company). Moreover, the Canadian Federation of Independent Business (CFIB) was complaining about the lack of clarity in tax changes to be introduced in January.

This brouhaha all started on July 18 when the Trudeau government announced plans to close three tax loopholes available to small business owners who incorporate their businesses as personal corporations, called Canadian-Controlled Private Corporations (CCPCs) – affecting quite a few upper middle-class professionals, from doctors, lawyers, and accountants to farmers and owners of small businesses. They were not about to take this lying down.

The CFIB took up their cause and put its own spin on things, arguing that business

owners don't have the "huge" salaries and pensions enjoyed by civil servants to rely on for retirement. On September 5, the CFIB delivered a petition to Ottawa with nearly 14,700 signatures.

Interestingly, it was later revealed that the Canadian Federation of Independent Business is a client of Morneau Shepell.

There've been some funny moments in all the heated rhetoric, especially on September 19 when Trudeau faced questions about his own finances since he became party leader. He said, "I no longer have

dealings with the way our family fortune is managed,” which prompted Conservative MP Lisa Raitt to tweet: “Here’s a tip – if you want to be seen as a man of the people try not to refer to your assets as ‘my family fortune’.”

Behind all the sound and fury, something else has been going on. In order to see it, we have to look at the timeline of events. And that leads to what I call “the other Paris agreement” – not the 2015 Paris Agreement on Climate Change but another Paris agreement, one few Canadians have heard about.

Paris again

On June 7, 2017, a representative for Morneau’s Finance Department, Ginette Petitpas Taylor (at the time, the parliamentary secretary to the finance minister) went to Paris for a mass-signing ceremony. Along with representatives from 66 other countries, she was there to formally adopt something called the Multilateral Convention to Implement Tax Treaty Related Measures to Prevent Base Erosion and Profit Shifting. This is usually referred to as the BEPS Agreement or the BEPS Initiative.

Don’t let the boring name fool you. The BEPS Agreement is being touted as the first coordinated, international attempt to crack down on the trillions of dollars in corporate profits stashed away in offshore tax havens. As the official title indicates, governments across the planet have seen their tax base steadily eroded by multinational corporations shifting their profits into tax havens. Drafted by the G20 and the OECD (Organization for Economic Cooperation and Development), the BEPS Agreement is the result of several years of consultations (which are still ongoing, despite the formal signing).

Most tax experts agree that some of the biggest users of offshore tax havens are banks and the financial sector in general, along with multinational corporations engaged in resource extraction: forestry, mining, as well as the oil and gas sectors.

“Canadians for Tax Fairness estimates that between \$10 billion and \$15 billion per year in Canadian taxes goes uncollected due to tax havens. This amount would be enough to fund Pharmacare, universal childcare, free university tuition, and infrastructure improvements in First Nations communities all at the same time.”

These havens are a huge issue, especially for Canada. A tiny NGO called Canadians for Tax Fairness, led by the intrepid Dennis Howlett, says that multinational corporations and the wealthiest Canadians are sending well over \$250 billion per year to offshore havens to avoid paying taxes on it in Canada.

When the Panama Papers were leaked in April 2016 as anger about tax unfairness was rising worldwide, Bill Morneau told the press that Canada would become “a really strong voice” on the offshore tax haven issue, while PM Trudeau said, “It’s certainly something we will be working on together as a community of nations” – apparently a reference to the forthcoming BEPS Agreement.

In signing the Agreement on June 7, 2017, Ginette Petitpas Taylor (now federal min-

ister of health) announced that this puts Canada “at the forefront of global action to improve international tax rules, and work towards a more fair and transparent tax system.”

There’s only one problem (or several). According to tax experts, the BEPS Agreement has major weaknesses and enough loopholes to drive a fleet of Ferraris through. As well, the BEPS Agreement doesn’t affect Canada’s Tax Information Exchange Agreements (TIEAs), which were introduced and signed by the Harper government and (as we shall see) are unique, to say the least.

The OECD’s tax policy director had already acknowledged in 2016 that Canada’s TIEAs had caused a massive uptick in Canadian money flowing into tax havens, and he told the CBC that “we are dealing with” the issue in negotiations. But apparently, nothing was changed.

Before the BEPS Agreement was formally signed, an independent organization called the BEPS Monitoring Group issued a statement saying that the Agreement “fell short of providing a comprehensive and cohesive approach to reform of international tax laws.”

While most corporate media outlets in Canada simply ignored the BEPS Agreement signing ceremony of June 7, the *Toronto Star* (to its credit) published a critical article on June 8. Written by Marco Chown Oved, the article pointed out that Canada leads the world in the number of tax treaties and agreements that allow multinational corporations to escape the taxman. Oved interviewed tax authorities who said the BEPS Agreement is vaguely worded and has so many loopholes that nothing much will change, especially for Canada.

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Apparently, the so-called “community of nations” has come up with a tepid agreement.

Even more important, Canada has gamed the system in favour of corporate tax cheats.

Those TIEAs

The *Watershed Sentinel* (November-December 2011) was one of the first Canadian media outlets to blow the whistle on Canada’s TIEAs, noting that the “new TIEAs are being touted as a means for more ‘transparency’ about tax avoidance, but there is little to justify this claim ... with the new TIEAs, a corporation can repatriate those offshore profits tax-free, leaving no trace of the deferred taxes.”

This is how it works: a corporation makes its profits in Canada but can set up subsidiaries in a tax haven (usually nothing more than a PO box). The corporation can shift its profits to the tax haven (where it pays no or low taxes) and keep its losses in Canada (where they are tax deductible). The corporation can then repatriate the profits (without being taxed) as dividends for shareholders, mergers and acquisitions, share buy-backs, fat bonuses and salaries, etc.

As I wrote in 2011, tax havens are a way to “starve the beast” of government, in order to foster privatization and deregulation. What I didn’t know at the time was that the Harper government had actually changed the tax code to facilitate this tax avoidance and repatriation of profits tax-free.

That fact didn’t come out until 2015, when Alain Deneault, a Canadian expert on tax havens and the author of two books about the issue, wrote that Canada had “made a travesty” of TIEAs (created

by the OECD) by adding “a provision of its own” through “section 5907 (11) of Canada’s Income Tax Regulations.”

Deneault noted that this “new loophole” created by a tax code change was endorsed by a 2008 federal advisory panel which “included an ex-chairman of the board of the Royal Bank of Canada and an ex-CEO of SNC Lavalin Group, a retired Scotiabank executive who was a director of Barrick Gold and Rogers, an international tax expert from Pricewaterhouse Coopers, and a retired Shell Canada executive.”

As Deneault bluntly put it, “While claiming to fight tax fraud, Ottawa legalizes its every aspect. At the same time, its honour is untarnished in that it actively looks for TIEAs to sign and can therefore boast of being part of the international initiative instigated by the OECD. Fighting tax fraud by making it legal: this is truly Orwellian.”

As far as I can determine, no other country has this arrangement.

Both the CBC and the *Toronto Star* reported this Orwellian situation in 2016 and stated that the Trudeau Liberals had done nothing to change it. In June 2017, the day after Ginette Petitpas Taylor signed the other Paris agreement, the *Toronto Star* again raised the issue.

I suspect that the Liberal government, which had said that Canada would be “a really strong voice” on the offshore tax haven issue, felt there might be a need to distract attention from the matter, before the whole issue of tax havens could further galvanize Canadian taxpayers.

What better way to distract attention than to get Dr. Joe Blow Incorporated fighting with Dr. Jane Doe Unincorporated about

income tax? Six weeks after the BEPS Agreement was signed on June 7, Morneau’s Finance Department released the plan to remove those three tax loopholes benefitting incorporated professionals – sparking outrage throughout the summer and autumn.

Driving the narrative

Before Morneau’s alleged conflicts of interest became an issue in mid-October, the pundits had a field day. For example, *The Globe and Mail’s* Campbell Clark wrote (September 6) that this is Morneau’s “first real fight” and he’s “eager” to take it on. “He wanted this. He wants to take on the argument that if the government does not stop the use of private corporations for personal tax advantages, Canada will have a two-tier tax system for incorporated business people and everybody else – and that gap will grow bigger over time.” As Morneau told reporters in Vancouver on September 6, “We want to make sure ... that we’re not creating an ongoing tax advantage for a privileged few.”

Such things were being said with a straight face as Morneau and Trudeau metaphorically put on their Robin Hood costumes.

During the height of the rhetoric, Conrad Black called Morneau’s tax plan “a seismic lurch to the left.” Actually, the original tax plan fits rights into the neoliberal economic agenda of shifting the tax burden further away from multinational corporations.

So what was the one thing that almost never came up? I followed the issue (in print) from mid-July to the end of October and found only three articles that referred to tax havens. In each instance it was an NDP member of Parliament that raised the offshore issue.

Various tax experts estimated that the most that would be collected per year from Morneau's original tax plan (most of it later rolled back) was about \$250 million. Meanwhile, Dennis Howlett of Canadians for Tax Fairness (CTF) was estimating in September that because of offshore tax havens, at least \$8 billion in Canadian taxes on multinational corporations goes uncollected annually.

After the November 5 release of another tax havens data-leak called the Paradise Papers, CTF revised its estimate to between \$10 billion and \$15 billion per year in Canadian tax losses due to tax havens. In their important November 2017 report entitled *Bay Street and Tax Havens: Curbing Corporate Canada's Addiction*, CTF stated that this amount would be enough to fund Pharmacare, universal childcare, free university tuition, and infrastructure improvements in First Nations communities all at the same time.

On November 8, PM Trudeau tried to quell the uproar about the Paradise Papers by telling the press, "We have done much in regards to tax avoidance and tax evasion, including working with international partners."

“Canada leads the world in the number of tax treaties and agreements that allow multinational corporations to escape the taxman.”

It's a tired old line that we've heard before.

Not only have those international partners delivered a tepid BEPS Agreement, but the Trudeau government continues (as Alain Deneault puts it) "to fight tax fraud by legalizing it."

Good news

As a *Toronto Star* editorial (November 8, 2017) noted, "The Paradise Papers are doing nothing to soothe those who worry about the unseemly intertwining of money and power in politics or about the extent to which the economy is rigged by the few against the many. The government can do something about that. It can, for instance, close unfair and ineffective tax loopholes and collect what's owed. Or it can sit back, defend the current arrangements and watch the cynicism grow."

The good news is that the BEPS Agreement is still being negotiated internationally and could be rewritten to take much stronger action against tax evasion and tax avoidance.

Similarly, the tax code changes that the Harper government added as a provision to TIEAs could be eliminated.

Both of these changes would need a loud, concerted and immediate push from the Canadian public. In other words, this is no time for either apathy or cynicism.

Joyce Nelson's latest book is *Beyond Banksters: Resisting the New Feudalism*. The sequel, *Bypassing Dystopia*, will be published by Watershed Sentinel Books in March 2018.

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Alternative Futures

in communal actions

Mutual Aid

In the 18th century, Peter Kropotkin, the Russian scientist and philosopher, posited mutual aid as the driving force of evolution, and he wasn't far wrong. It is by working together and cooperating that human beings have become the semi-sapient species we are.

From food co-ops to a myriad cooperative housing arrangements, from credit unions to worker-owned enterprises, we see this cooperation all around us. In this feature section we look at a few examples of what may be our best path to a sustainable future.

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A New Story

The birth of a new cooperative economy

by Guy Dauncey

**They say we are self-interested, we're always out to win.
Always individualistic, though it used to be a sin.
They say we need free markets, the better to compete,
and the economy will flourish if we only think of greed.**

This is economics 101, the way it's taught today. Not a word about nature, community, caring, sharing, or cooperation.

During the mid-19th century, when the attitudes of the Enlightenment worked hand-in-hand with science, democracy, education, literacy, public healthcare, labour unions, technological breakthroughs, banking, and the power of fossil fuels to generate rapid economic growth, it certainly seemed that after ten thousand years of economic stagnation, the competitive pursuit of profit was improving life for all.

In the 1760s it took eighteen hours of human labour to transform a pound of cotton into cloth. By the 1860s it took one and a half hours. Today, it probably takes five seconds.

As we approach the mid 21st century, however, we look with dismay at how the single-minded pursuit of profit is destroying nature, wounding the atmosphere, shattering communities and causing increasing loneliness amid an over-abundance of ever-cheaper goods. The old economic story that competitive profit-seeking in a free market would solve all our problems by generating economic growth has shed its coat to reveal a Gothic horror story offering nothing but misery, death and collapse. We are long overdue to toss it in the recycling, and build ourselves a new story.

The new story starts with syntropy, the incredible anti-entropic process that causes all forms of existence to cooperate with others within their empathic reach to increase their organizational capacity and reach, from atoms and molecules to the first living organisms. Syntropy generates Nature, and after several billion years it generated humans, not as selfish individualistic profit-seekers but as the most cooperative, altruistic species that has ever lived.

Are you a full or a conditional altruist?

Scientifically applied game theory demonstrates that a quarter of us tend to be selfish and self-interested; a quarter are fully altruistic; and half are conditionally altruistic, preferring to cooperate with others on condition that others do the same and the social rule-breakers are punished.

This behavioral preference has arisen because of the evolutionary effectiveness of altruistic cooperation within groups seeking food and facing conflict, and presumably also because being kind and cooperative brings friendship and companionship, while being a selfish jerk does not.

Recall the last time you stood in a queue. Someone barges in front of you. Do you feel indignant and want to call out that it's unfair? This is how conditional altruists respond. Do you take a kindly attitude and assume the person has a good reason for queue jumping? This is how full altruists respond. Or are you perhaps a queue-jumper yourself, believing in your need to be at the front? This is how the self-interested respond.

When social and economic conditions are secure, the conditional altruists align with the full altruists and together they nurture a cooperative way of living that tends towards kindness. When people are insecure, however, when they experience fear and hurt, some conditional altruists align with the self-interested, especially when they promise to end their miseries by blaming and persecuting others, be they Jews, Muslims, Yazidis, Rohingyas, Blacks, bankers or rich elites.

This adds urgency to the search for a new story and a new model for our future economy. What makes the task easy is that it has been hiding in plain sight ever since Robert Owen and the Rochdale Pioneers formalized the workers' cooperative movement in 1844, and Henry Schulze-Delitzsch developed the first credit union in Germany in 1852.

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The new story

The new story is simple. It tells us that most humans like to live cooperatively, a preference we developed during our hunter-gatherer past. When we started farming, the competition over land for cultivation and grazing caused conflict and war, bringing warriors, warlords, kings and feudal dynasties, and later industrial capitalists and bankers, under whose rules and on whose land we were obliged to live.

Worker Co-ops and Cooperative Banks Perform Better

In Europe, during and after the 2008 financial crash, cooperative banks outperformed investor-owned banks. From 2007 to 2010 their assets grew by 10%, and their customers and reserves grew by 14%. Only 7% of the co-op banks suffered losses, and no bailouts were needed. Between 2003-2010 their average annual returns were 7.5%, compared to 5.7% for investor-owned banks.

—www.ilo.org/global/about-the-ilo/newsroom/news/WCMS_210300/lang--en/index.htm

When Spain's economy collapsed following the 2008 crash and unemployment rose to 26%, nobody in the Mondragon network of 100 cooperatives lost their job. Instead, the worker-owners forsook their dividends and took an average 5% reduction in income. When one small co-op did have to close, its workers were absorbed by other co-ops.

—www.theguardian.com/world/2013/mar/07/mondragon-spains-giant-co-operative

Our inner selves whisper that life could be better, however, and whenever the opportunity arises we rise up and attempt to build a better world. Step-by-step, we have learnt how to shape conditional altruism into economic and financial institutions that work.

What is the new cooperative economy?

So what is this new cooperative economy? It is big and small, varied and diverse, and it's happening all over the world.

It is happening in a small town such as Hardwick

in northeast Vermont, where farmers and foodies are working together to build a local food economy, growing not just food but also affection, community and a network of mutual support. It's happening in farmers' markets where people prefer locally grown food and conversation to the soulless supermarket aisle.

It is happening in consumer cooperatives such as the Seikatsu Club Consumer Cooperative in Japan, whose 300,000 members share the distribution of safe, healthy affordable products and meet together in small 'hans' to support each other with child-care, food education and business activities.

It is happening in the village of Hudswell in England's Yorkshire Dales, whose villagers refused to accept it when their local pub the George and Dragon was forced to closed following the 2008 financial crash. They chose instead to buy it and run it as a community-owned cooperative – one of seven thousand cooperatives in the UK.

It's happening on Vancouver Island where the nine worker-owners of the Viridian Energy Cooperative are busy installing solar panels, sharing their income and decision-making. It is happening in Austin Texas, where taxi drivers responded to the greed of company owners and the dishonesty of Uber by forming the ATX taxi cooperative.

It has been happening since 1955 in Mondragon, Spain, where seventy thousand people work in a network of a hundred cooperatives, owning their own businesses, banks, university and welfare system.

It is happening in banks that have changed their core motivation, such as Vancity in BC and the Triodos Bank in Europe, which has no shareholders, is owned by a trust, lends the savings of

its customers to regenerative enterprises that benefit people and the environment, whose management team is 40% women, and which had thirteen billion euros under management in 2015 and a net profit after taxes of twenty-nine million euros.

It is happening in the Emilia-Romagna region of Italy (south of Venice, north of Florence), where seven thousand cooperatives and a host of privately owned businesses have worked cooperatively in partnership



with local governments to build one of Italy's happiest and most successful regions.

It is happening in Bologna, where thousands of health and social service workers meet people's need for care and loving attention through hundreds of social service cooperatives.

It is happening in New York's Rolling Jubilee, whose people have raised funds to abolish \$14 million of medical debts for pennies on the dollar and bought and abolished \$13 million of student debt, freeing ten thousand students from their burden.

It is happening in the non-profit sharing economy, such as Victoria's Tool Library and Car-Share Cooperative (Modo), and among the 800 members of the Lyttleton Time Bank in Canterbury New Zealand who have shared 11,000 time exchanges.

It is happening in housing co-ops, community land trusts, shared communal houses, ecovillages, cohousing projects, and myriad non-profit housing initiatives.

It is happening in non-corrupted democracies where money no longer fuels the hubris and greed of billionaires and where governments govern in a more participatory manner, as they strive to do in Norway, Iceland, Sweden and New Zealand, the world's strongest democracies.

It is happening in 2,358 B Corporations, including 200 in Canada and 38 in Vancouver, which use the power of business to solve social and environmental problems as well as generating a necessary profit.

It is happening wherever people are farming ecologically, generating energy renewably, tackling the climate crisis, protecting wetlands, creeks and rivers, and protecting and regenerating Nature's ecosystems and her amazing brilliance.

It is happening in European nations where workers have decision-making seats on the company board, varying from every company with 25 or more employees in Sweden to every company with 1,000 or more workers in France.

It is happening in communities such as San Francisco, which is close to achieving zero waste by 2020, and Amsterdam, which is working to create a circular economy.

Until about ten years ago it was happening in Germany, where the central bank used credit guidance to target the bank's mon-

Step-by-step, we have learnt how to shape conditional altruism into economic and financial institutions that work.

ey-creation powers for productive purposes, rather than to serve the interests of bankers, asset-holders and shareholders.

And it is happening every day whenever people are kind to each other, including strangers and people with different incomes, different colored skins, different religions, different abilities, different mental struggles and different sexual orientations.

I could go on, but this should be sufficient. Once you know where to look, the evidence is everywhere. Our task now is to tell this story, and to convert it in a coherent political and economic platform, so that governments can embrace the vision and set their sights on making it happen.

Guy Dauncey is the author of the novel *Journey to the Future: A Better World is Possible*. (www.journeytothefuture.ca). He is currently researching his next book *The Economics of Kindness: Fifty Ways to Build a New Cooperative Economy*. He lives in Yellow Point, near Ladysmith.

References will be included in the online version of this piece at www.watershedsentinel.ca

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Group Rights

Mayan women push the envelope on collective intellectual property rights to safeguard their cultural heritage

by Claire Gilmore

In November 2017, the Constitutional Court of Guatemala ruled in favour of the National Movement of Maya Weavers for a second time. The court is now demanding that Guatemala's Congress "deliver a national law that protects the collective intellectual property of indigenous weaving designs, recognized as creations of Indigenous peoples."

The movement in defense of indigenous weavings emerged in May 2016 and is being led by the Women's Association for Development of Sacatepequez (AFED-ES), with the support of 30 weaving co-operatives from 18 linguistic communities. The weavers are making a bold move in response to the theft of their designs by transnational corporations in declaring themselves a collective and calling for changes to Guatemalan law that would afford them such legal recognition. They state in their collectively written declaration *Textiles are the Books that the Colony was Not Able to Burn*:

"Faced with the problems of racism, devaluation, plagiarism, theft, and the appropriation of our creations as indigenous people.... Our movement demands that the government protect collective intellectual property rights over our textiles and Mayan apparel, which are vulnerable to appropriation, commodification, and inappropriate uses that violate our community standards and spiritual values.

"We know that our traditional shirts (guipiles) and all the items with which we clothe ourselves, regardless of the indigenous nation that created them, are collectively owned and we must protect this form of authorship."

In November 2016, the Weavers Movement introduced Bill N. 5247 which seeks to reform five legal articles on the *Law on Copyright and Related Rights*, the *Law on Industrial Property*, the *Law on Protection and Development of Crafts* and the Criminal Code.

As reported by *Intercontinental Cry* in March 2017, the bill has two objectives: "First, it calls for a recognition of a definition of collective intellectual property, which is linked to the right of Indigenous Peoples to administer and manage their heritage. Second, it asks that indigenous nations be recognized as authors, in which case they would automatically benefit from intellectual property law. Recognizing indigenous nations as authors just like individuals or companies means that corporations that benefit from the export of Mayan hand-woven goods will have to pay royalties to the communities who are the authors of huipiles."

AFED-ES has pointed to the huge discrepancy between the way international markets value their traditional textiles and the poor compensation they receive for them: "At the markets we are subjected to hag-

gling that does not appropriately value our textiles, yet when they are delivered to design companies they command high prices in dollars – why is there a difference?" Meanwhile, not only are these same huipiles commanding high prices abroad and being cut up to make products such as high-end handbags, export companies are beginning to machine-make industrial guipiles.

A direct challenge to *el capitalismo*

In their declaration, AFED-ES states: "as weavers, we are claiming recognition as a collective with rights to protection under intellectual property law. We are not claiming our individual authorship because we consider ourselves part of a collective."

This claim of collective rights mirrors what is known in Canada as aboriginal title – collective ownership of traditional lands by an indigenous nation – and is emblematic of a subversive shift away from a foundational paradigm of the modern, colonial, capitalist worldview. As Jacinthe Poisson postulates in her 2015 working paper on indigenous collective property, "Claiming collective property to the land challenges the liberal conception of human rights as a bundle of rights to which only individuals are entitled." Upsetting the ideological – and legal – applecart of our entire system of ownership, and especially land owner-

ship, could have widespread implications – it’s no surprise that struggles for collective rights have met with resistance.

On the other hand, indigenous cultural norms and customary laws tend to emphasize the collective and interpret rights in that context. It’s a fundamental culture clash that can have perplexing results – for example, if a non-Indigenous author

documents indigenous legends and publishes them in a book, he or she enjoys the protection of copyright in the work and the exclusive economic rights that come with it. If the author learned of the legends from the indigenous community, publication would constitute an infringement of indigenous cultural norms but would be sanctioned by intellectual property laws.

Property is recognized as a human right in the *Universal Declaration of Human Rights*, while both the *International Covenant on Civil and Political Rights* and the *International Covenant on Economic, Social and Cultural Rights* are silent on the subject. Poisson notes “While it is undeniable that ‘property confers power,’ ... property law ‘can render relationships

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Mondragon Corporation is a Co-op

Spain's Mondragon is one massive corporation and the largest cooperative in the world, but is composed of many small cooperative and non-cooperative businesses. Of 261 businesses, 101 are cooperatives. It was established by a Catholic priest, José Maria Arizmendiarieta, in the Basque country in Spain in 1956.

Each cooperative business can have their own set of rules, as decided democratically by the membership but within the scope of the overall Mondragon principles. For example, management salaries can be capped at a multiple of workers' wages, but the actual amount can vary between cooperatives within Mondragon.

Mondragon follows the principles of cooperative identity, including those for education and research, holding 716 patents collectively. Although Mondragon started as a collection of cooperative businesses, it later found that purchasing its competition in other parts of Europe expanded its markets, and those purchased companies did not necessarily convert to the cooperative model of business. Most of the non-member workers are outside of the Basque region.

Mondragon was doing well until 2013 when some of the Fagor group of cooperatives, which manufactured household appliances, were allowed to go bankrupt and were sold.

However, the corporation fared well and provided stability through the 2008/9 financial crisis, when layoff rates in Spain skyrocketed – members voted to redistribute work and take a pay cut rather than to lay off workers.

—www.mondragon-corporation.com/en/about-us/

⇐ *Group Rights continued*

within communities either exploitative and humiliating or liberating and ennobling.' As Hernando de Soto suggests, this could largely depend on how property is defined, protected and enforced."

Indigenous peoples have been at the forefront of mobilizations to change the ways property is defined and to claim recognition of being "capable collective subjects who are identified as legitimate beneficiaries of distinct rights."¹ In recent years, progress has been made internationally towards recognition of indigenous collective rights. The UN Declaration on the Rights of Indigenous Peoples (UNDRIP) recognizes and reaffirms "that Indigenous peoples possess collective rights which are indispensable for their existence, well-being, and integral development as peoples." Article 13 of the Indigenous and Tribal Peoples Convention of the International Labour Organization (ILO) stresses that governments must respect the collective aspects of the relationship of the Indigenous people with their lands or territories. And importantly, the Inter-American Court of Human Rights has instigated a major judicial innovation

of the creation of rights i) to Indigenous communal property and ii) to collective cultural identity and juridical personality (unfortunately those standards have gone largely unnoticed by Canadian courts).

Unfortunately, governments tend to require some prodding via the legal system before they will entertain major progressive reforms. The bill put forth by AFED-ES has been called the "most accessible and the most swiftly developed legal reform to come out of Guatemala's current political context" – and now Guatemalan congress is legally bound to act on it.

AFEDES' Angelina Aspuac stated, "The recent ruling issued by the Constitutional Court, which exhorts the Congress to issue a special law that recognizes collective intellectual property rights, is only one legal step. Yet, it is a political conquest where women weavers can dignify themselves as weavers of a political fabric that passes through our hands and is reflected in the colorful güipiles."

The weavers have clearly issued, and are winning, "a challenge for the country to broaden its awareness and realize that our creations are more than just accessories or crafts," as they state in their declaration. "They are a symbol of our history, of the resistance that we have maintained over 500 years, which has naturally evolved, changed, been transformed. Nevertheless, they contain – and are – the essence of the people. They are the wisdom of men and women, which is translated into what we see. They are more than colors, more than symbols. They are evidence of Mayan survival and they speak of our relationship with the universe and our profound love for life."

Notes: [1] Ronald Niezen, *The Indigenous claim for Recognition in the International Public Sphere* (2005)



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Marinaleda

Food, housing and work for everyone through sharing

by Joyce Nelson

In 2011, Spain's severe economic crisis brought 8 million Indignados on to the streets throughout the spring and summer months. By that time, at least 400,000 families had been evicted from their homes by the bankers but under Spanish law still had to pay their mortgages.

For practical inspiration, Los Indignados have looked to a small Spanish village of about 2,700 people: Marinaleda, in the impoverished region of Andalusia. There, the mayor is a hero named Juan Manuel Sanchez Gordillo, who for almost forty years has helped the local people build an extraordinary community based in the beliefs of “Jesus Christ, Gandhi, Marx, Lenin and Che.”

There is food, housing, and work for everyone through sharing and co-operation. As Dan Hancox wrote, “The town co-operative does not distribute profits: any surplus is reinvested to create more jobs. Everyone in the co-op earns the same salary, 47 euro (40 pounds sterling) a day for six and a half hours of work: it may not sound like a lot, but it's more than double the Spanish minimum wage.” (Dan Hancox, “Spain's Communist Model Village,” *The Observer*, October 20, 2013)

In 1991, Hancox notes, Marinaleda had finally gained access to a large abandoned farm, “awarded to the village by the regional government following a decade of relentless occupations, strikes and appeals.” In addition to the olive trees and an oil-processing factory, the villagers plant many crops that can be eaten fresh, but also some that can be preserved and jarred in the village for sale: peppers, pimientos, artichokes, a variety of beans. There is some small private enterprise in the village (bars and cafes, for example), but no franchises are allowed.

Marinaleda has inspired at least one other Spanish farming co-operative, in Somonte, where hundreds of people visit and donate labour, second-hand equipment, furniture, etc. The fertile farmland was originally scheduled to be auctioned off by the government in 2012, but the Andalusian Workers' Union occupied the land, and the land was turned over to the farming co-op.



While more and more people become what the financial sector calls NINJAs – no income, no job or assets – agricultural villages like Spain's Marinaleda might be showing us an alternative, modest though it is. Think of it as a lifestyle of conspicuous non-consumption, but at least with benefits of an actual community. Apparently, that may be better than having Wall Street or Bay Street as your landlord.

These examples of resistance may seem way too humble for North Americans to contemplate, but maybe not. As Guy Dauncey has noted in his excellent article, “Canada's Housing Crisis: Eight Solutions,” published in the *Watershed Sentinel* in March 2017, “Many younger people want more than an affordable home. They also want to live sustainably with a strong sense of community. They want to build a sharing economy, with a lighter footprint on the Earth. They want to build their own ecovillages and tiny home villages.”

Excerpted from Joyce Nelson's forthcoming book, *Bypassing Dystopia*, Watershed Sentinel Books, Spring 2018.

Credit Unions

The Farmers' Bank

by Susan MacVittie

In the early stages of Canada's financial system, ordinary working people had little access to the commercially-centred banks. Organized locally according to a co-operative model, credit unions provided urgently needed savings and lending services at fair rates.

The credit union in Canada owes its beginnings, not to the high financiers of the British colonies, but to an earnest group of farmers in Prince Edward Island and Jesuit Priest, Reverend George-Antoine Belcourt.



From humble beginnings

In 1859, Father Belcourt arrived in the Acadian coastal community of Rustico, PEI. Even though the Island economy was quite strong, money was scarce and credit expensive. The few Island banks charged high interest rates, so farmers were forced to obtain credit from local merchants for supplies. This meant that they paid high prices and became indebted to the merchants almost all year round.

Father Belcourt became determined to do something to help the Acadian people become more self-sufficient. He believed that farmers needed access to loans for agricultural purposes at reasonable interest rates. The economy was strong and there was a significant lack of currency available for Islanders due to a shortage of banks. He had been corresponding regularly with the French historian, Rameau de Saint-Père, who had been keeping him up-to-date on various economic movements in Western Europe, including people's banks.

Father Belcourt used his influence to have a bill to incorporate the Farmers' Bank of Rustico introduced to the legislature of PEI in 1863. Under his guidance, the bank was organized by a group of farmers, and 350 families of the parish of Rustico succeeded in setting aside almost \$4,000 (an average of \$10 per family) for the bank. The bank operated for 30 years, producing its own bank notes and providing loans. It is now a National Historic site.

It was the first people's bank in Canada and the precursor to the credit union movement, says Scott MacDonald, author of *From Humble Beginnings*, a history of credit unions in PEI. "It was a credit union in every aspect, but the word credit union wasn't around back then."

Caisse Populaire

MacDonald explains that the Farmers' Bank inspired Alphonse Desjardins to create the first credit union, (caisse populaire), in Québec in 1900. Desjardins was editor of the *Gazette Royale* when questions on the Farmers' Bank were debated in the House of Commons. He championed the idea of cooperation to curb usury, improve conditions for the working class, and contribute to the economic development of French Canadians.

Today Desjardins Group is the largest association of credit unions in Canada with the largest regional presence in Quebec, and is well established in Ontario.

The Antigonish movement

Attempts in the 1920s to establish credit unions in English-speaking areas in Ontario and the West did not succeed.

In the 1930s, the Great Depression brought hard times to North America, including the Maritime provinces. Men were out of work and hungry, crops could not find a market, and rural communities were declining.

During these years, a movement started at St. Francis Xavier University in Antigonish, Nova Scotia and spread over the maritime provinces. Small groups of people organized study groups and learned to use the techniques of economic cooperation, which led to the formation of a credit union, a factory, and a cooperative store.

The most outstanding characteristic of the Antigonish movement was perhaps its decentralized nature – everyone learned to cooperate in groups to help each other and themselves at the same time.

In the 1930s, organizers associated themselves with the (American) Credit Union National Association and in 1932 established a credit union in Broad Cove, Nova Scotia.

Credit unions grew rapidly in Atlantic Canada in the 1930s and representatives from the Antigonish movement, Moses Coady and A.B. MacDonald, travelled beyond the Maritimes to Ontario, Saskatchewan and British Columbia where their speeches and ideas helped ignite local credit union movements. By 1939, every province in Canada had a credit union movement and a legal framework to guide it. By the early 1940s, they were being established across English Canada.

They're not banks

Credit unions are financial cooperatives. Their products, services and operations – and even their physical appearance – may resemble those of banks, but there are some major differences. The biggest ones are that they're locally owned, and invest their profits in the communities where they operate – where their members live and work. Retail customers are considered members and owners. They are democratically governed on the cooperative principle of "one member, one vote," regardless of the amount that a member has on deposit or invested in the shares of the credit union. Subject to rules adopted by members, every

Continued on Page 28 ⇨

member has the opportunity to stand for election to the board of directors and vote for candidates who are looking to become volunteer directors tasked with establishing the long-term vision of their credit union – they’re also the bosses of the CEOs.

Banks are for-profit corporations, with declared earnings paid to stockholders only. Unlike banks, credit unions are autonomous. Each one has its own brand identity, management, and board of directors, but they’re united through provincial centrals. These provide financial, technological, and trade services to their member credit unions.

Today

According to the Canadian Credit Union Association (CCUA), the national trade association for the Canadian credit union system, Canada has the highest per-capita membership in credit unions in North America. There are 623 credit unions and caisses populaires in Canada, with almost 3,000 branches. More than a third of the population is a member of at least one credit union.

For the 13th consecutive year, Canada’s credit unions were awarded the Ipsos Best Banking Awards for Customer Service Excellence and Branch Service Excellence (2017). Locally-elected boards of directors help credit unions better understand what’s important to their members and provide service that meets the need of the community. As part of their mandate to put people before profits, the money left over at the end of the year is returned to members in the form of dividends, and donated to communities in the form of donations, scholarships and

other initiatives. And when you are the largest credit union in Canada – like VanCity in Vancouver, British Columbia – which shared 30 per cent of their 2016 net profits (\$18.5 million) with members and communities – using assets to help develop healthy communities can really make a difference.

One of VanCity’s innovations is the Shared Success program that sponsors and partners with local non-profits, social enterprises, First Nations, labour groups, and cooperatives that align with their values of social justice, financial inclusion and environmental sustainability. They also have an enviroFund™ grant program that in 2017 distributed \$250,000 for sustainable local food system projects and initiatives.

Besides supporting projects in their local communities, credit unions are also involved in lending a helping hand internationally. The Co-operative Development Foundation of Canada (CDF), which nurtures credit union growth around the world, celebrated its 70th anniversary this year and officially amalgamated with its long-time partner, The Canadian Co-operative Association. The Women’s Mentorship Program, now in its 16th year, brings women leaders from foreign credit unions to Ottawa, Ontario for a week of classroom training and then job-shadow managers at credit unions across Canada. Canadian credit unions donate 44 per cent of the money CDF raises annually.

Some of Canada’s largest credit unions, including BC-based Coast Capital Savings and Ontario’s Meridian are making big plans for national expansion with an emphasis on digital and mobile banking services. Future challenges may include increased regulatory measures, such as the advisory from the federal Office of the Superintendent of Financial Institutions in July which said credit unions cannot refer to their services as “banking.” Non-banks will have until 2019 to remove the words “bank,” “banker,” and “banking” on their signage, and earlier for websites and printed material, or incur a fine. The cost across the country to make the changes is estimated to be about \$80 million.

Susan MacVittie, former managing editor of the *Watershed Sentinel*, is now WS’s east coast correspondent based in Prince Edward Island.

Credit Union Innovation

- 1931** First life insurance on loans and share savings for all members
- 1933** First payroll deduction service for deposits and loan payments
- 1959** First open mortgages
- 1960s** First financial institution to lend to women in their own name, first non-chequable savings account, first variable rate mortgage, first short-term (under 5 years) renewable mortgage, first to offer daily interest savings
- 1976** First personal line of credit
- 1977** First full-service ATM network
- 1986** First ethical mutual fund - ETHICAL Growth Fund
- 1988** First Registered Educational Savings Plan
- 1996** First fully-functional internet home banking
- 2001** First cheque imaging service
- 2002** First gay and lesbian public advertising campaign

Big Dams

The disaster of global hydroelectric development

by David Simms

Around the world, hydro dams, promoted by banks to supply industry, are disappointing in their provision for local populations. Their production is hindered by drought but their impacts on community and ecology are high.

Jim Kim, appointed by Barack Obama to the presidency of the World Bank in

2012, has left a controversial record. His support for hydroelectric development, particularly in Africa, ostensibly as a means of lifting the poorest of the poor from their plight while respecting the constraints of climate change, was described by Peter Bosshard, policy director of International Rivers as “the old idea of a silver bullet that can modernize

whole economies.” Amid the worldwide boom in hydro development, the World Bank got on board, pushing projects that “had been shunned in the 1990s, in part because they can be disruptive to communities and ecosystems.”

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Hoover Dam ©Allan

The money lenders seem undeterred by the fact that Africa is in the grips of its worst drought in 60 years. As a result of drought, the output of Kariba Dam, which provides 60 per cent of Zimbabwe's power, has dropped to one-third of its capacity, and in 2016 Reuters reported that the dam could soon lose its ability to produce electricity at all.

Drought may impair the availability of water to generate electricity but it doesn't seem to have dried up funding for these projects. The World Bank, which funds large development projects like dam construction in poor countries, acknowledges that hydropower is an increasingly risky bet for energy generation but has decided to move ahead anyway.

The Bank has now earmarked \$12 billion for the Inga 3 Dam on the Congo River, a throwback to the "good old days" of Inga 1 and Inga 2. It has also got on board with two other billion-dollar schemes on the Zambezi River. Although it has recently suspended funding for Inga 3 pending a change in government, the project is expected to move ahead. Most of the power (85%) produced by Inga 1 and 2 is used by industrial consumers, like mines, and less than 10 per cent of the population of Congo has access to electricity.

The Amazon

In South America, particularly in the Amazon Basin, the story repeats itself – all we need do is to change the names of the players and places. Break-neck hydro development associated with drought are the keywords, with one distinction: hydro development in the Amazon will have changed that region's rainforest to a net carbon emitter, rather than the carbon absorber and "lungs of the planet" it was once thought to be. The *New Scientist* points the finger at the carbon released

from rotting trees and the anaerobic decomposition of vegetable matter in the bottom of the reservoirs, which is a methane emitter.

During the 2005 drought scientists estimated the Amazon rainforest to have turned from a net absorber of about two billion tonnes of carbon dioxide to an exporter of some five billion tonnes of carbon dioxide.

The Independent reports that "Scientists have calculated that the 2010 drought was more intense than the 'one-in-100-year' drought of 2005 In 2010, the Rio Negro River, which is the biggest tributary to the Amazon, was at its lowest level since records began at the start of the 20th century, so we have independent evidence of these droughts." Brazil's 14,000 MW capacity Itaipu dam, the second largest in the world, has seen its output drop to the point where the country had to import electricity from Argentina.

Undeterred by the potential for increased climatic effects associated with its dams, Brazil's push for more dams remains unfettered, motivated as it is by the aluminum industry's massive demands for more power. After China, Brazil is the world's second largest hydropower producer. As Greenpeace sums up Brazil's approach, "the Brazilian development vision for the Amazon seems rooted in the colonial period as the region continues to be seen – and valued – only as a rich stock of untapped energy, raw material and food-basket."

China

Much has been written about hydroelectric development in China. The country now tops the list of installed capacity, but even more remarkable is its meteoric rate of expansion in hydropower. In 2015 Chi-

na had an installed capacity of 319,000 MW, up from 172,000 Mw in 2009.

Overall, the country has 80,000 dams, which have displaced at least 16 million people. This "hydro rush" may have been facilitated by a political culture inherited from the days of Mao – relocating 16 million people may have been less problematic politically than it would be elsewhere. Nevertheless, China's push to develop hydro has not been without problems. Ill-conceived dams have collapsed, killing thousands. The traditional livelihoods of fishermen and subsistence farmers have been impacted and ecosystems trashed.

China's celebrated Three Gorges Dam on the Yangtze River, the largest in the world, has a capacity of 22,500 MW – but further development could see the river produce five times as much. On the other hand, China's dams are reported to be quite inefficient, having a capacity factor of 31 per cent. This means that at times of low water flow, supplementary power is needed. Anecdotal evidence suggests that for every major dam that is constructed, another coal-fired power station is also being built to take up the slack. Drought is also hard at work in Chinese rivers. Water levels along some stretches of the Mekong River are at 50-year lows.

High on China's list of planned developments is an assault on the Tibet's holy river, the Yarlong Tsangpo, also known as the Brahmaputra. The Tsangpo begins its journey at Mount Kalaish, the holy mountain of Buddhists, Hindus, Bons and others, in far Western Tibet, before flowing East. The lower reaches of the Tsangpo have, until recently, been one of the wildest places on the planet, inhabited only by the tough Pemako hill tribes. The Tsangpo Gorge, over which hydroelectric developers have been salivating for de-

cares, has a vertical drop of 6,000 metres, triple that of the Grand Canyon. The rugged terrain and the incredible climatic zones, which vary from tropical jungle to arctic glacier within mere kilometres, have made the area inaccessible to all but the most determined adventurers.

Once it reaches the plains of India, the Brahmaputra flows through the northern state of Assam, nourishing the last pocket of wild grassland on the Indian continent before discharging its waters into the Bay of Bengal. Despite questionable soil stability in the Pemako Gorge, China has plans for a 38,000 MW plant – nearly 35 times the output of BC’s proposed Site C. If China has its way, it will also divert a portion of the Tsangpo to Northern China in order to fight desertification.

As with the hydro development in the other regions we’ve examined, China seems oblivious to environmental concerns or to the fact that drought remains a prominent feature of its assault on rivers. If the Yangtze River is a representative example, its answer will be to develop even more dams upstream, in order to try to alleviate the problems at Three Gorges.

Export-Import Bank of China

China doesn’t leave energy development at its own borders. Chinese banks now fund more projects in developing countries than those of the West. From 2007 to 2014, Chinese development banks collectively loaned \$117.5 billion to fund construction of coal-fired power plants, large hydropower dams and other energy projects in foreign countries.

Perhaps more worrisome for some, China “does much of this funding through its state-run Export-Import Bank of China, becoming the most important financier of large dams around the world,” says Peter

Drought may impair the availability of water but it doesn’t seem to have dried up funding for these projects.

Bosshard of International Rivers. China is playing the same game as the West, trying to buy favour by developing energy in other countries, to allow its companies to exploit their natural resources.

Canada


Drought and forest fires are a familiar tale along the west coast of North America, and drought is certainly impacting hydroelectric facilities in California. There’s little to suggest what effect this is having on Canadian facilities at the moment; however, following the global march to the ill-advised development of mega-dams, three Canadian provinces are now on the hook to build dams – assuring them a debt-ridden future and the possible privatization of their crown corporations: BC’s Site C dam, Manitoba’s Keeyask Generating Station and Bipole III transmission line, and Newfoundland’s Muskrat Falls Generating Station.

are part and parcel of how hydro works) which led me to make this inquiry.

BC’s miserable drought-ridden summer of 2017 injected a sense of urgency to my examination of the question. The larger question of why humanity allows its financial institutions to pursue insane investments that wreck ecosystems, displace and marginalize indigenous populations, and raise havoc with the climate, all to support financial gain and what is believed to be a desirable materialistic lifestyle, is a question I’ll leave with the reader.

David Sims is a retired math/physics teacher from Clearwater BC with interests in yoga, Nature-respecting religions, mountain sports, photography, PIC programming, electronics for off-grid application, and self-sufficient living.

What has spurred this spate of risky, unneeded development is anyone’s guess. It was my interest in the relationship between hydropower and climate change, particularly the question of self-induced drought (which I believe to be inherent in the energy transfers that



Politically Incorrect
How Canada Lost Its Way and The Simple Path Home
By Rafe Mair

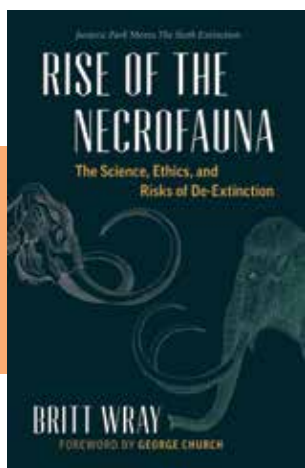
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Rise of the Necrofauna

The science, ethics, and risks of de-extinction



Rise of the Necrofauna

Greystone Press, 2017
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ISBN:
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reviewed by Heather Menzies

The idea of bringing ancient animals back from extinction while other species are fast becoming extinct – at a rate of somewhere between 11,000 and 58,000 a year – does seem strange. Still, exploring the seeming contradiction can tell us a lot about our world and the priorities running it.

Science journalist Britt Wray’s provocatively titled book on the subject of de-extinction does a good job of reviewing the science that has laid the foundations for this endeavor. One of the first breakthroughs, based on recovering organelles (which contain DNA) inside a 40-million-year old fly encased in Baltic amber, seeded writer Michael Crichton’s *Jurassic Park*. In 1983, a group of genetic researchers, including George Poinar (who, along with his wife Roberta, had recovered the organelle) gathered to found something called the Extinct DNA Study Group, and published an academic newsletter article based on their musings about finding organelles in an amber-encased mosquito that might contain dinosaur blood which could be used to reconstruct the genome of the long-extinct beast by reverse-engineering the genetic code based on the recovered DNA strands. Crichton chanced to read the article, and paid Poinar a visit.

In the 1970s, scientists learned how to both sequence genetic code and to alter the DNA molecule – ushering in the era of genetically modified food. By the 1990s, cloning had been perfected to the point of producing Dolly, the first cloned sheep. Since then, the curious phenomenon of repeating palindromic DNA sequences has been harnessed into a gene-editing tool called CRISPR (clustered, regularly interspersed short palindromic repeats) that scientists have described as possibly the biggest biochemical revolution in the last 100 years. Moreover, it’s cheap at \$30 a pop (of delivering CRISPR machinery inside of cells), so the potential number of scientists and other people using it is huge.

Wray does a good job too of introducing some key players. One of these is Ryan Phelan, a biotech entrepreneur who has created several companies including DNA Direct, which is the first company to sell genetic tests to consumers. Another figure is Phelan’s husband, Stewart Brand, “a pioneering environmentalist and technology visionary” who began publishing the *Whole Earth Catalogue* in the 1960s. In 2012, the couple founded a non-profit called Revive & Restore as a vehicle for pursuing de-extinction, and by 2013, had helped propel the idea to the centre of a TEDxDeExtinction event, plus a cover story in National Geographic. Some commercial companies are involved, like Crystal Biosciences and Dovetail Genomics. And there are individual scientists, including George Poinar’s son Hendrik

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who is boosting the “revival” of the woolly mammoth by having assembled a full genome of the long-extinct creature and making these genomes available to researchers worldwide.

In 2015, a group of Chinese researchers announced that they had edited human embryos using CRISPR, which sparked international concern about what Wray describes as “unintended purposes like eugenics.” To me, this begs the question: just what are the purposes behind this fascinating application of genetic engineering? The evidence Wray offers for it being conservation is less than compelling.

Wray talks about “frozen zoos” which bank cells and tissue samples from endangered species. As a related venture, the University of Manitoba’s Kevin Campbell has identified the specific genetic difference that allowed the woolly mammoth to carry oxygen in its blood at a lower temperature than the elephant. This has prompted researchers at Harvard to pursue the goal of introducing that gene into an elephant egg cell to produce a cold-tolerant elephant that can range farther north. Meanwhile, a Russian scientist, Sergey Zimov, is working to restore the woolly mammoth into the northern ecosystem because their hooves tramping down the snow could help keep permafrost in place.

It all seemed a stretch to me. Yet, as I read too that a South Korean biotech research company funds its work by cloning people’s dead pets for around \$100,000 US a pet, I realized that a myriad of unrelated agents and funding sources are advancing this enterprise, while a eugenics agenda quietly advances with it. Not eugenics as the Nazis practiced it – by eliminating undesirable gene pools and perfecting a master race – but in the engineering of “good genes” (which is what the word eugenics means) for individuals. In other words, survival of the fittest for those who

“Meanwhile, a Russian scientist is working toward restoring the woolly mammoth into the northern ecosystem because their hooves tramping down the snow could help keep permafrost in place.”

can afford to be most fit, especially as the living environment becomes more challenging, rather than survival of an environment that continues to be fit for most human and non-human beings.

It’s a book worth thinking about.

Heather Menzies is an award-winning magazine and book writer, an adjunct professor at Carleton University and a member of the Order of Canada. Her latest book is *Reclaiming the Commons for the Common Good*.



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3 Natural Voting Options for BC

Three types of voting systems have been recently recommended in provincial or federal electoral reform processes and so are natural options for BC to consider:

- * The Multi-Member approach recommended by the 2004 BC Citizens' Assembly on Electoral Reform
- * The Top-Up approach recommended by the 2004 Law Commission and the NDP and Green Party members of the recent federal Electoral Reform Commission (ERC)
- * The Combined Multi-Member & Top-Up approach also recommended by the NDP and Green Party members of the federal ERC

Multi-Member systems are “small region” systems in which several current ridings are grouped together and a set of MPs or MLAs elected who reflect the diversity of voters in the region.

The Single Transferable Vote (STV) variant was used at the municipal level in all four western provinces and in several major cities (Edmonton, Calgary, Winnipeg) at the provincial level until as late as the 1970s. It is presently used at all levels of government in Ireland, for the Northern Irish Parliament, in Scottish local government elections, in several Australian states, and the Senate, in some New Zealand cities, in Cambridge and Minneapolis in the USA, and most recently has been authorized for use in Ontario cities and towns.

Top-Up systems such as the Mixed Member Proportional (MMP) system typically have about 60% of the MPs or MLAs elected in single member ridings (the same way we do now), with the balance elected as “top-up” representatives to compensate for the imbalance created by the majority wins, First Past the Post nature of the riding election results.

The total number of ballots cast for candidates of each party would be added up, and then the number of seats each party deserves would be determined based on their candidates' share of the popular vote (taking into account the number of seats each party has already won at the constituency level). The regional seats would be awarded to those candidates with the most votes from each party. MMP was invented for use in Germany, and is also used now in New Zealand and in the Scottish and Welsh devolved assemblies. Canadian proponents typically rec-

ommend using “open lists,” where voters vote specifically for top-up candidates.

A combined Multi-Member + Top-Up approach is a modern-day refinement of the way voting used to happen in Manitoba and Alberta. The federal Electoral Reform Committee recommended exploring a combined approach of multi-member ridings in more urban areas and single-member ridings in more rural areas to better address Canada's unique geography. The Rural-Urban PR (RU-PR) model was proposed by Fair Voting BC and Fair Vote Canada during the federal electoral reform process. Like typical multi-member systems, it offers multi-member ridings in the more urban areas, but also allows for single member ridings in more rural areas; because of the improved proportionality that comes from the multi-member ridings, it needs a much smaller number of top-up MLAs compared with MMP (as few as 10-15% vs 40%) to ensure proportionality everywhere.

We suggested using moderate-sized multi-member ridings (in the range of 2-to-5 seats) wherever possible, and single-member ridings in the most rural locales. These would be supplemented by a few top-up seats, but many fewer than would be necessary with MMP, because the multi-member ridings would already produce a considerable degree of proportionality. We estimate that only about 10-15% of the seats would need to be set aside under the RU-PR approach (approximately one in every 7 or 8 seats), as compared with 40% using MMP.

This would mean that we could have a few single member seats in the most rural parts of the country that would be only modestly larger than the current single-member ridings. If we integrated the top-up seats into the largest multi-member ridings, it would be possible to avoid changing the existing single member rural riding boundaries at all.

The BC government is looking for input on the structure of the voting referendum. The public is invited to fill out an online questionnaire and make comments on various aspects of the electoral system, including their preferred voting system, ballot design, and the distribution of public funding for designated groups to campaign.

You can submit your opinions online until February 28, 2018 at <https://engage.gov.bc.ca/howwevote>

For more information or to volunteer contact Fair Vote BC, <https://fairvotingbc.com>

Wild Times Site C Scam

by Joe Foy

Until recently, I had been really looking forward to 2018. A new provincial government in Victoria was promising better attention to environmental protection and Indigenous peoples' rights. It felt a bit like Christmas Eve, waiting to unwrap long-anticipated gifts under the tree.

The biggest gift of all, of course, was the hoped-for cancellation of the Site C dam. Premier John Horgan had tasked the BC Utilities Commission (BCUC) with reviewing the \$8.3 billion mega-project.

I had been working alongside many others since 2010 to stop the Site C dam from drowning the beautiful Peace River Valley, and drowning the ratepayers of BC in a sea of red ink to boot. Getting to know the local farm families and the First Nations people was a real education on how much they all love their precious homeland valley and how hard they have fought to keep the Peace.

When the promised BCUC report was made public in November 2017, it re-

vealed the Site C dam as the bloated white elephant of a boondoggle many of us knew it to be. It was wildly over budget, and the BCUC found BC Hydro had consistently overestimated the need for future electricity. They questioned if the Site C dam was even needed at all.

The BCUC also found a collection of smaller wind, solar, thermal as well as conservation measures could deliver enough power, if or when it was needed, to the BC grid at an equal or lower cost.

Regarding the \$2 billion the former Liberal government had already spent, the BCUC found it could be paid off over a period of 30 years, along with remediation costs. All this is very doable in a province with a budget of over \$50 billion a year.

In a nutshell the BCUC report describes the Site C dam as a real stinker of a deal, one private investors would not have touched with a ten-foot pole. I was as sure as sure could be the premier would soon cancel the Site C dam.

When an ashen-faced Premier John Horgan announced to a gaggle of TV cameras and radio mics on December 11 that the Site C dam was going to be built, I listened in shocked disbelief.

But when the premier and later the various ministers explained how they had come to their decision, my shocked disbelief turned to pure anger. The findings of the BCUC report were clearly not the foundation of the premier's decision – not at all.

Instead, Horgan made the strange claim that the \$2 billion already spent would need to be accounted for immediately if the Site C dam were stopped – and the province would not be able to do this without extreme hardship. The only way forward, according to the premier, is to flood over 100 kilometres of the Peace River Valley at a cost of well over \$10 billion.

That would include the loss of all the valley bottom farmland, farm family generational homes, First Nations heritage and sacred sites – and my trust.

Any trust people like me have that their NDP government knows right from wrong would be drowned too. Site C dam is a scam being pushed by a few people who want to get their hands on more than \$10 billion of public funds. Stop Site C.

Joe Foy is the national campaign director for the Wilderness Committee, Canada's largest membership-based wilderness preservation organization.



Grand Chief Stewart Phillip

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