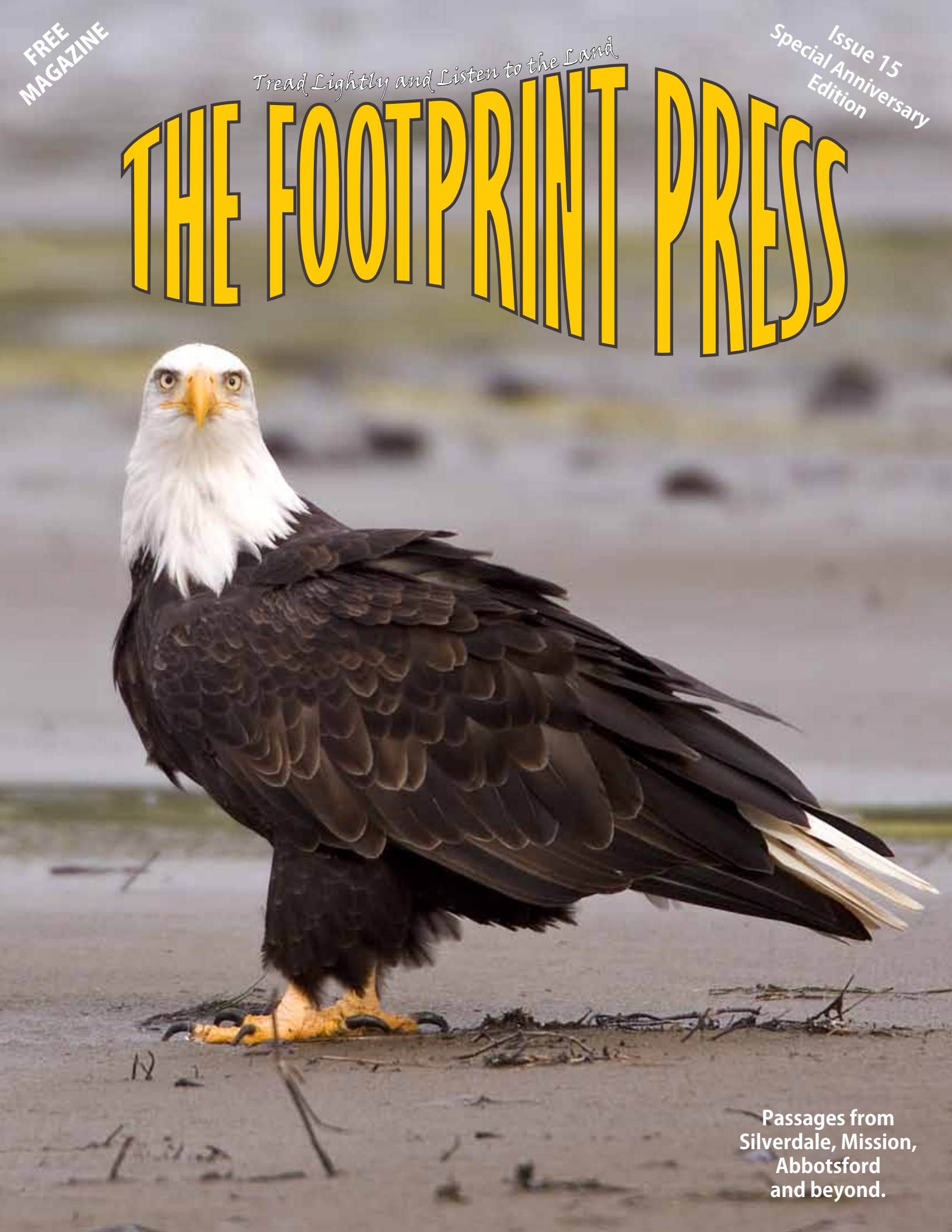
FREE MAGAZINE

Issue 15
Special Anniversary Edition

Tread Lightly and Listen to the Land

THE FOOTPRINT PRESS



Passages from Silverdale, Mission, Abbotsford and beyond.

Message from the Editorial Committee

The Fraser River flows through the body of the Fraser Valley, delivering its lifeblood of wild pacific salmon to the entire ecosystem. The salmon feed the people, area wildlife, and even the forests, which in turn purify the air we all breathe. The Fraser has bestowed her life sustaining gifts for a long, long time. Ancient creatures, both big and small, live here, and nowhere else. The microclimate and ecology of the Fraser Valley sustains the forests, the wetlands, and some of the most productive farming areas in all of Canada. Everyday, pure water, derived from the Fraser's tributaries and deep underground aquifers, flows in and out of a rich tapestry of living creatures.

When will we see how rare and precious the Fraser River is? The Fraser River is life!

Cover photo- Eagle & Salmon, Bruce Klassen, Silverdale.

Photo courtesy Hancock Wildlife Foundation

The Land that Feeds Us—the Value of Farmland in the Fraser Valley

The Fraser Valley farmlands comprise about 110,000 hectares of rich, fertile and highly productive farmlands from Delta to Hope. They are marine and floodplain soils, deposited primarily from centuries of flooding and the meandering of the Fraser River.

It is hard to imagine now, but for centuries this area was forested. Soils developed under forest are not usually that rich, as most of the humus and organic material are in a layer on top of the mineral soils. However, ever since the valley was cleared for agriculture, there has been a large number of livestock raised here. Years of grass forage production combined with manure applications from the livestock has increased the organic matter of the soil to make it very fertile indeed.

In addition to rich soils, this area also has an excellent climate with its long frost free season and moderate temperatures, making it lucrative to grow a very wide range of both field crops and crops under cover (glass greenhouses or polyhouses). For example, the low fluctuations in temperatures all year round in sunny Delta are very good for growing greenhouse tomatoes and cucumbers. Other crops such as mushrooms, including the fussy Oyster mushroom, are very productive in the Fraser Valley for the same reason. Even animals, including dairy cows thrive under these temperature conditions, allowing farmers to house them in open, light-filled airy barns where they have freedom of movement. Most importantly, the Fraser Valley has an abundance of water. Usually the annual rainfall ranges from one meter at the west end of the Valley to about one and a half meters at the eastern end. The rainfall (which most years turns to snowfall at higher elevations) feeds an abundance of streams and replenishes many highly productive aquifers. Throughout the Fraser Valley the farmers are generally able to access high quality water from either surface water or groundwater to irrigate their crops, so that even in the heat and drought of this year, with irrigation they can obtain a bountiful harvest.

It is this combination of terrific soil, climate, and water that makes the Fraser Valley unmatched in agriculture productivity by any other location in Canada. This assertion is borne out by an examination of the Statistics Canada 2011 Census for Agriculture. The Fraser Valley Regional District and the Metro Vancouver area as a whole generate $18,000 per hectare of farm receipts on average. This amounts to about 4.5% of all of Canada's Farm Gate Receipts on just 0.2% of its farmland. It is more than double the productivity of the next most intensively developed food production region, the Niagara Region in Ontario. The Fraser Valley produces a lot of food in a very small area.

The food production includes high quality milk and dairy products, and poultry meat and eggs that are grown almost entirely for British Columbians through supply management and an abundance of greenhouse vegetables and small fruits, such as blueberries, raspberries and cranberries, that are both consumed locally and also exported. Other food products commonly grown include mushrooms, sweet corn, pumpkins, broccoli, cauliflower and a wide variety of other vegetables and goat's milk to name a few. There are many food products such as "round hog"(hogs between 25-74kg), and squab (pigeons grown for meat), Chinese vegetables, hot peppers and others that are grown for niche, ethnic markets. In addition, there are a wide number of nursery products and Christmas trees grown in the Fraser Valley. All this agriculture activity contributes at least 4 billion dollars to the economy of the Fraser Valley, with over 1.8 billion dollars of economic activity in Abbotsford alone.

In spite of the vibrancy of the agriculture sector and the willingness of farmers to invest a great deal of money into their agriculture enterprises, agriculture is not a land use that takes place on "extra" land left over from other types of development. The agriculture sector is only present because agriculture is the primary land use in the Agriculture Land Reserve, which is governed under a suite of legislation connected to the Agriculture Land Commission Act, first passed in 1974. Almost all agriculture activity takes place within the Agriculture Land Reserve. According to Dr. Lenore Newman, Associate Professor, Geography and Environment, University of the Fraser Valley, if it wasn't for this legislation, which has now been in effect for 40 years, development would have consumed the Fraser Valley with irreversible urban sprawl, with the area looking much like Los Angeles does now.

The public strongly supports agriculture land use and the Agriculture Land Reserve. Ministry of Agriculture studies have shown that the public places a high value on farmland, expressing that local food production, greenspace and wildlife habitat are very important to them, and the value they place on it far exceeds what farmland can produce in products each year. The Ministry works with Local Governments and farmers through ongoing policy development to strengthen farming and enable farmers to run productive businesses in the Agriculture Land Reserve. Local Municipal Governments can take deliberate actions to enhance the ability of farmers to farm and to spur economic growth in the agriculture sector through the BC Ministry of Agriculture's Strengthening Farming Program. Those with questions or queries about agriculture can get further information through AgriService BC. www.gov.bc.ca/agriservicebc (tel 1-888-221-7141 or email agriservicebc@gov.bc.ca).

Kim Sutherland, P.Ag. MSc.
Regional Agrologist, Coastal Region, BC Ministry of Agriculture.

Concerns about the National Energy Board's flawed review of Kinder Morgan's Trans Mountain Pipeline expansion proposal

In April 2015, hundreds of people from the Kwantlen First Nation, PIPE UP Network, Salmon River Enhancement Society, and their supporters gathered together to protest Kinder Morgan's engineering survey on unceded Kwantlen territory.

The proposed $5.5 billion pipeline project from Edmonton to Burnaby would triple the diluted bitumen traveling from the tar sands across B.C, and increase the number of oil tankers in Vancouver's harbour and the Salish Sea to 35 per month from 5.

The terms "flawed" and "rigged" are being used to describe the National Energy Board (NEB): the federal regulatory board responsible for assessing the Kinder Morgan Trans Mountain Expansion Project proposal, and advising the federal Cabinet on whether the project should go forward.

There is no shortage of concerns and many suspect that the NEB hearing is not the "rigorous, thorough and fair" process that was promised. To date, the NEB panel has accepted 80% of Kinder Morgan's motions, but only 11% of intervenor motions. Kinder Morgan is allowed to ignore or provide incomplete responses to written Information. Requests and cross examination of Kinder Morgan is not permitted.

When Kinder Morgan first submitted its application in 2013, it had yet to determine the routing of major sections of the pipeline, the Human Health Risk Assessment had not been completed, and there were no emergency response plans (which the public would later learn are secret).

Although the NEB did recognize the application was incomplete and provided Kinder Morgan an extension, the deadline for intervenors to submit questions did not budge. Furthermore, there was no expectation from the NEB for Kinder Morgan to provide significant information such as safety standards, earthquake risks, and risks associated with an oil spill.

In 2014, more than 2,100 applicants tackled the tedious 11-step process to participate in the hearing process. However, more than half were rejected or downgraded from intervenor status to commenter. Among those denied were 27 climate change experts who were sent letters saying they did not have expertise relevant to direct impacts from the fossil fuels pipeline.

In May 2014, the Tsleil-Waututh Nation launched a legal challenge of the NEB's review of the Kinder Morgan Trans Mountain pipeline and tanker project, which they describe as a one-sided process that was designed without the Canadian Government's constitutional duty to consult and accommodate First Nations. The nation is saying that serious legal errors made by the federal Crown and NEB have led to a flawed and unlawful review process. If successful, the case could reset the whole NEB process. One year later, the Tsleil-Waututh Nation released the outcomes of its own independent assessment of the Kinder Morgan Trans Mountain pipeline and tanker project (TMEX), denying approval for the project to proceed in its territory based on unacceptable risks and violation of Tsleil-Waututh law.

Last year, Marc Eliesen, a former BC Hydro CEO and expert intervenor, announced his withdrawal from the Trans Mountain Pipeline Expansion Proposal hearings, adding that "this so-called public hearing process has become a farce, and this board a truly industry captured regulator." Earlier this year, economist and former ICBC president and CEO Robyn Allan, also withdrew as an expert intervenor stating that "The NEB has unconscionably betrayed Canadians through a restricted scope of issues, violated the rules of procedural fairness and natural justice, and biased its decision-making in favour of Kinder Morgan." She added that the entire National Energy Board is perpetrating a fraud on the Canadian public.

Further deficiencies have increased public criticism and led to at least 35 participants withdrawing from the process altogether.

"When Will It Be Enough?" Brandon Gabriel, Kwantlen First Nation.
6ft by 4ft on wood panel, acrylic paint (painted one week BEFORE the oil spill in English Bay).

According to the National Energy Board, it is independent and free from influence—operating at arm's length from the elected Government in Ottawa. Clearly that is not the case. The Harper government chose a Friday afternoon before a long weekend to announce that Calgary-based petroleum executive Steven Kelly would become a full-time board member of the NEB. Earlier, Kelly's consulting firm was hired by Kinder Morgan to prepare an economic analysis that justified the $5.4-billion Trans Mountain pipeline expansion.

PIPE UP Network was targeted by Kinder Morgan in an Aug. 20/15 media release for refuting Kelly's economic assumptions by referencing a report from Simon Fraser University and the Goodman Group. KM called the SFU/Goodman cost benefit analysis a "political" exercise.

However, recently the NEB announced that Kelly's criticisms have been removed from the NEB hearing and are therefore moot. But this has compounded the problem!

There have been thousands of information requests and responses regarding the risks and financial benefits. Pro-pipeline advocates have used this evidence and many opponents have responded to their submissions by Written Evidence. How does all information connected to Kelly vanish from the their deliberations? What happens to that evidence?

Terms such as "flawed" and "rigged" don't come close to describing the undemocratic way the NEB is proceeding on such an important issue.

Submitted by Lynn Perrin, on behalf of the PIPE UP Network* Communications Committee, Fraser Valley.

*PIPE UP Network represents "directly affected" people from Hope to Surrey and supporters from other areas of North America. For more information, visit us at www.pipe-up.net.

"Saturation II" Artistic Collaboration with Cody Lecoy, Roxanne Charles, and Brandon Gabriel. Panel #2 of 3. Acrylic on Canvas

Wild Mushrooms In The Pacific Northwest

As a child, I would not often be found playing race cars or construction man. More likely you'd see me in the back yard catching garter snakes or transplanting my dad's garden plants (occasionally even with permission). Admittedly, I was somewhat of a weird kid. However, my fascinations were not fixed on snakes or gardening forever. They morphed to insects, to the weather, to amphibians, to geology, and so on. The focus would shift, but every target was sighted through the same lens; the desire to relentlessly learn about, and pursue something. That something took fungal form during the exceptionally rainy spring of 2011. I was wandering a favorite woodland trail, and noticed what I would soon learn to be Pleurotus pulmonarius, a variety of the oyster mushroom, growing from the trunk of a dead alder tree. Culinary curiosity overtook me, and I began reading and comparing and smelling and spore printing until absolutely certain. I plucked up my courage, pre-heated the frying pan, and partook of the fungi! Tender, tasty, nutritious, and very plentiful- I was impressed. I wanted to know more. I wanted to eat more and more varieties. It was the beckoning of a strange and wonderful world. What could anyone do but take the plunge?

As it turns out, our beautiful pacific northwest is not only home to a vast array of fungi (as anyone who has spent any time outdoors can testify), but a vast array of edible, gourmet caliber fungi. The elegant golden chanterelle (Cantharellus formosus) can dominate low to mid elevation second growth conifer forests, most prolifically in areas with a healthy moss floor and relatively limited underbrush. They fruit in late Summer/Fall and are perfect for the novice forager given their abundance, easy identification, and resistance to mushroom munching larvae. Like many other fungi, the chanterelle forms a complex symbiotic, or mycorrhizal, relationship with a host tree and exchanges valuable nutrients like Nitrogen and Phosphorous for carbohydrates.

The king bolete is another mushroom which calls the Pacific Nothwest its home, and it certainly justifies its name. With a single specimen often weighing over a pound, Boletus edulis truly commands a regal persona. They can be identified by their sponge-like surface under the cap, reticulated pattern on the stalk, and absence of a discoloration when bruised or cut. In our region they form relationships with spruce, and prefer the higher elevation of sub-alpine forests. Watch out however, because we humans aren't the only creatures to enjoy them. Older boletes will almost always be riddled with maggots. Another edible (and easier to locate) bolete is the admirable bolete, or Boletus mirabilis. These frequent a wide range of coniferous altitudes, and (unlike most boletes) can often be found on decaying logs. Their flavor is unique for its subtle lemony undertones.

Our list of desirable fungi continues. The fascinating lobster mushroom is bright orange, firm, and seafood-esque. It is fascinating because it is not one mushroom, but two. A host, most commonly the insipid Russula brevipes, is encrusted by Hypomyces lactifluorum, a parasitic fungus. It sounds truly frightening, but the end result is far more remarkable than the original state. It should be remembered that Russula species are also mycorrhizal, and therefore we have a parasite on a host in relationship with a tree. It is a great example of the complex and interwoven way life exists around us.

With fungi everywhere, and really they are everywhere, considering the fruiting bodies is only the tip of the iceberg.

An apple tree is far more than the apples it produces. It is exactly the same way with fungi. While mushrooms are usually the most noticeable feature, the majority of the organism is an extensive (the largest recorded being 2200 acres in size) network of rhizomorphs and mycelia. As for functionality, fungi are absolutely essential to nearly every ecosystem. Parasitic fungi act as a predator, killing trees, shrubs, and even insects. Saprotrophic fungi break down dead organic material- most plant matter decay in the pacific northwest is the result of fungi. As mentioned earlier, mycorrhizal fungi benefit plants in ways they could never achieve alone. Fungal networks are exceptionally good at obtaining nitrogen, phosphorous, potassium, and water from soil, and otherwise inaccessible sources like rock, pollen, and even nematodes. Their fine, thread-like hyphae have the advantage of a massive surface area, compared with the clumsy roots of a plant. Plants are well "aware" of this fact. So much so, that more than 90% of all plant species form relationships with arbuscular mycorrhizal fungi.

Bearing the importance of fungi in mind, it is of great interest to understand the threats they face. For the most part, humans are, unfortunately, the source. We have the tendency to break up and compact soil while harvesting timber and constructing buildings. Both of these activities disrupt the ground, not only damaging the mycelium, but also creating soil conditions which are much less habitable to many fungi. In agriculture, nitrogen and phosphorous applied to the ground as fertilizer disrupt fungal nitrogen and phosphorous exchange with the crops, thus diminishing the fungi. Subsequently, the soil structure that the fungi had maintained begins to deteriorate, and bacteria populations that the fungi had kept in check begin to rise. It is only recently that researchers are beginning to realize how essential fungi are to both natural and domesticated ecosystems.

You might eat fungi. You might photograph them. You might utilize them in an agricultural practice. Whatever the case, you are not, and will never be, unaffected by them. They are the grease in the gears of life on earth. They sustain the plant and animal kingdoms. One of the most advantageous things we can do as humans is to observe these captivating organisms, gather what we can learn from them, and then gather a few of them, fry them in butter with a little white wine, and enjoy our spoils!

Matt McAllister, Abbotsford.

The chase- Olivia McAllister, Abbotsford

Fish Farms Out- Gary Haggquist, Chilliwack

Wild Salmon - Dying from Industrial Harm, Climate Change and Politics

Wild Pacific Salmon are now suffering from extreme climate change – an unusually long, hot, dry summer. This has resulted in warm rivers that proved harmful to salmon returning up river to spawn. Other grave concerns over industrial activities threatening wild salmon and its habitat include open-net pen farming of Atlantic salmon in wild Pacific salmon habitat, bitumen pipelines, plans for supertankers transporting oil along the coast, and irresponsible mining practices.

Although there are no easy solutions, there are precautionary steps and measures that can be taken with the political and corporate will. People are waking up to the need for governments to establish and rigorously apply laws and regulations that would enhance conditions for resurgence of annual wild salmon runs. Close to 110,000 people signed a petition that was hand delivered to the Provincial Legislature on May 27/15 asking Premier Christy Clark to:

"Not issue Licenses of Occupation to the salmon farms trying to expand in British Columbia. Wild Salmon are much too important to the world to risk for a dirty industry that refuses to contain its waste and pollutes our oceans."

On June 1/15, Grand Chief Stewart Phillips of the Union of BC Indian Chiefs, and chiefs from 11 Fraser River First Nations, signed a letter to Christy Clark, informing her that the Province of BC must not expand existing farms, offer new licenses of occupation, or renew fish farms without their consent (see inside back cover).

All of this has fallen on deaf ears, as the federal and provincial governments are supporting an aggressive expansion of fish farms on salmon migration routes, without the consent of River First Nations, and against the wishes of a growing number of British Columbians whose livelihoods depend on the wild salmon economy.

First Nations and other stakeholders now have to consider how to respond politically, socially, economically and legally. It is unfortunate that governments have stopped governing, and are now subservient to corporations.

On September 9, 2015, Lennie John caught Cermaq fish farms in the process of anchoring in Yaakwiis Bay, Claquot sound, near the mouth of the Atleo River, a vitally important salmon river that has been fished by the Ahousaht people since time immemorial. Lennie John told the Cermaq crew that they were trespassing, but they refused to move the farm. Lennie radioed back to the village of Ahousaht, and was soon joined by several others. A total of six men, in three boats, occupied the fish farm and made it clear they were going to stay until it was removed from their territory. The situation sparked support for their position from across BC. As the story unfolded, this direct action by the Ahousaht territorial defenders, revealed that the people had not given their consent to have this fish farm sited in their territory. In the end, the Ahousaht chiefs, on behalf of their people, negotiated with Cermaq to have the fish farm permanently removed. This direct action made history!

As others weigh their options, the Fraser Valley Farmed Salmon Boycott Alliance will continue to hold peaceful rallies in front of stores that sell net-pen farmed salmon, and encourage and promote the growth of this activity across Canada, and internationally. The rallies will focus on these messages:

Highlight the health risks of eating farmed salmon grown in net-pens due to high contamination levels of dioxins, PCBs and antibiotics.

Inform people about the health benefits of eating wild salmon, promoting them as the preferred consumer choice.

Advocate for, and promote proper labeling of salmon sold in stores that would clearly indicate whether they are: Wild Pacific Sockeye Salmon; Ocean Farmed Atlantic Salmon; or Land-Based Farmed Salmon. In no way should Ocean Farmed Salmon be labeled as "organic". It is also essential labeling include the source of farmed salmon such as Norway, Canada or Chile, and whether wild salmon were caught on the Pacific Coast of Canada, or Alaska.

Encourage and support the growth of land-based closed containment aquaculture as a sustainable alternative, making net-pen salmon farming obsolete.

Exposing net-pen farmed salmon for polluting the marine environment with toxic, untreated waste, sea lice, pathogens/viruses, insecticide used to fight parasites, and antibiotics to fight pathogens, and for killing predators that attempt to access salmon in the net-pens.

Push for a halt to fish farm expansion, for the full and transparent implementation of the Cohen Commission recommendations, and for establishing precautionary measures and regulations to protect wild salmon from industrial fish farms.

Wild salmon are essential to British Columbia, not only because they support sports, commercial and Aboriginal fisheries, but because they are an integral part of a vast ecosystem that feeds a broad range of species including bears, seals, wolves, eagles, orcas, sea lions and sea-gulls. In this time of climate change, protecting the forests is essential as they absorb carbon from the atmosphere, and release oxygen we, and other life, need to survive. Scientists have shown that wild salmon fertilize the forests and therefore help mitigate climate change.

Wild salmon are integral to the spiritual, cultural and physical wellbeing of all British Columbians. This is why we will never give up on saving wild salmon from industrial harm. We invite the growing number of British Columbians to converge and increase our collective efforts to prevent wild salmon from going extinct. In the words of Lennie John of Ahousaht, following the victory over Cermaq fish farms: "I'm shocked it was this easy with just a handful of warriors... imagine what we can do with a Nation. Imagine what we can do with all the people that care for this planet."

Remember, as the salmon go, so do we! It is in our very best interest to protect wild salmon!

Eddie Gardner, Skwah First Nation, Chilliwack

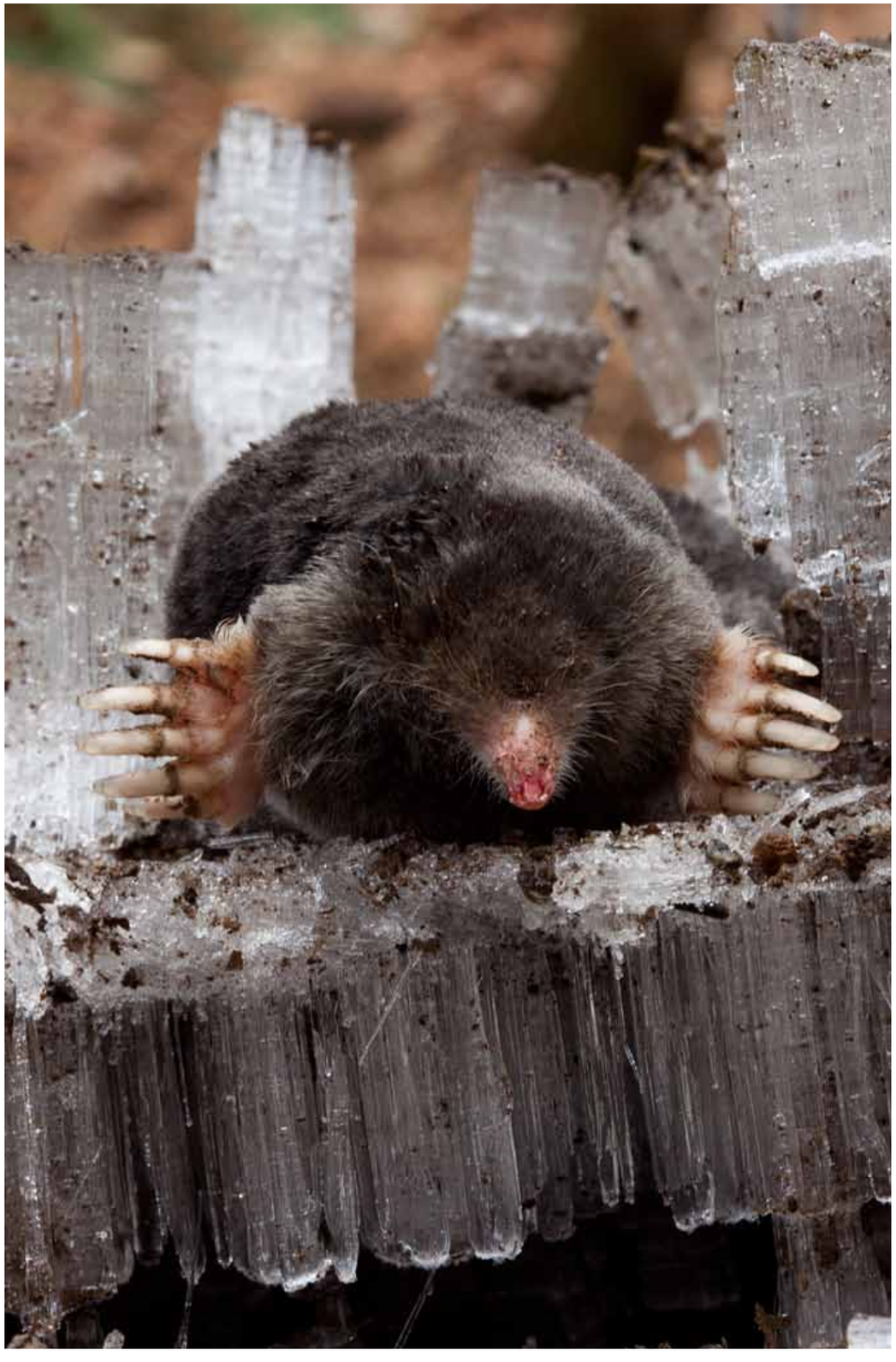
singingbear@telus.net

Farming on the Fraser

I have lived in the Matsqui Flats for the past nineteen years and have farmed in the area for the past three years. I farm sheep, chickens, a couple of beef cows and now have a market garden. I grow your basic vegetables- from your leafy veggies like lettuce, kale and spinach, to your root crops like potatoes, onions, carrots, beets and garlic. I also grow a variety of types of pole beans, peas and cucumbers. I farm all this on my parents' 6.5 acres. Their property is a little plot of land surrounded by large dairy, chicken and blueberry farms. I am just this little hobby farm amongst them. I always thought that in order to be a farmer, and make money at it, you had to own lots of land. But what I have been discovering lately is that it is totally possible to farm on a small scale and be profitable at it as well. It's a matter of learning what sells and what doesn't, and building connections to market it.The Matsqui Flats is a large area of land that weaves and winds along the Fraser River. The land is primarily used to grow grass and corn for cows and in the past number of years, it has been found to be quite suitable for growing excellent blueberries. But if you had asked me a couple of years ago what my soil is like, I would have said, "I don't know, just looks like dirt." But now that I have a market garden, my eyes have been opened. It turns out that the land that my parents own is a land that has soil abundant in blue clay. So in the wet season, you can't get it off your shovel, and in the summer, you can't get your shovel into it- not really ideal soil in which to grow vegetables. So these past few years have been a steep learning curve. I began to read up on how to improve your soil and watched lots of YouTube clips. Yes, I said YouTube. There are lots of smart people out there more than willing to share their experiences and knowledge with you. In my searching, I came across the concept of "mobile farming" from Joel Salatin. I have based all my farming practices on what I learned from him, using different animals for their different abilities to help aid in pasture health and sustainability. My process begins with my cows, who munch down the taller grasses. This is followed by my mobile chicken coop, where my chickens devourer the new grass shoots coming up. The chickens also work hard going through the pasture spreading out the cow paddies in search of fly larvae. My sheep are weeks behind in the rotation pattern behind the cows and chickens. Sheep enjoy the shorter softer grasses. When the grass has re-grown after the chickens are done, the sheep munch on the lush green pasture. I have also been learning how to properly use the manure from my animals, combined with waste vegetables and plants, to create a rich compost, a compost that is full of nitrogen and organic matter. When added and mixed into that blue clay, the compost is slowly changing my soil structure. I don't just have dirt in my garden, I have a material that is alive, that, when fed, will help feed you!

Look for me at the Mission City Farmers market.

Ken Floris, Matsqui



Making Mountains Out of Molehills

Considered unchanged over eons, the primitive Townsend's mole, (Scapanus townsendii), is 1 of 2 Southwest British Columbia species of moles, the other being the smaller, shorter, but similar Coast mole. Fewer than 1000 individuals are thought to live in B.C., confined to a 20 km area in the lower Fraser Valley, near Huntington, but close to a small population in the neighbouring Washington state. In fact, despite being North America's largest mole species, the Townsend's moles are said to belong to one of the smallest distribution of any mammal found in Canada!

Many consider these small creatures, as pests, and take lethal measures to rid their properties of them. Far from being pests, moles offer positive contributions to our environment. Tunnel-building results in the mixing of soil nutrients, "aerating the soil", and providing drainage, while their food choices rid our properties of lawn and garden pests like slugs, leatherjackets, grubs, and cutworms.

Living under the moist, soft soils of forest perimeters, fields, and grassy tracts, but rarely venturing above ground, this mole's living environment consists of connecting surface, and low-oxygen level deep tunnels, generally covering 2500m^2, altered consistently following the "population size, and seasonal earthworm migration." The mazelike surface types, up to 100m in length, are located within 2.5cm to 10cm under ground level, and are used for feeding, or for searching out mates for the breeding season. Deeper tunnels, generally from 7.6cm to 30.4cm below the earth's surface, are subject to daily use, allowing traveling between the upper tunnels and the mole's nesting compartment. Excavated earth from the deep tunnels is pushed up above the ground, forming the large, circular piles of dirt, commonly referred to as "molehills." Tunnel-digging activity, using swimming-like motions, is undertaken more often during the wetter fall and winter months. It also happens during the drier seasons, usually in the deeper tunnels, where its prey lives in the moister, cooler depths during those times. Solitary, and territorial individuals, except during the breeding season, the male's tunnel range may overlap with those of some female moles', while the female's space can also extend into other females' areas.

The Townsend's mole has soft, plush, dark gray to black fur, which is uniquely bendable to allow it to back up easily in its tunnels, is 20.3cm to 22.8cm in length, including its short tail, has a long, pointed sensitive nose, very small blue eyes, which are only able to perceive light, not shapes, sensitive hearing through non-visible ears, a 44-toothed mouth, broad front feet, palms facing upward, (the Chehalis term for moles is, "hands turned backwards"), armed with 5 claws for digging, and small, narrow rear paws.

Being an omnivorous animal, the Townsend's mole is not a rodent but is classified as an insectivore, which devours large numbers of insects, other invertebrates, some vegetation, or any prey within their tunnels. However, earthworms compose 80% to 90% of their sustenance.

Becoming sexually mature at around 9 months of age, the male mole, (boar), uttering high-pitched squeals, seeks out a willing mate in the deeper tunnel realms during January through early February. Following a successful mating, the female (sow) chooses a ridged area of the tunnel, and prepares the prenatal nest using green grass as the base, then lines it with dry grass. As the new grass decays, the resulting fermentation produces warmth for the expected offspring. After 4 to 6 weeks, in late March or early April, a litter of 3 pink pups are born, staying in their cozy nests, about 12.7cm to 45.7cm underground, for approximately 1 month, then emerging from them to discover the earth, below and above. Each breeding pair produces only 9 to 10 offspring during their short lifetime of typically 3 years.

Outside of the occasional dangers posed by dogs, cats, (their number 1 predators), raccoons, coyotes, weasels, some birds of prey, or snakes, these moles, (with the exception of exploring-above-ground juveniles), have few predator threats. Their biggest enemies are humans! Pest control company employees, homeowners, farmers, and golf course maintenance workers, routinely use a variety of lethal means to get rid of untold numbers of the little creatures they deem as pests, rather than the benefactors that they actually are. Added to these threats is that because Townsend's moles produce such low numbers of offspring, difficulty results in reviving population numbers. Killing them during the 1920s-30s, for clothing and article trimmings, plus the present and increasing habitat loss, continues to threaten their existence. In the Fraser Valley, the rapidly increasing human population has resulted in the ensuing housing, industrial, commercial, and farming enterprises, which destroy mole habitat. Flooding, another threat, albeit a natural one, also poses another threat to these rare animals.

Considered as being of rare risk in imparting disease or parasites to humans or other animals, this mole is deemed Endangered by COSEWIC (Committee on the

Status of Endangered Wildlife in Canada), and is protected under the federal Species at Risk Act,(SARA), as well as the B.C. Wildlife Act, making it illegal to “capture, kill or harass” them.

Public support for Townsend’s moles is crucial. As landowners, when noting tunnel ridges, just under the earth’s surface, or mole hills above, composed of mounds of dirt with a visible plug in the centre, simply remove the excess soil with a small shovel, and place it into your garden. If required, replace bare lawn spots with grass seed in the fall, or incorporate native plants into your landscape, making lawns, and the maintenance of them, obsolete! Be on the look-out for Towsend’s moles. A population was recently discovered on Sumas Mountain, just east of Abbotsord. Any mole found locally, which exceeds 18cm, may be a Townsend’s mole! Upon finding a suspected Townsend’s mole earth mound contact MoE, (604 582 5207), the BC Conservation Data Centre, and/or the South Coast Conservation Program. Since few permanent, non-lethal control methods discourage moles, and lethal control is illegal in B.C., we must learn to adapt to their presence, enjoy the benefits that they bestow upon us, and practice “support and tolerance” towards them. Simple acts can go far in protecting the remarkable Townsend’s mole, therefore not “making mountains out of molehills!”

Val Pack, Mission

The tale of the Townsend’s Mole

A little feller came to say “Hello”
A little feller with no place to go
Since he lost his home to the man
I knew this little feller right away
I’d seen his work while I worked each day
He was at one with the land

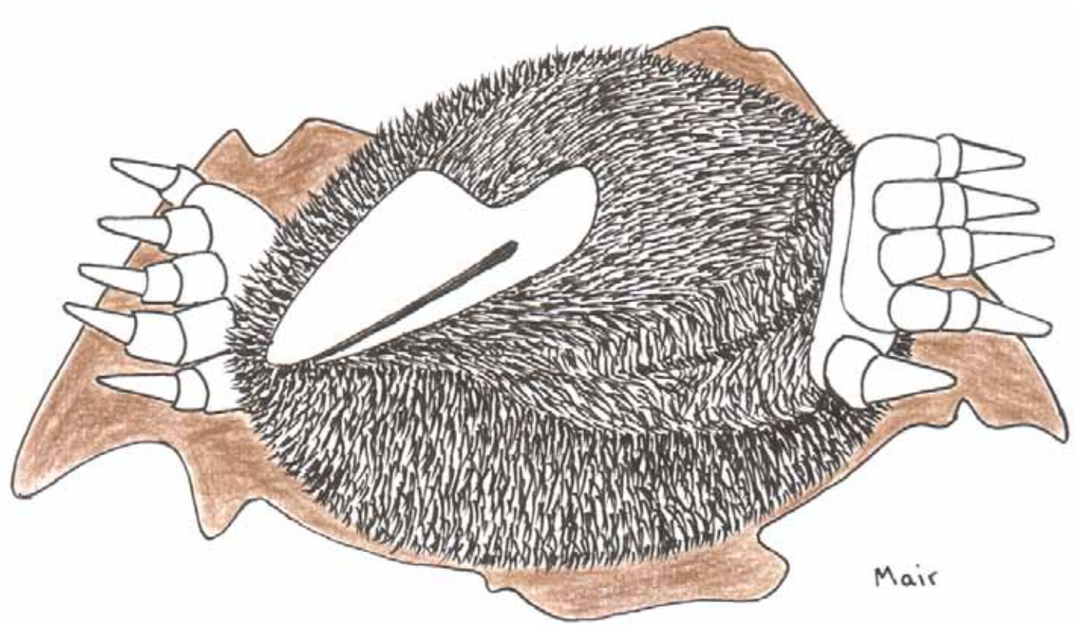
But the land he claimed to earn his bread
Was land the man had claimed instead
And his work was contrary to the man
So the man hired a man to come from town
And shake the little feller down
So the man could claim all of the land

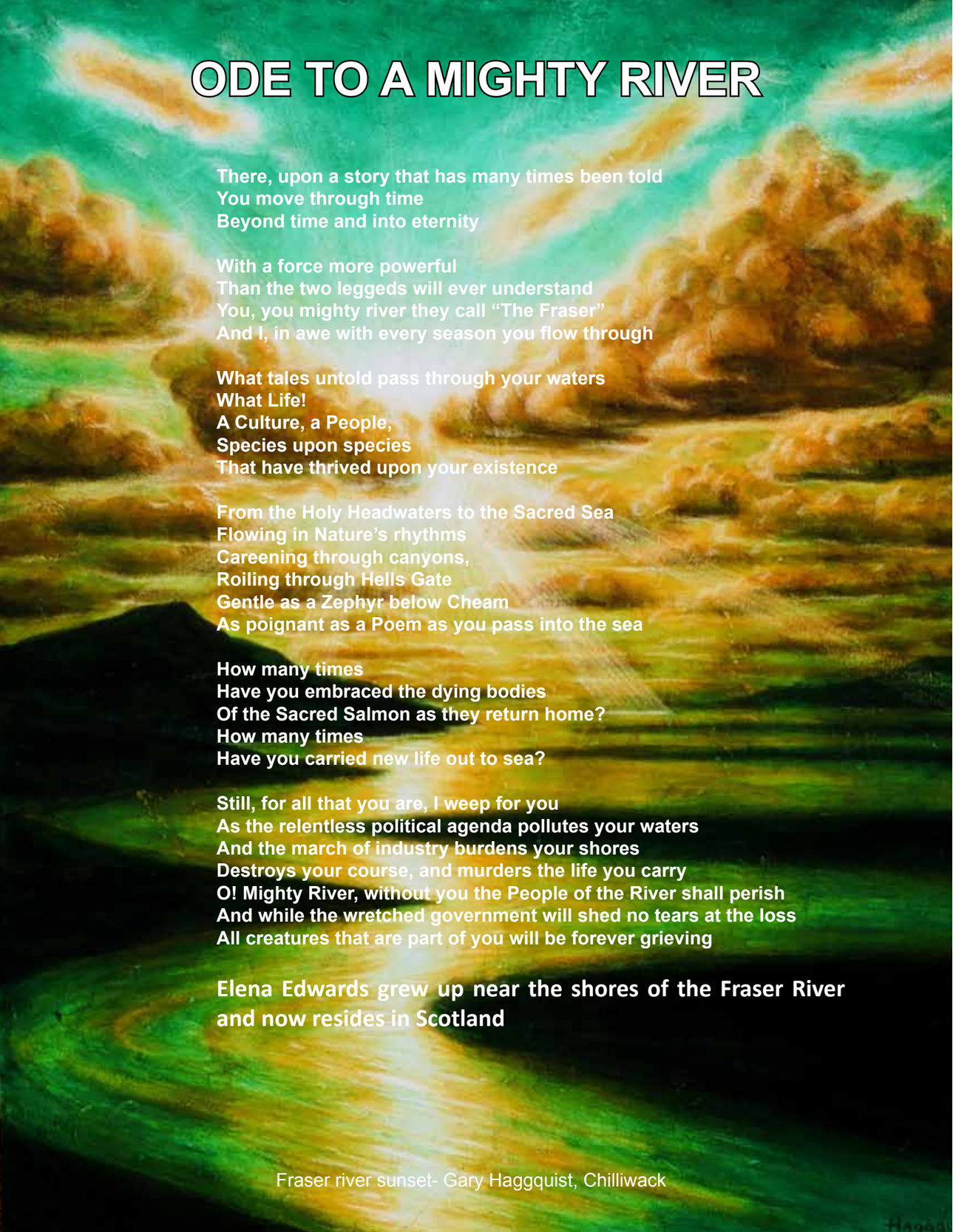
Now the little feller with no place to go
Was a little guy named the “Townsend’s Mole”
And he had no idea he bothered the man
He lived his little mole life each day
Doing things in his little mole way
Digging hole after hole in the land

As it turned out, I was the man from town
Who’d come to shake the little feller down
But instead I made a deal with the man
If he chained instead of harrowed all round
The mole in turn would aerate the ground
And they both could live off the land

In the end all was good
It worked out as it should
For the mole and for the man
The Townsend’s Mole digs his holes
Aerating the ground helping things grow
And the protesters stay off the man’s land.

P. Charles Ransom, Maple Ridge





June 1, 2015

To: Premier Christy Clark

We the undersigned chiefs applaud the recent federal court decision to disallow the salmon farming industry transfer of fish infected with viruses to open net pens. We understand the Minister of Fisheries can still override the Fisheries Act and allow this kind of transfer. We are in solidarity with the Wild Salmon Caravan of May 10-14, and the over 108,888 people who signed the petition that was delivered to you on May 27 in the Provincial Legislature, both asking you to:

Not issue Licenses of Occupation to the salmon farms trying to expand in British Columbia. Wild salmon are much too important to the world to risk for a dirty industry that refuses to contain its waste and pollutes our oceans.

The salmon farming salmon industry has lost their social license. Wild salmon that we have title and rights to are currently being exposed to untreated farmed salmon effluent throughout their migration routes along coastal British Columbia. Our fishers have witnessed too many pre-spawn deaths, salmon discolored with open sores, too weak to swim upstream and escaped farmed Atlantic salmon.

Governments and corporations must honour the duty to consult with, and obtain the consent of First Nation titleholders on industrial projects impacting their respective territories and Aboriginal rights. This includes salmon farming as it poses a potential grave threat to First Nations right to a fishery. Justice Bruce Cohen concluded in his commission report that fish farms may pose serious or irreversible harm to wild salmon due to disease, but his report and recommendations have been virtually ignored at all levels of government.

Given the mounting evidence that fish farms on wild salmon migration routes are a threat to our wild salmon, we are writing you to inform you that the Province of BC must not expand existing farms, offer new licenses of occupation or renew fish farm leases without our consent. In addition, there must be immediate independent and transparent testing of farmed salmon in the hatcheries determine whether they have viruses or diseases *before* they are placed on the migration routes of Fraser River salmon.

This letter will be further circulated throughout the Nations of the Fraser River watershed.

Chief James Hobart, Spuzzum First Nation; Chief Michelle Lee Edwards, Sekw’el’wes First Nation; Chief Robert Combes, Skwah First Nation; Chief Aaron Sam, Lower Nicola Indian Band; Chief Fred Sampson, Siska Indian Band; Chief Dolores O’Donaghey, Boston Bar; Chief Judy Wilson, Neskonlith Indian Band; Chief Marilyn Gabriel, Kwantlen First Nation; Chief Lee Spahan, Coldwater Indian band; Chief Sydney Douglas, Cheam; Chief Sally Sam, Keyohwhudachun, Maiyoo Keyoh; and Grand Chief Stewart Phillips of the Union of BC Indian Chiefs.

Spawning Salmon Peter Gong, Mission

THE FOOTPRINT PRESS

The Footprint press is published by the Citizens Against Urban Sprawl Society (CAUSS), as a non-profit community newspaper. Articles, artwork and photography, are submitted by local activists, scientists, and dedicated people, wishing to share their vision of a more just and informed society, and who seek to live harmoniously with nature in a shared environment. Circulation is 2000+. The paper can also be viewed on-line at FootprintPress.ca or contact us at b.causs@gmail.com or 604 820-7592. Your support is appreciated and your participation is welcome. The opinions expressed in this publication are those of the authors and do not necessarily reflect the publishers as a whole or individually

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