



Newsletter

Spring 2024

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EDITORIAL

This year's Annual General Meeting of the Okanagan Similkameen Parks Society is scheduled for Friday, April 26, 2024. Once again, the AGM will be an in-person event located at the Center Stage Theatre, next to the secondary school, in Summerland. The meeting, which begins at 7:00, will be followed by a 53 minute long, documentary film entitled *The Return of the Brown Bears*. This film presents a snapshot of the European Re-wilding initiative.

One of the reasons that *The Return of the Brown Bears* was chosen as the presentation for this meeting is that there are many parallels between aspects of what the Europeans are doing and what we here in British Columbia are concerned with. The film includes discussions of migratory wildlife corridors, biodiversity, species reintroduction, ecosystems, and other pertinent topics. This film provides a hopeful scenario for those wishing to employ science and compassion for the establishment of common-sense policies and realistic templates for the protection of our natural home.

Unfortunately, one, very obvious, aspect of the European conservation plan is the role of timber harvesting. Over 97% of Europe's primary (Old Growth) forests are long gone, and one would have to search very diligently to locate any trees that could be labelled as old growth. In the film however, there are still vast tracts of wooded land that can be observed. This land appears to be recognized for its value as a habitat for wildlife, species diversity, carbon sequestering, and the riches of a natural landscape. This is despite massive logging for fibre in old growth forests in Poland, among other European nations. So, as you can observe, this example can only take us so far. For more information see: <https://www.theguardian.com/environment/2022/nov/15/bear-dens-and-ancient-trees-face-onslaught-of-logging-in-poland> (cont'd...)

The Annual General Meeting of the Okanagan Similkameen Parks Society



Friday, April 26, 2024 @ 7:00

In Person

Center Stage Theatre; Summerland, B.C.
(next to the secondary school)

Featuring: *The Return of the Brown Bears*.
Business: Constitution, State of the Society, Finances, Elections

Please use the enclosed membership form on the back page to help us carry out our mission.

EDITORIAL continued...

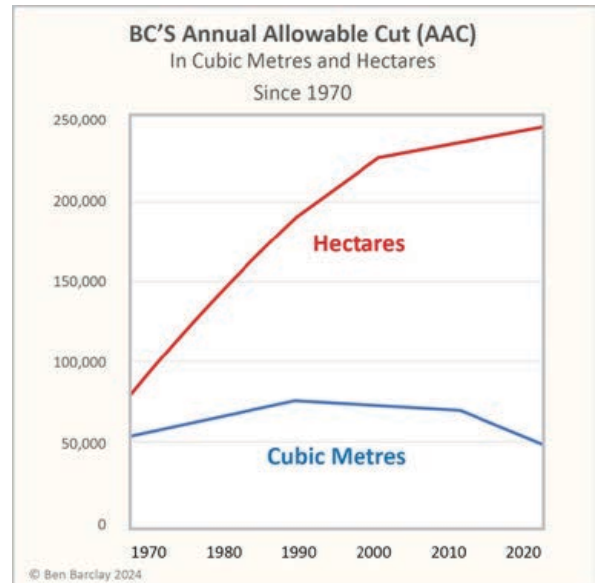
Likewise, in British Columbia the only value of our forests is far too often interpreted to be fiber that can be harvested at a profit. Little heed is paid to the ecological and social values like biodiversity habitat, atmospheric carbon sequestration, and moisture retention on the land, which protects us from extreme fires and floods, without which, it is becoming more and more apparent, we may not be able to continue to survive as a species. Biodiversity, and its role in both physical and mental health, is very important to the citizens of our province and beyond. Our predominant system of perceiving our forests ecosystems merely as a source of fibre does not support our needs in this area.

Forestry Ecologist, Ben Barclay, notes that “There is no ‘sustainable’ level of clearcutting, because clearcutting reduces the average annual living biomass per hectare by 85%, and that lost biomass no longer provides vital ecosystem services. By reducing the age of harvested trees to 40-80 years, and degrading topsoil, clearcutting also permanently reduces the value of timber land per hect-

are by 90%, according to the B.C. Truck Loggers Association.” And yet, the government claims that they are cutting “less” every year. Unfortunately, while the degraded land is yielding “less” fibre, the hectares they are cutting to get that fibre have gone from 70,000 per year in 1970, to 250,000 each and every year now, about the area of Greater Vancouver. Here is the truth.

The rate of hectares cut goes up every year because the quality of land goes down as the prime trees become more and more rare. For instance, according to Barclay, “for every 50 million cubic metres of living biomass that are killed to be put on a truck, another 450 million cubic metres of living soil and other biomass are killed and left to rot, cause fires, cost taxpayers millions in cleanup, or be burned in slashpiles.” This practice is not sustainable.

These are some of the connections that our



film, *Return of the Brown Bears*, has with the Okanagan Similkameen Park Society's values. Come on out and join in the comradery, entertainment, and educational prospects. We are working hard to protect the southern interior of B.C., it's a worthwhile vision.

FAIRY CREEK continued...

Isitt says defining what RFS is and who are considered members would be a “major issue” if the suit were to go to trial. “It seems very arbitrary,” he said. “What is the Rainforest Flying Squad? Is it anything more than a brand or a slogan?”

RFS has identified itself as “a volunteer driven, grassroots, non-violent direct action movement.” They were the main organizing group at the height of the Fairy Creek blockades, with a large social media following (they currently have over 33K followers on Instagram), where they called for public support for the movement. The group claimed ownership of the blockades and camps set up throughout 2020 and 2021. Some of the individuals named in the lawsuit were considered key organizers of RFS. But members of the group remained constantly in flux as hundreds of people came and went from the blockades. There have been groups by other names involved in blockades at Fairy Creek as well. This summer, three arrests were made when a group identifying as separate from RFS, going by *Savage Patch*, built a large owl statue to block logging-related traffic heading near Edinburgh Mountain by Port Renfrew.

OTHER CASES IN THE COURTS

Davidson was convicted this week on seven counts of criminal contempt after 20 days in court. She has argued that police had targeted her as a visibly Indigenous woman. Judge Christopher Hinkson said that while it was clear she was targeted, it was because of her repeated defiance of the injunction. Davidson continued to return to the blockades, breaching both the injunction and condition of release order after her arrests.

As a Kwakwaka'wakw woman, she became a land guardian at a young age, growing up with an understanding that protecting forests and animals on the Island is a sacred duty for her, which she argued took precedence. The crown disputed that her role as land guardian allowed her to break the injunction order. Sentencing for Davidson has not yet taken place.

Blockaders are also taking action in court against Teal-Jones—they've sued the logging company for towing cars that weren't blocking roads, saying the company had no right to remove the vehicles or demand payment for their return. They also plan to hold the RCMP accountable for their actions at the

blockades. A class action suit was filed against the RCMP in March and could include hundreds of people who say they were treated with aggressive behaviour by the C-IRG unit.

OUTLOOK ON THE FUTURE OF THE CASE

As the defendants wait for the next steps of the lawsuit, they remain optimistic that Teal-Jones' case will not hold up. Still the lawsuit hangs heavily over their heads. “It's stressful and scary to potentially be held liable for amounts that large,” said Cherry. “Most activists aren't wealthy people; those two things tend to be pretty mutually exclusive.”

But he knows conspiracy is a hard case to make and the support from followers of the movement has been comforting. “I've had quite a few people from Fairy Creek reach out to support,” said Cherry, explaining that a fundraiser was started in their name to help ease the burden of legal fees. At the time of publishing, the fundraiser reached over \$60K in donations.

Capital Daily reached out to Teal-Jones Group for comment but did not receive a response.

15 Fairy Creek land defenders sued for \$10M by Teal-Jones

Defendants say the lawsuit is meant to silence old growth activists

ROBYN BELL
January 29, 2024

Things have been quiet lately in the Fairy Creek watershed. Logging in the area has been deferred until 2025 and the injunction that prevented protesters from blocking the area expired months ago. But for those who were on the frontlines of the biggest act of civil disobedience in Canadian history, the fight rages on—this time, in the courts.

Logging company Teal-Jones Group, has ramped up its lawsuit against Fairy Creek blockaders, with 15 individuals and one company, Atleo River Air Service, named in their suit against the group, nicknamed the Rainforest Flying Squad (RFS). All 15 people named have been accused of conspiracy to cause Teal-Jones—the largest privately owned logging company in BC—losses in revenue. If the company wins, those named in the suit could be on the hook for \$10M.

WHAT THE LAWSUIT SAYS

The suit claims that the protesters “conspired to use unlawful means to conduct the blockades,” with their primary aim of protesting being to injure Teal-Jones. Acts like gathering materials for the protest, encouraging people over social media to join the movement and fundraising through sites like GoFundMe and FundRazr are listed as acts within this conspiracy. But as one of the defendants Angela Davidson, also known as Rainbow Eyes, says, their main objective was to protect the last old growth forests on the Island. “Elder [Bill] Jones has said so beautifully that it’s been a conspiracy of love—that’s the only conspiracy at play,” said Davidson, a deputy leader for the Green Party.

While the Pacheedaht and Ditidaht First Nations have officially permitted cutting in the tree-farming licensed (TFL) 46 block, which includes the Fairy Creek watershed, not every nation member is on board with the loss of old growth on their land. One of the 14 individuals listed is Elder Bill Jones, a prominent voice at Fairy Creek. Jones, a Pacheedaht elder, has vocally opposed Teal-

Jones’ cutting in the region, sending an open invitation for people to come to his land to protect the old growth in 2020. “The fact that Elder Bill Jones is a part of it just makes it that much more of a colonial circus,” said Davidson. “It’s just such an offense. We’re all looking forward to hearing what his lawyer says because it is his territory and it was under his invitation that we all went to protect the last of the old growth trees.”

As the movement grew throughout 2020 and 2021, thousands joined the blockades or showed support online, including celebrities like Mark Ruffalo and Cole Sprouse. More than 1,100 people were arrested while blockading. For the 15 accused, the singling out of their names on the lawsuit feels like an arbitrary move. “They could have chosen any of the thousands of people,” said Davidson. “But for some reason they chose this 15 and it’s unclear [why].”

Keith Cherry, who’s named in the suit, says that it seems to target people who used their names on legal documents, like the injunction appeal filed in 2021, rather than focusing on arrests. “Some of the defendants haven’t been arrested at all and hundreds and hundreds of people were arrested who aren’t named in the suit,” said Cherry. Davidson says they chose “people who are incredible speakers” to make an example of them. Cherry’s legal counsel, former Victoria city councillor Ben Isitt, says those who have been most vocally opposed to the logging in the region have been singled out. “It appears that Teal Cedar is targeting individuals who have spoken out against the provincial government’s determination to liquidate the last stands of old growth rainforest on southern Vancouver Island,” said Isitt. He says that politics are “front and centre” in this suit. “There’s certainly a power imbalance in terms of a large logging company... working closely with the provincial government on the liquidation strategy to get rid of the last stands of old forest.” He says the defendants were speaking out to hold the NDP to their 2020 election promise of deferring old growth. It’s been over three years since the NDP committed to implementing 14 recommendations in the Old Growth Strategic Review and environment organizations say none of the recommendations have been fulfilled. Further restrictions on logging have been

called for to protect endangered species in the region, like the marbled murrelet.

In November, the federal and provincial governments, along with the First Nation Leadership Council, signed a \$1B nature conservation agreement, considered one of the most significant investment plans in Canadian history. In the release, three ministers and Premier David Eby reference protection of old growth as a key focus of the agreement, with \$50M going to identification and restoration of these forests. “The public should be concerned about the attempt to silence advocates of the old growth forests of this Island,” said Isitt.

“A SILENCER”

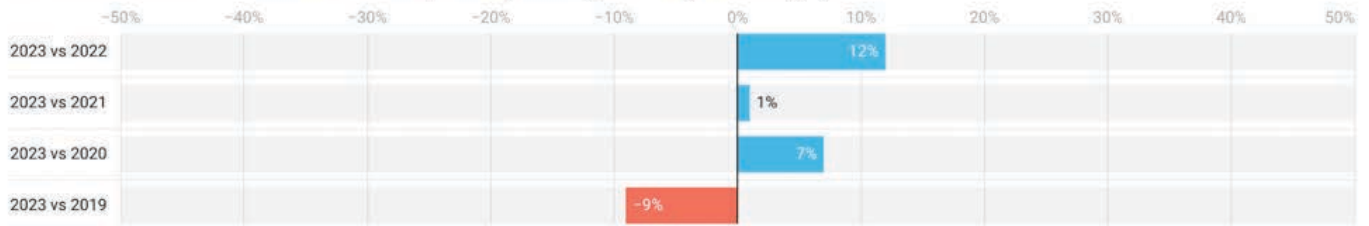
Davidson calls the lawsuit “a silencer,” explaining that “it’s used to scare us to stop us from organizing.” Cherry echoed this, saying the \$10M Teal-Jones is seeking in damages is not the main purpose of the suit. “I don’t think the intention is to actually recoup their losses,” said Cherry. “The intention of the suit is to cost us a lot of time and money and therefore deter future activists. “They want to make it punitive for people to engage in activism.” Isitt says that characterizing the lawsuit as a strategic lawsuit against public participation, or SLAPP suit, is “not inaccurate” and pursuing an anti-SLAPP motion is an avenue counsel may consider. BC has had anti-SLAPP legislation since 2019 when the Protection of Public Participation Act was introduced.

WHO IS THE RAINFOREST FLYING SQUAD?

Another point of contention is defining the Rainforest Flying Squad. Teal-Jones says they’re a highly organized group with members determined to hurt the logging company’s revenue. Protesters say it was an informal name given to the blockades, with no definition of membership. “Thinking that thousands and thousands went there, but some were members and some weren’t,” said Davidson. “They’re making the Rainforest Flying Squad into some sort of organization, but it was so free formed.” “It was just a T-shirt,” Glen Reid, another defendant, added.

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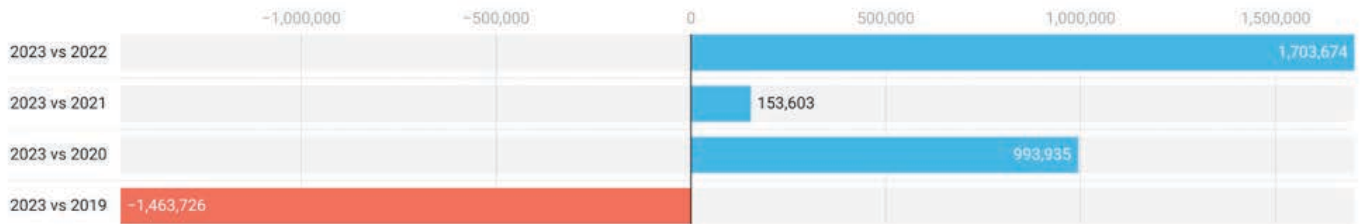
US Auto Sales – 2023 vs. 2022, 2021, 2020, 2019 (% Change)



Figures from a few brands are missing since they do not report them.
Source: Automakers, CleanTechnica • Created with Datawrapper



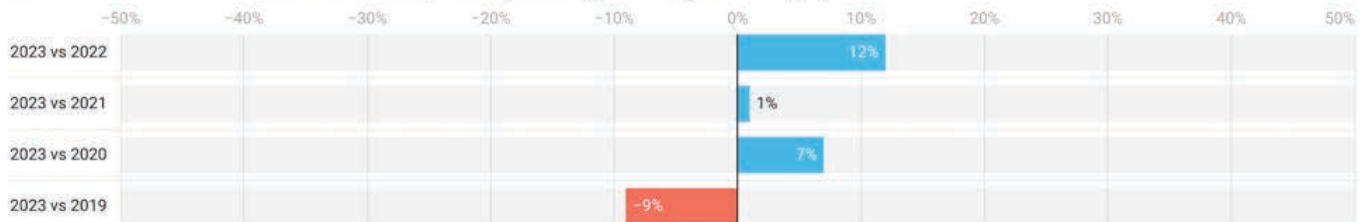
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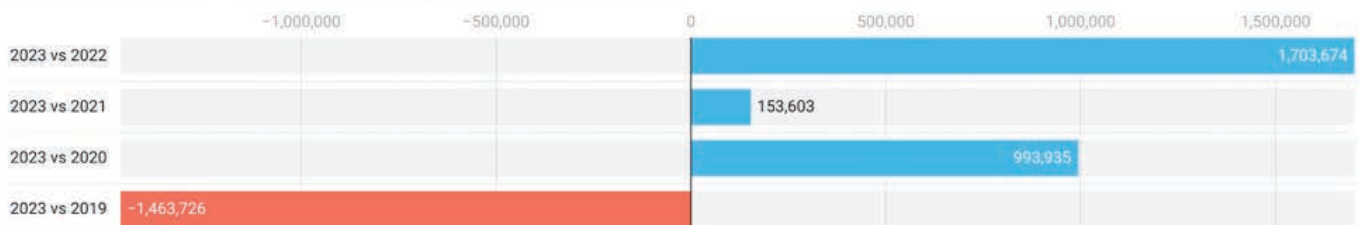
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Source: Automakers, CleanTechnica • Created with Datawrapper



Carbon Accounting for Forests

BY JULEE BOAN, JAY MALCOLM
February 7, 2024

Canada's forest carbon accounting has a problem with its ledger books. According to Canada's official greenhouse gas inventory reports, energy, transportation, and agriculture are the country's biggest emitters. Forestry, in contrast, is considered a slight carbon sink, meaning it is reported as responsible for capturing more carbon than it emits. But digging into the numbers tells a very different story.

Building on the work of Dr. Matthew Bramley, our new study published in *Frontiers in Forests and Global Change* and profiled by the CBC shows that forestry is not carbon neutral as the reporting would suggest—rather the opposite. At an average of 91 megatonnes (Mt) annually between 2005 and 2021, forestry emissions are actually much closer to those of the highest-emitting sectors in Canada (e.g., in 2021, agriculture emitted 69 Mt, electricity emitted 52 Mt, and oilsands production emitted 85 Mt).

The reason for the significant gap between what Canada reports and the results of our study is rather simple, relating to an imbalance in what emissions and removals it does—and does not—attribute to the forestry sector.

The Intergovernmental Panel on Climate Change (IPCC) allows countries, in their annual reporting, to separate out natural and human-caused removals and emissions from forests. Natural removals and emissions are those that nature causes, whether humans are involved or not. On the other hand, human-caused removals and emissions are those that are more under our control, such as the carbon forests emit after they are logged, the carbon they absorb as trees grow following logging, and the carbon that is stored, for a period of time, in wood products.

However, Canada applies inconsistent rules when it comes to forests affected by wildfires. It considers emissions from wildfires as natural, but the carbon absorbed by older forests growing after wildfire (those older than around 76 years of age) as human-caused removals. Since the forestry sector is essentially getting the credit for these—primarily—post-wildfire, older forests, there is the impression that forestry as currently practiced is not an emitter, which is wrong.

This creative accounting has a certain—albeit questionable—logic to it. Many of those forests may be covered by forest management plans, so they could be harvested in the future. However, this amounts to giving the forestry sector credit for the forests they haven't logged (yet) and may never log. The fact remains that when forests are logged, even after accounting for post-cutting forest growth and carbon stored in harvested wood products, there is a net emission of large amounts of carbon into the atmosphere.

The government's approach, which is by no means mandated by IPCC guidelines, is biased and needs to be revisited. It gives a distorted impression that current forestry practices are largely irrelevant to global warming or that they are even a (not carefully scrutinized) climate solution. Government reporting instead should be about providing transparent numbers to drive good policy.

We have at our disposal methods to reduce forestry emissions and make sure our forests actually help, to the best extent possible, in our fight against climate change.

Currently, widespread clearcut logging in Canada results in younger forests, emitting a great deal of carbon in the process and running down our carbon stores. There are better options for the climate, such as setting aside more forest areas from logging, shifting to partial harvesting in many types of forests, planning for longer rotations and producing fewer short-lived wood products. Forestry can play a role in solving the climate crisis, but only if we start by getting the numbers right.

Dr. Julee Boan has more than 20 years of experience working at the intersection of forest science and policy, primarily in the NGO sector. She joined the Natural Resources Defense Council in 2022. Dr. Jay Malcolm is a professor emeritus, forestry, at Daniels, University of Toronto. His areas of specialty include conservation biology, tropical ecology, landscape ecology, and ecological impacts of climate change.

Conservation Education Pilot Project

The Okanagan Similkameen Parks Society has been involved in a public education pilot project with some of the local grade seven classes. The OSPS has sponsored an age-appropriate presentation for each grade seven class by the Northwest Wildlife Preservation Society, a group which has presented to many lower mainland and Vancouver Island schools. The hands-on presentations include information on B.C. wildlife, habitat requirements and physical models of some of the fauna. In some cases,

the grade sevens are currently engaged with conservation projects which this project augments, while for others it is a grand starting point for ecological consciousness for the students.

Our society has also researched, constructed, and distributed a short station study (twelve individual stations) reflecting Math and Science curricular goals based on some of the local Okanagan Similkameen at-risk species. These stations can be employed in the lead up to the late April NWPS presentations or used as follow up to the presentations. In either case the learning objective is to expose students to the needs of the Okanagan Similkameen while still maintaining quality,

curricular driven learning.

We are pleased to partner with the groups responsible for this initiative, including the local schools, the NWPS, and our research biologists who brought about the station study. As this initiative is in the pilot stage, we cannot determine what will be required in the future, however stay tuned for our findings. As always, we would love to have a sponsor to assist with the financial aspects of conducting such a program if it continues in the future.

Making the Dream Happen

BY MARY TRAINER, *OSPS director*
2016

Imagine being able to walk or cycle safely along Okanagan Lake from Summerland to Penticton. Imagine the sensational views, fresh lakeside breezes and no motorized vehicles. It's a scenario that's turning into reality this spring as work begins on Phase One of the Summerland-to-Penticton portion of the Trail of the Okanagans, a potential world-class recreational pathway for the B.C. southern interior. Sometime this spring, a 1.3-kilometre paved lakeside trail alongside Highway 97 in Summerland between Lakeshore Drive on the north and Summerland RV Park on the south will open for public enjoyment.

The pathway, to be constructed by the B.C. Ministry of Transportation and Infrastructure, will be a minimum of two metres wide and wheelchair accessible. A continuous concrete barrier will separate the trail from the shoulder of the highway. Future enhancements could include interpretive signs, benches and shade trees. There are plenty of recreation and health benefits as well. Certainly, the pathway will provide new opportunities for cyclists and walkers to 'share the road' more equitably in our car-dominant culture. The level pathway may invite more people to get active, and the sheer beauty of the landscape can't help but melt away stress.

Trail users will be able to get an intimate look at the intriguing silt bluffs to the west, and views of Naramata to the east. According to naturalist Dick Cannings, you can expect to spot Red-tailed Hawks and Bald Eagles soaring over the silt bluffs any time of year. In late fall, winter and early spring, water birds such as American Coots (favourite food of the eagles), Common Loons, Horned Grebes and Buffleheads would be on the lake.

The dream of a valley-long trail originated with Summerland resident Don Gemmell,

whose superb experience cycling around Lake Constance in Europe provided the impetus for similar opportunities in the Okanagan Valley. He presented his vision to fellow Rotarians, who enthusiastically supported the project and committed \$10,000 to get it off the ground. In 2013, a group of trail enthusiasts and representatives from the Summerland Rotary Club, local governments and tourist offices met to further champion the pathway. The energy and interest at that meeting provided the momentum to form a society, and the Trail of the Okanagans Committee was born, chaired by Connie Denesiuk.

Since then, support has continued to build in Summerland, Penticton and the central Okanagan. Our society jumped on board and contributed \$5,000 to the Rotary Club's project fund. The District of Summerland allocated \$20,000 for a pathway design concept. Then, in 2014, the necessary funding to complete Phase One was announced with \$80,000 from the District of Summerland and \$420,000 from the Province of British Columbia.

Phase Two involves extending the pathway through Trout Creek to Sun-Oka Provincial Park and along the lake to Penticton. Funding and exact routing have yet to be determined. Major portions of a north-south trail are already completed between Penticton and Osoyoos. Eventually, the Trail of the Okanagans could connect communities from Sicamous to the border. The completed 'spine,' with links to other trails, such as the KVR and Trans Canada Trail, is expected to generate considerable economic benefits. Sports tourism is a key economic driver in the South Okanagan/Similkameen, and the Thompson Okanagan Tourism Association has recognized the increased popularity of cycling in its promotional strategies. With additional support from communities and down the valley, the completed Trail of the Okanagans will be a popular tourist destination and a terrific asset for residents. Look for details about the official opening of Phase One in early summer. For information about the pathway, visit the Trail of the Okanagans Facebook page.

Off-road vehicles must be registered by Nov. 1

The province's expanded rules for off-road vehicles operators will take effect Nov. 1. If you own a golf cart, dirt bike, quad, side-by-side or snowmobile, you will be required by law to plate and insure your vehicle. Failure to comply with Bill 13 Off-Road Vehicle Act could result in fine of up to \$5,000 and seizure of your vehicle.

The province recently extended the deadline for compliance from June 1. As well, it announced a sticker option will now be available for those owners who prefer this to a metal plate. "We're seeing a multitude of people coming into the branch to get their plates and insurance decals," said Linda Thompson, manager of insurance services at Valley First, a division of First West Credit Union.

The new registration system, which was introduced by the Ministry of Forests, Lands and Resources last November, is aimed at catching rogue operators and joy riders who put other in danger. Registration will also cut down on theft and the selling of stolen units. "While there is an exemption for people who operate their vehicles on private land only, any operator crossing the highway, riding on crown land—such as crossing the Kettle Valley Rail Trail—or loading and unloading their units in a parking lot will fall under the new rules," says Thompson. The combined cost of registration, plates and insurance decal is \$96 plus taxes. Owners who bought their vehicles prior to 2010 won't have to pay taxes.

To get the registration, owners will need to provide to their insurance broker a new vehicle information statement or a certificate of origin, a bill of sale and a transfer/tax form signed by the seller. In addition, pre-owned units will also require a statutory declaration to determine the continuity of ownership, which needs to be notarized by Service BC.

HERALD EXTRA
Friday, May 29, 2015

Should Canada's pension funds do more to fuel the energy transition?

A majority of Canadian pension funds analyzed in a new report have at least one director or trustee who is also the director or executive of a fossil fuel company.

Canada's largest pension funds, which hold trillions of dollars in assets combined, are trailing behind many international counterparts in the shift away from investments in fossil fuels, a new report has found.

The report, released by the advocacy group Shift Action for Pension Wealth and Planet Health, evaluated the policies of 11 of the country's largest pension managers against international best practices, as well as global targets to reduce greenhouse gas emissions. The report found that most of Canada's pension managers still lag when it comes to climate commitments. "What we're seeing is progress, which is great to see, but the pace of that progress just isn't fast enough to protect pensions and to align more broadly with climate goals," Adam Scott, executive director of the advocacy group, said in an interview.

The report cites New York City pension funds, as well as others in France and the Netherlands, as examples of how to be more transparent about investments, help fund the renewable energy sector and use shareholder resolutions to demand climate action from companies. Dutch fund PFZW recently divested its holdings in Europe's biggest oil and gas companies, saying they are not reducing emissions fast enough.

In Canada, by contrast, four of the 11 pension funds listed still do not have emissions reductions targets for both 2030 and 2050. "Entanglements" may be part of the problem, according to the report. Seven of the 11 pension funds have at least one director or trustee who is also the director or executive of a fossil fuel company, the report said.

For the second year in a row, the Caisse de dépôt et placement du Québec (CDPQ) scored highest in climate leadership among the funds analyzed. The CDPQ, which has net assets totalling \$434 billion, completely divested from oil production, refining and coal mining in 2022 and increased investments in low-carbon assets to \$47 billion, according to the report.

The biggest improvements came from the Ontario Municipal Employees Retirement System (OMERS) and the Healthcare of Ontario Pension Plan (HOOPP), which released climate strategies in 2023. The Alberta Investment Management Corporation (AIMCo), which holds \$158 billion in assets, ranked lowest for the second consecutive year. The report said AIMCo "failed again to commit to measurable goals that could align its portfolio with climate safety." AIMCo did not immediately return a request for comment. "It's our job to invest in places where we can make money for our clients, not to impose our values on our clients' money," Evan Siddall, AIMCo's CEO, told the Financial Post in December. In February, AIMCo announced a new \$1-billion fund dedicated to the energy transition

and decarbonization.

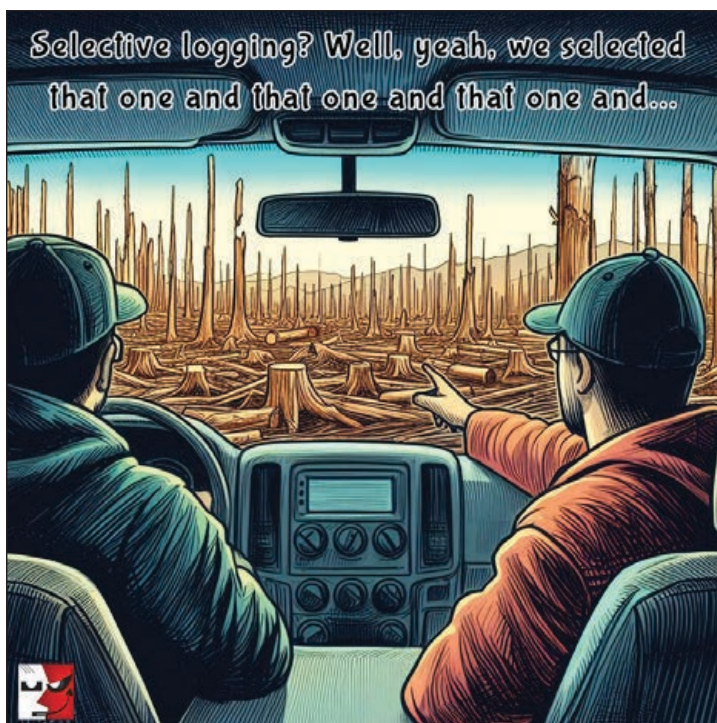
The 11 pension funds in the report collectively manage more than \$2.2 trillion in retirement savings on behalf of more than 27 million Canadians. The vast sums of money at stake have spurred debate over whether pension funds should take climate goals into consideration or whether their fiduciary duty rests solely in maximizing returns for beneficiaries. New York City municipal workers sued pension funds last year, arguing managers were placing the climate over investment returns.

Scott rejected the idea that divesting from fossil fuels could jeopardize retirement savings. He pointed to a 2023 analysis by the University of Waterloo and the environmental group Stand.earth that found six major U.S. public pension funds would have seen a higher return on their investments had they divested from fossil fuels a decade ago.

Julie Segal, who specializes in financial regulation at the advocacy group Environmental Defence, said the report shows the need for greater regulation of the financial sector so that institutions are required to set clear, measurable climate targets. "Canada is very far behind on setting those rules for the financial sector and we need climate-aligned finance policy," Segal said.

A recent World Bank report concluded that the global pension industry plays "a critical role in the transition to a low-carbon climate resilient economy" and that funds must "reinvent themselves to comply with their global presence and a definition of fiduciary duty aligned with today's challenges."

– Benjamin Shingler



How fungi can help fight climate change

Fungi are among the oldest organisms on the planet and do much more than feed us.

Neither plant nor animal, fungi are not only an important part of our ecosystem but can also play a large role in the fight against climate change. Here is one of the ways fungi help the environment and are becoming the basis for a variety of eco-friendly industries.

CARBON SEQUESTRATION

Mycorrhizal fungi are a group of fungi in

soil that form partnerships with the roots of nearly all plants. Through this partnership, the fungus receives “fixed carbon,” which is what carbon dioxide turns into during photosynthesis, and comes in the form of sugars and fats. In return, the plant gets nutrients from the soil that the fungus has better access to.

“The fungus itself isn’t a carbon store, but it does represent a lot of carbon being held in the soil at any given time,” said Katie Field, a professor of plant soil processes at the University of Sheffield in the U.K. Field said mycorrhizal fungi use the carbon for respiration and secretion, and a small proportion of it goes into long-term storage.

Research shows that this fungi receives between four and 20 per cent of total plant-fixed carbon, while the rest of the carbon stays

within the plant for energy and to make other substances. The carbon the fungi receives is the equivalent of up to 36 per cent of yearly global fossil fuel emissions, according to a recent study Field worked on. This number is like a “snapshot in time of the amount of carbon held in fungal biomass,” said Field, and a lot of it will come out of the soil again, so it’s not a long-term storage solution.

A lot of climate models used to determine emissions reduction goals don’t include fungal carbon, said Field. She also said the agriculture industry should think about how to optimize conditions for fungi to grow in order to increase the amount of carbon held in the soil. “It’s only really now we’re starting to get this sort of appreciation on the global scale of how important [fungi] are, and I think that’s quite exciting,” said Field.

Mycorrhizal mycelium as a global carbon pool

Heidi-Jayne Hawkins; Rachael I.M. Cargill; Michael E. Van Nuland; Merlin Sheldrake; Nadejda A. Soudzilovskaia; E.Toby Kiers

For more than 400 million years, mycorrhizal fungi and plants have formed partnerships that are crucial to the emergence and functioning of global ecosystems. The importance of these symbiotic fungi for plant nutrition is well established. However, the role of mycorrhizal fungi in transporting carbon into soil systems on a

global scale remains under-explored. This is surprising given that ~75% of terrestrial carbon is stored belowground and mycorrhizal fungi are stationed at a key entry point of carbon into soil food webs. Here, we analyze nearly 200 datasets to provide the first global quantitative estimates of carbon allocation from plants to the mycelium of mycorrhizal fungi. We estimate that global plant communities allocate 3.93 Gt CO₂e per year to arbuscular mycorrhizal fungi, 9.07 Gt CO₂e per year to ectomycorrhizal fungi, and 0.12 Gt CO₂e per year to ericoid mycorrhizal fungi. Based on this estimate, 13.12 Gt of CO₂e fixed by terrestrial plants is, at least temporarily, allocated to the underground mycelium of mycorrhizal fungi per year, equating to ~36%

of current annual CO₂ emissions from fossil fuels. We explore the mechanisms by which mycorrhizal fungi affect soil carbon pools and identify approaches to increase our understanding of global carbon fluxes via plant-fungal pathways. Our estimates, although based on the best available evidence, are imperfect and should be interpreted with caution. Nonetheless, our estimations are conservative, and we argue that this work confirms the significant contribution made by mycorrhizal associations to global carbon dynamics. Our findings should motivate their inclusion both within global climate and carbon cycling models, and within conservation policy and practice.

Quote:

“The greatest threat to our planet is the belief that someone else will save it.”

Robert Swan

TREVOR HANCOCK:

Is B.C. about to radically transform governance?

If a draft framework is adopted, the B.C. government would commit to the conservation and management of ecosystem health and biodiversity as an overarching priority

As far back as 1964, Paul Sears, an eminent American ecologist and former chair of the graduate program in Conservation at Yale University, described ecology as “a subversive subject” and asked “if taken seriously as an instrument for the long-run welfare of mankind, would it endanger the assumptions and practices accepted by modern societies, whatever their doctrinal commitments.”

Several years later, Murray Bookchin, who developed the concept of social ecology, suggested the true subversiveness of ecology is seen when it is applied to the cultural, social, political and economic situation of humankind as human ecology, for then “ecology is intrinsically a critical science — in fact critical on a scale that most radical systems of political economy failed to attain.”

That, of course, is why Green politics is so threatening to the established order. It simply does not accept the “givens” — the core values — of modern society: the primacy of the economy, the belief in perpetual growth and the accumulation of more and more “stuff,” humanity’s domination of and separation from nature, the valuing of the “wants” of the individual over the greater needs of the community, and all that follow from those core beliefs.

But what if we changed our core beliefs? What if we believed:

- Humans do not dominate but are entirely dependent upon nature, of which they are but one small part?
- Perpetual economic growth on a finite planet is, as Kenneth Boulding, a former president of the American Economic Association, suggested way back in 1973, something only a madman or an economist would believe in?
- We can’t have all our selfish wants met, but have to recognize we are part of a com-

munity where everyone’s basic needs must be met first?

- The source of happiness is not to be found in the accumulation of even more stuff, that enough is indeed enough?

It seems something is afoot in the body politic and the halls of government, something that might challenge those core beliefs and subvert the assumptions and practices accepted by modern societies: ecology. Taken seriously and applied to our society, it challenges our current system, which we can see has created massive and rapid global ecological change and high levels of inequality.

Slowly, haltingly, governments and international organizations, including the United Nations, have been groping toward these new core beliefs and values. And now we may be seeing it in B.C., with the publication of the draft B.C. Biodiversity and Ecosystem Health Framework, public comment on which just closed. It is, if taken seriously and implemented, an astonishing document with dramatic implications for government, and for that matter the governance of society and communities as a whole.

The draft framework is commendably clear: If it’s adopted, the B.C. government would commit “to the conservation and management of ecosystem health and biodiversity as an overarching priority and will formalize this priority through legislation and other enabling tools that apply to ... all sectors.” An overarching priority, note, and one to be applied to all sectors, not just natural ecosystem and resource management. The draft framework then lists the sectors it would be applied to: forestry, agriculture, fisheries and aquaculture, energy and mines, oil and gas, tourism, recreation, transportation and housing” (I would add urban development and infrastructure), as well as “other sectors that benefit from biodiversity ... including health, finance, education, research, training, and

innovation.”

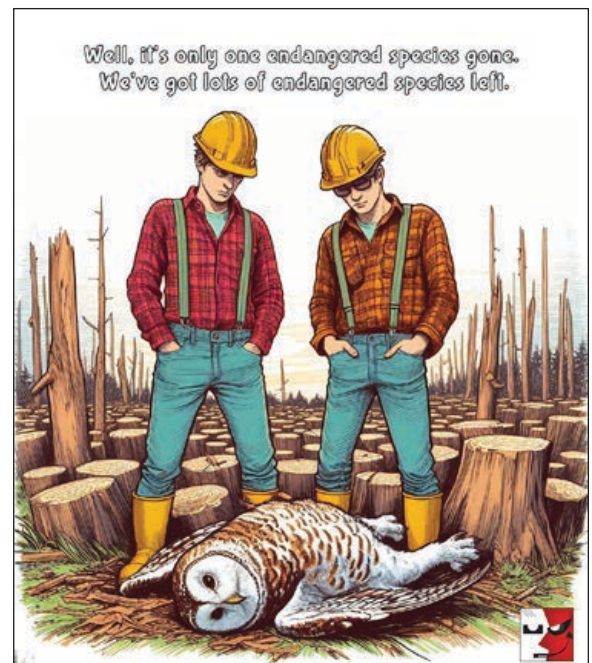
In his opening message, Minister of Water, Land and Resource Stewardship Nathan Cullen notes: “Healthy ecosystems and biodiversity are not only essential for our individual health and wellbeing, but they also ensure that ecosystems, economies, and communities throughout B.C. can flourish.” So if we add “equitable human wellbeing” as an overarching priority, we have the two key overarching priorities that will make B.C. a Wellbeing Society. Note in particular that the finance sector is included; we can’t have a Wellbeing Society without a budget focused on human, social and ecological wellbeing.

Note also that the framework recognizes that “changing our ways ... is complex and challenging and requires all government bodies at all levels to be actively involved” — so this is also about municipal governments, school boards, health authorities and so on.

Could B.C. be about to radically transform governance?

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The World Is Losing Migratory Species at Alarming Rates

A first of its kind U.N. study by conservation scientists finds nearly half of internationally protected migratory species are on their way to extinction.

By Katie Surma Reporter, Pittsburgh, February 12, 2024

Katie Surma is a reporter at Inside Climate News focusing on international environmental law and justice. Before joining ICN, she practiced law, specializing in commercial litigation. She also wrote for a number of publications and her stories have appeared in the Washington Post, USA Today, Chicago Tribune, Seattle Times and The Associated Press, among others. Katie has a master's degree in investigative journalism from Arizona State University's Walter Cronkite School of Journalism, an LLM in international rule of law and security from ASU's Sandra Day O'Connor College of Law, a J.D. from Duquesne University, and was a History of Art and Architecture major at the University of Pittsburgh. Katie lives in Pittsburgh, Pennsylvania, with her husband, Jim Crowell.

Humans are driving migratory animals—sea turtles, chimpanzees, lions and penguins, among dozens of other species—towards extinction, according to the most comprehensive assessment of migratory species ever carried out. The State of the World's Migratory Species, a first of its kind report compiled by conservation scientists under the auspices of

the U.N. Environment Programme's World Conservation Monitoring Centre, found population decline, a precursor to extinction, in nearly half of the roughly 1,200 species listed under the Convention on Migratory Species (CMS), a 1979 treaty aimed at conserving species that move across international borders.

The report's findings dovetail with those of another authoritative U.N. assessment, the 2019 Global Assessment Report on Biodiversity and Ecosystem Services, that found around 1 million of Earth's 8 million species are at risk of extinction due to human activity. Since the 1970s, global biodiversity, the variation of life on Earth, has declined by a whopping 70 percent. Migratory species face unique and heightened risks because they rely on connectivity among multiple ecosystems spanning national borders and because their predictable migration patterns make them vulnerable to poachers. The State of the World's Migratory Species, released Monday, found that one in five species on the CMS list is threatened with extinction—and for listed fish, that number is a stark 97 percent.

The report's authors say the numbers could be even more dire because the CMS treaty, also known as the Bonn Convention, covers only about a quarter of the world's known migratory species—mammals, birds, reptiles, fish and one insect (the monarch butterfly). To be listed on one of the treaty's two appendices, the 133 state parties must agree on the listing, and the species must generally either be endan-

gered or have an "unfavorable conservation status." The report found that an additional 399 migratory species not covered by the treaty, including carp fish, ground sharks and petrels, also have declining populations and would benefit from CMS treaty protections.

Amy Fraenkel, executive secretary of CMS, called the report's findings "startling" and pointed to the myriad of ways that humans and non-human parts of nature depend on migratory species. As they make their way around the planet, migratory species contribute to the complex web of life on Earth by distributing seeds and nutrients, pollinating plants and controlling other species' populations. Their loss can change the entire ecology of the ecosystems they inhabit. They also provide human communities with sources of food and income, contribute to overall ecosystem health and provide spiritual and aesthetic value. Fruit bats, for instance, pollinate flowers and disperse seeds, helping cashew, passionfruit, fig and other fruit and nut trees reproduce. The Andean condor has cultural and spiritual significance for many Indigenous peoples and helps eliminate animal carrion, reducing the risk of disease. And a range of iconic animals like the African elephant and jaguar draw tourists hoping to catch a glimpse of their splendor, supporting local economies. The report, like other authoritative assessments on Earth's biodiversity, is unequivocal about what is driving the mass loss of life: the activities of just one species—humans.