

Issue 23

FREE  
MAGAZINE

# THE FOOTPRINT PRESS



Passages from  
Silverdale, Mission,  
and beyond.



## *Message from the Editorial Committee*



***C***limate change has been described as the defining issue of our time. Never before, in the history of our planet, have mass extinctions occurred as the result of the actions of one species. This issue is so enormous, and the implications so dire, that it overwhelms the capacity of many individuals and governments to make the changes needed to reverse the warming process. But change in our settlement and consumptive patterns must occur for the benefit of all life, including our own.

*Fortunately there are solutions to this crisis. We can establish healthier patterns of living which respect and care for the air, water, and the land. Indigenous people thrived here for thousands of years without destroying the environment, and so can we all if we shift the decisions we make away from short term riches for the few to those which prioritize the long term health of current and future generations. When we choose a way that ensures there will be clean water, air and natural abundance for our great grandchildren, we will have chosen wisely. When we choose a way that leads to environmental degradation and species extinction, we deprive future generations of their right to a healthy life, enriched by wild salmon, orca, frog song, hummingbirds, and other incredible and beautiful creatures.*

*The path to a healthful tomorrow is already being forged by organic farmers, indigenous teachings, and environmental activists. All we have to do is open our minds to their climate solutions, and open our hearts to the love of Mother Earth and Father Sky.*

*Cover and editorial page photos:  
Anna's hummingbirds, Bruce Klassen, Silverdale.*





**“Métis Rose” by Kristi Bridgeman & Lisa Shepherd**

is inspired by the reverse side of the pouch beaded by Suzette (Chalifoux) Swift for her Granddaughter, Eunice. The five-petal rose has come to represent Métis women.

## Carbon Footprints

It seems that each time I look out the window from above my desk, I am taken aback by the incredible beauty of Mother Earth and Father Sky. All we see around us has been changing for years, and the shifts are only growing with time. The implications of a changing climate are very real and becoming more evident every day. We will see profound changes in what indigenous communities have known and have depended on for thousands of years, such as abundant wild salmon, Cariboo, and medicinal plants. Unless we acknowledge the issue

of climate change, this pervasive problem may cause irreparable damage to the land and our relationship to it.

Basically, climate change is the shift in long-held weather patterns – which then affect such things as sea-levels, the global average temperature, and more. In Northern British Columbia, for example, we are starting to find patches of dead or dying yellow cedar trees, likely caused by melting snow which would normally insulate the roots. Dying trees increase the risk of wild fires which transform forests from carbon sequesters into carbon emitters. In the prairies of central Canada, we are seeing the



**“Whiskey Jack” by Kristi Bridgeman & Lisa Shepherd**

(Wisakejak) has been known to be both a mischief-maker of logging camps and companion to travelers. Moving around the circle clockwise from the right, Whiskey Jack is shown in the four seasons and stages of life. Bunchberry is one of the endemic berries that are a food source for Whiskey Jack, now Canada’s official bird.

grasslands being converted into infertile deserts. These are scary revelations that may lead some to give into the doom and gloom of the situation. Even so, we cannot give up hope, and we should do what we can for the land and our future generations.

Here are some ways we can help as individuals:

The transportation sector alone contributes 19.2% of carbon emissions and has a potential to reduce emissions by 4%. Taking public transportation, choosing fuel efficient hybrid or electric vehicles, or using a carpool, can help by lowering the amount of fuel used and carbon dioxide expelled.

By eating less meat and dairy (e.g. ‘Meatless Mondays’), carbon emissions will be reduced because raising livestock requires converting forested land (which naturally stores carbon) into grazing land, where livestock produce gaseous and solid wastes. At this time, 33% of the entire earth’s surface is currently used for livestock production and it has been shown that the rise of meat and dairy consumption creates 14.5% of the world’s entire greenhouse emissions. Remember, less meat=less heat. Buying and consuming fewer things in general, especially items which are not locally produced, is an incredibly



# Organic Farming Is The Solution



**Hummingbird drum by Zachery Pelletier**

powerful thing to do because every item sold has potential environmental damage at every stage of its “life”. This includes extraction, manufacturing, usage, waste, and the transportation between all of these steps. Summer is a great time to take advantage of local produce and reduce the impact of your food. Eating seasonally and locally can reduce the carbon footprint of your food by up to 10%. Even converting to low emission (LED) lighting, turning off and unplugging computers, televisions, and other electronic appliances will help over time.

While making those changes above is great, these issues cannot be resolved wholly as individuals; the best way to help is by working as a community. By getting involved locally, and supporting environmental initiatives, such as community gardens or *green spaces*, which allow our youth to see something natural in the otherwise grey-ness of a city. By pressuring the municipal government for better programs, such as better recycling programs,

more renewable/ green-energy sectors, or better public transit, we are creating more accessible means to help. Just by joining the conversation with members of the community and speaking out against environmental injustice is a crucial step – many people are unaware of what is happening. Together, our voices may even reach the ears of the governments who do not seem to acknowledge that Mother Earth is not just a resource.

**Zachery Pelletier**, Métis,  
SFU Environmental Sciences

Métis Rose and Whisky Jack artwork by **Kristi Bridgeman & Lisa Shepherd**. The cousins’ collaborative art exhibition Forget-me-not, Métis Rose: Far West shows at the ACT Art Gallery, Maple Ridge from September 7th until Oct. 26/19.

[www.kristibridgeman.com](http://www.kristibridgeman.com)  
[www.lisashepherd.ca](http://www.lisashepherd.ca)



**Mission Gothic**

**F**or the past five years I have been growing vegetables on a piece of land that had a glacier on it 10,000 years ago. The rocks dragged and deposited by that glacier, and the subsequent forests that came and went over millennia to the present day, created a modest 4 inches of topsoil on which I began my market garden. I currently steward 3 acres of land, nestled within a stretch of wilderness, deep in Silverdale.

My interest in starting this farm, and in growing organic vegetables for my community, was guided by an acute awareness of the sad condition we find our planet in, and a recognition that organic farming is at the core of many solutions to the ills our society faces.

The planet is indeed warmer now than it was in the past two centuries, and the climate has changed incrementally in our re-



gion. Our springs are wetter, our summers are drier and hotter, and our coastal waters are warmer and more acidic. These new weather patterns greatly affect our region’s farmers.

Drought and forest fires continue to seriously affect cattle ranchers in the north of our province. Our local blueberry industry faces early fruit set problems from unusually warm periods in early spring, putting the berries at risk of dropping from the plants due to frost later on in the season. Pretty much every farmer who works with soil is adjusting their planting schedules to accommodate the weather changes.

The greenhouse gas CO2, so vital for keeping us alive, shares responsibility with methane and nitrous oxide for warming our planet by roughly 0.8 C since 1880. Since our dependence on that black gold - oil - has strengthened in the last 70 years, we’ve seen all three of these greenhouse gases increase exponentially in our atmosphere. In truth, our global temperature will likely continue to climb, and so too the destruction of our natural environment, because of our reliance on oil to power modern society. Gloomy yes, but practical personal solutions exist that could reduce pollution, reduce greenhouse gas emissions, and improve many facets of our health.

Any nation’s most important natural resource is the soil. Farmers, underpaid and underappreciated, willingly shoulder the responsibility of caring for our country’s soil. Our health has deteriorated if you look at any recent statistics for chronic illness, allergies, and cancer, due, in large part, to how chemical farming is practiced.

Unfortunately, synthetic fertilizers, toxic pesticides and herbicides, all common tools of chemical farming, weaken the soil, leaving it with fewer minerals and vitamins, thus under nourishing the food we eat and the animals we consume. This form of agriculture uses patented genetically modified seeds, which rely on ruthless pesticides like glyphosate, which research shows damages our immune system, and that of most living things. Furthermore, nitrous oxide and methane, two greenhouse gases with vastly more warming potential than CO2, are mostly produced through industrial livestock raising and chemical farming.

So, do you see a solution yet?

The greatest impact we can have on reducing greenhouse gas emissions, and having a cleaner less polluted environment, comes through supporting local organic farmers and fishers.

Organic farmers are public servants in the truest sense of the word: they faithfully serve water, air, soil and everything that lives in it. Rather than depending on all the polluting “cides” and synthetic fertilizers to produce a crop, composted plants and animal manure, full of a rich diversity of vitamins and minerals, are used by organic farmers to build healthy soils that plants and humans need for good health.

We can improve our environment and our own health by consuming daily, fresh organic vegetables and fruit. Buy from local organic farmers or grow your own food. Ultimately, this is the direction we need to go in, and it would be a beautiful future if we all participated in the noble art of growing one’s food.

**Angus Macdonell, certified organic vegetable farmer, Silverdale**







**extinction  
rebellion**

**I**t is a curious but unforgettable image: an hour-glass within a circle on a bright, often green, background. The Extinction Rebellion symbol is as simple and direct as its slogan. Rebel For Life because we have so little time. As the earth's amazing, diverse, innocent and vital species form a queue into oblivion, and as our air and water grows in-

creasingly toxic, despair and frustration are hard to avoid.

The Extinction Rebellion (XR), a socio-political and environmental movement, evolved out of a U.K. environmental group known as 'Rising Up'. From the Rising Up movement, a group of activists developed XR in England, in the autumn of 2018.

Extinction Rebellion maintains; 'We are facing an unprecedented global emergency. The government has failed to protect us. To survive, it's going to take everything we've got.' XR believes that mass non-violent civil disobedience is the only way to cap-

ture the attention of the government, industry and the general public. On November 17, 2018 five bridges in London were occupied by XR activists. Other actions have followed, and several of these actions have resulted in arrests.

Extinction Rebellion's call to action may have been made within the shores of Britain, but it was heard world-wide. Within less than six months the movement has become international. XR groups exist in approximately 27 countries. These organizations are all inclusive. Anyone who shares the values made public by XR is welcome to present themselves as a rebellion member.





On Canada’s west coast, Extinction Rebellion Vancouver held its first Rally on the steps of the Vancouver Art Gallery in November, 2018. That rally, organized by Shirley Samples and Amy Scaife, was attended by people who are not only frustrated by Canada’s environmental decisions and policies, but who are also angry at the government’s continued disregard for Indigenous Rights. The Liberal’s purchase of the Trans Mountain Pipeline project, the government’s disregard for the environment, and its disrespect for Indigenous people, drew loud and impassioned responses from the assembled group.

A follow up meet and greet was organized and hosted by Samples and Scaife on November 29, 2018 in East Vancouver. That night a mix of people, some simply curious and others prepared to raise the revolutionary fist, were presented with Extinction Rebellion Principals and Demands.

<https://rebellion.earth/demands/> Attendees at the meeting were encouraged to ask questions and chat with the presenters and with each other before the evening’s close. Those interested in further actions were invited to join the rebellion in accordance with their comfort levels. Since that first meeting, Vancouver XR has hosted several more well attended meetings. Each of the meetings have been informative and structured to provide open dialogue.

George Lakey, activist, professor and author of ‘How We

Win: A guide to non-violent direct-action campaigning,’ was the guest speaker at the first Vancouver XR meeting of 2019. Lakey, who is a veteran of the Civil Rights movement and many other direct-action campaigns, provided valuable insight with an open and conversational tone.

Canadian XR groups have grown up in Alberta, Ontario, Nova Scotia, Quebec, New Brunswick and Manitoba. Many of these provinces are home to more than one group. For example, in British Columbia, XR groups exist not only in Vancouver, but also on the Sunshine Coast, Vancouver Island, Quadra Island, Williams Lake, and the Fraser Valley. Members joined with other groups to march following the National Energy Board’s decision to approve the Trans Mountain Pipeline expansion on February 22, 2019.

“We have to act, while we still have time,” Eric Chong an organizer of the Fraser Valley group says. “The mass extinction of species is happening in front of our eyes. We must act now and solve this together – time is no longer on our side. I have never considered myself an activist, but this is no longer a choice, this is a moral obligation.”

**Angela Zimmerling, Mission  
Orca and salmon paintings by Leanne Hodges**

For more information visit:

<https://www.facebook.com/ExtinctionRebellionBC/>



# Goldilocks frog: saving a shallow wetland specialist in a changing climate



Photo courtesy **SCCP**

The lead up to spring of 2019 has been a wild ride for the Precious Frog team. A record-breaking cold February, followed by a rapid mid-March warm up, has left those of us working to recover the endangered Oregon Spotted Frog (*Rana pretiosa*, OSF) in the Fraser Valley, scrambling to complete some of our most important work. However, water levels in important OSF habitat are the lowest we have ever seen, and our populations are in danger. At times like this we ask ourselves: how will climate change impact OSF conservation?

The Oregon Spotted Frog is a shallow wetland specialist. Other amphibians at risk in these wetlands, such as the Northern Red-legged Frog (*Rana aurora*) and the Western Toad (*Anaxyrus boreas*), are also threatened by these extreme fluctuations in water level, temperature, and seasonal variability. The range of this cryptic, mid-sized frog extends from Southern Oregon up the Pacific Coast

to Southern British Columbia. Listed as federally threatened in the US, and endangered in Washington State, these frogs are disappearing across their range due to loss of wetland habitat and the presence of invasive species like the American Bullfrog (*Lithobates catesbeianus*). The OSF breeds in water less than 15 cm deep, clustering their egg masses together in communal laying sites. These sites will see frogs return year after year, changing only slightly to find that sweet spot of shallow water, warm sun, and a soft bed of vegetation. Like Goldilocks, these frogs need a site to be just right: too deep and cold, egg masses may drift away or develop too slowly; too dry and warm, egg masses may desiccate, and hatchling tadpoles may be stranded. In the Fraser River floodplain, such sites were once plentiful and OSF could move without being hindered by impassable culverts, dykes or highways. Today, OSF populations are geographically isolated





Photo courtesy  
**Isabelle Groc**

from one another and, due to anthropogenic changes to the landscape, essentially bound to their sites.

The Precious Frog team, comprised of Fraser Valley Conservancy and BC Provincial staff, counts the egg masses of each population annually to estimate the number of frogs. Assuming all adults will breed, each egg mass discovered represents two adult frogs. Surveys in 2018 found a total of 251 OSF egg masses across all five populations, with 168 of those occurring in one site. As these are the only populations in Canada, we estimate only 502 adult frogs remain; this species is in real danger of extinction. Projections for 2019 are bleak as water levels in the OSF wetlands are extremely low, and breeding is quite delayed compared to typical years. Unfortunately, while we would like to believe this year is a freak occurrence, the future of frog conservation must compete with a changing climate.

Climate change offers a world of extremes. The mild

winters and summers we have enjoyed on the South Coast may deviate wildly; we are warned of more intense precipitation and flood events coupled with summer droughts and heatwaves. For frogs, especially one intimately tied to water on the land like the OSF, these projections are extremely concerning. Add to this the threats of invasive species, disease, and the continued draining of wetland habitats, and it is clear the plight of the OSF is like the canary in the coal mine warning us to act before it is too late. Saving this shallow wetland specialist will require careful management of existing sites, restoration of drained and disturbed wetlands, and most importantly, protection of existing wetlands. Wetlands not only provide habitat for a variety of amphibians, fish, birds and insects, but also function as ecological shock absorbers, mitigating flood impacts, sequestering excess carbon, and filtering water. Ironically, the wetlands we have fought so hard to drain in the valley may be part of our salvation.

Many of the remaining shallow wetted areas in the Fraser Valley are on private properties, and important OSF habitat may be present in your backyard unbeknownst to you! Saving the OSF will require protecting all our Fraser Valley ecosystems and species, both common and at risk, which are all uniquely connected. As we prepare for a changing climate, consider the creatures who were here millennia before colonization, perfectly adapted to this beautiful valley, beckoning us to embrace the solutions that lay right before our eyes. Healthy wetlands, streams, rivers and forests can help protect us all from the com-

ing tides. Let us act now, lest we lose our precious frog forever.

**Aleesha Switzer, BSc.,** Project biologist,  
Fraser Valley Conservancy Land Trust

To learn more about the Oregon Spotted Frog and the team dedicated to its recovery, please visit:

[www.preciousfrog.ca](http://www.preciousfrog.ca)

To learn more about land protection in the Fraser Valley, please visit [www.fraservalleyconservancy.ca](http://www.fraservalleyconservancy.ca)



Photo courtesy  
**Aleesha Switzer**





## The Powerful Spirit of Wild Salmon!

**W**e are blessed in countless ways to have wild salmon runs all along the Pacific coast and river systems. Wild salmon has been a main food source for Indigenous people for thousands of years. Much has been written about the thriving, strong runs of five species of salmon – Coho, chinook, chum, pink, and sockeye, that went in cycles from the headwaters to the ocean and back to their spawning grounds. Our ancestors and elders of today say “Tset Sth’óqwi málstiyexw” – “We are Salmon People.”

The Stó:lō are “People of the River.” The relationship we have with this part of the world is deep, profound, and longer than the existence of the pyramids or Stonehenge. Our leaders and elders begin important discussions about how to relate to our territory with the following words, “S’ólh témèxw te’i, xyólhmet te mekw stám ít kwelát – This is our territory, we need to take good care of everything that belongs to us.” This does not speak to rights and title, but to our responsibility to take care of all that we have.

This shared responsibility is critical at this time of dwindling numbers of salmon making it to the spawning grounds to renew their cycle. There are many causes

to this worrisome situation. Industrial pollution from mining and fossil fuels, agricultural run offs, pollution of the ocean and river sheds, climate warming, and open net pen fish farms all contribute to the demise of wild salmon. Yet if we give wild salmon a chance, they will surge back in massive numbers - enough to feed humans, wolves, orcas, bears, eagles, seals, sea lions, and many other species. Wild salmon are absolutely essential to this biodiversity upon which we all depend. This amazing species is therefore, not just a commodity for humans. Salmon are an integral part of the ecological make-up of the Pacific coast.

The defining issue of our times is climate warming, and the disastrous consequences if it is not curbed. It is a global issue that requires we pull out all the stops to prevent climate warming caused by humans, or the next generations to come will suffer greatly from unbearable living conditions. Scientists have found salmon DNA in giant cedar trees and argue that wild salmon act as a climate regulator. When wild salmon have a clear, clean passage, they transfer rich nutrients from the ocean to the river sheds. Animals and birds drag salmon into the forests and eat only part of the salmon. The remains

decompose providing rich nutrients to the trees and **bushes** that absorb carbon from the atmosphere, and provide us with the oxygen we need to breath.

The sole purpose of the ocean aquaculture/fish farm industry is to grow their salmon as a commodity to meet the demand by humans. The ocean aquaculture industry uses open net pens that grow farmed Atlantic salmon in Pacific waters, with no barrier between wild salmon and farmed salmon. Hard evidence from peer-reviewed scientific studies have shown that farmed salmon can pass on contagious pathogens like the Piscine Reovirus (PRV) to wild salmon, doing great harm to them. Ocean aquaculture is known to amplify sea lice that further threatens wild fish. Hereditary Chief George Quocksister Jr., who participated in Sea Shepherd’s Virus Hunter Campaigns, put a Go-pro camera into open net pens, and his video footage shocked thousands of people who saw thousands of endangered herring trapped in the pens, as well as many farmed salmon with open sores, missing skin, some emaciated, deformed or bloated. Ocean aquaculture has also come under fire for using chemicals and antibiotics to control viruses, diseases and parasites. Health experts have warned women and children to avoid eating farmed Atlantic salmon due to high con-

tamination levels. It simply does not make sense for this industry to continue to grow and expand to increasingly threaten and do irreversible harm to wild salmon that feed many more species than humans.

Land-based aquaculture is being proposed as a solution by such agencies as the Pacific Salmon Foundation, Watershed Watch Salmon Society, and the David Suzuki Society, because it creates a physical barrier between farmed fish and wild fish. Land-based aquaculture does not need to use chemicals or antibiotics. The manure from the fish in closed containment would be used as fertilizer to grow vegetables rather than polluting the ocean and contaminating clam beds. Other species like trout and tilapia can also be grown in closed containment on land. The state of Washington has already passed legislation to phase out open net pens on their coast, and, in the meantime, are requiring that farmed Atlantic salmon be tested for the Piscine Reovirus (PRV). To date, the fish farm industry along their coast was not allowed to put approximately 1,600 farmed Atlantic salmon, infected with this virus, in their pens.

Canada, however, is not testing for PRV despite two court orders ordering them to abide by Canadian law in 2015 and February 4, 2019. The second court decision was







won by Dr. Alexandra Morton and the Namgis First Nation. Fisheries Minister Jonathon Wilkinson announced he would not challenge this decision. However, he is using the rationale that the scientific debate as to whether PRV is causing more than minimal harm has not been won despite two federal court judges who considered evidence in light of the law, and have clearly stated that it is unlawful not to test for PRV. Minister Wilkinson has an opportunity to make history, and regain public trust in DFO's ability to properly manage adverse aquaculture impacts on wild salmon. We urge the federal government to join the State of Washington by legislating the phasing out of open net-pen fish farms from the BC coast, and enact the recommendations put forth by the multi-million dollar Cohen Commission. In the meantime, DFO needs to ensure farmed Atlantic salmon are tested for PRV, make the results public, and prohibit any fish infected with this dangerous virus from being placed in Pacific waters. We encourage Minister Wilkinson to replace ocean aquaculture with a sustainable land-based aquaculture industry.

Somebody asked me "What does reconciliation for Indigenous people mean to you, Eddie?" I thought about

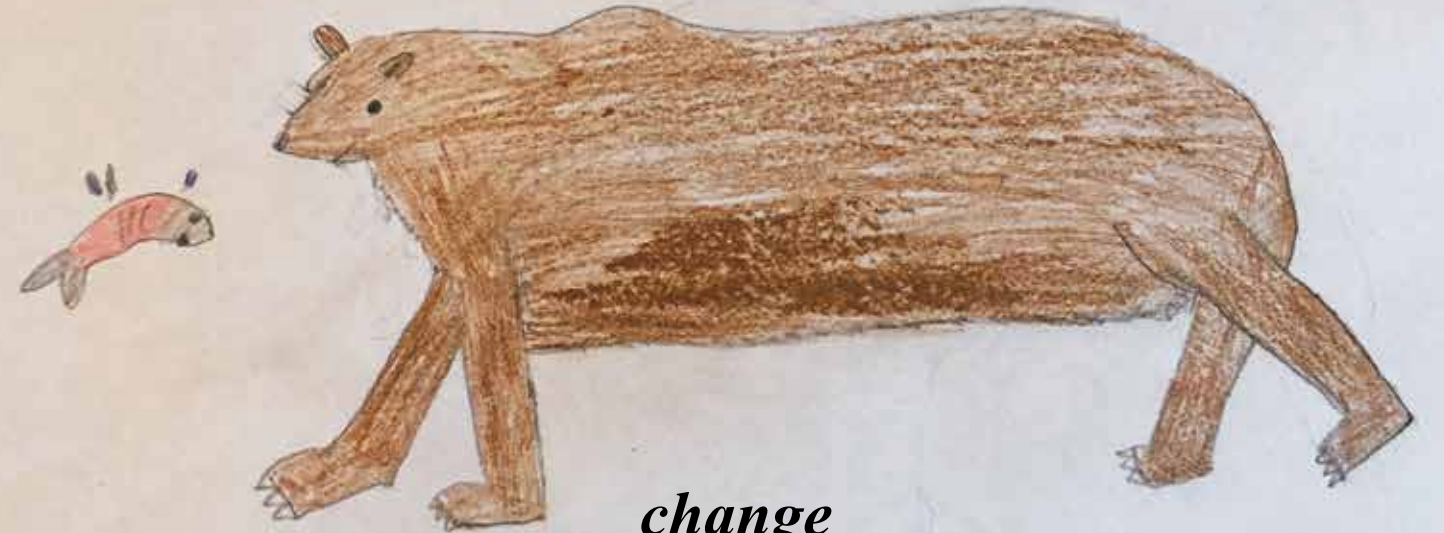
that and said, "Reconciliation would look like this – wild salmon would come back in huge numbers to bring ecological integrity back to this part of the world, and there would be enough salmon to feed a wide range of species, and support a wild salmon economy using sustainable fishing practices. If this was accomplished, it would mean Indigenous people's rights, title and responsibility would be honoured, and we would have collaboration with governments, corporations, business, and environmental groups. No one group can do it alone. We all need each other." This would be an excellent step towards the federal government's commitment to the United Nations Declaration on the Rights of Indigenous people. It would be a way of honouring those inherent rights that are affirmed and enshrined in Canada's Constitution.

**Eddie Gardner**, Chilliwack  
President Wild Salmon Defenders Alliance

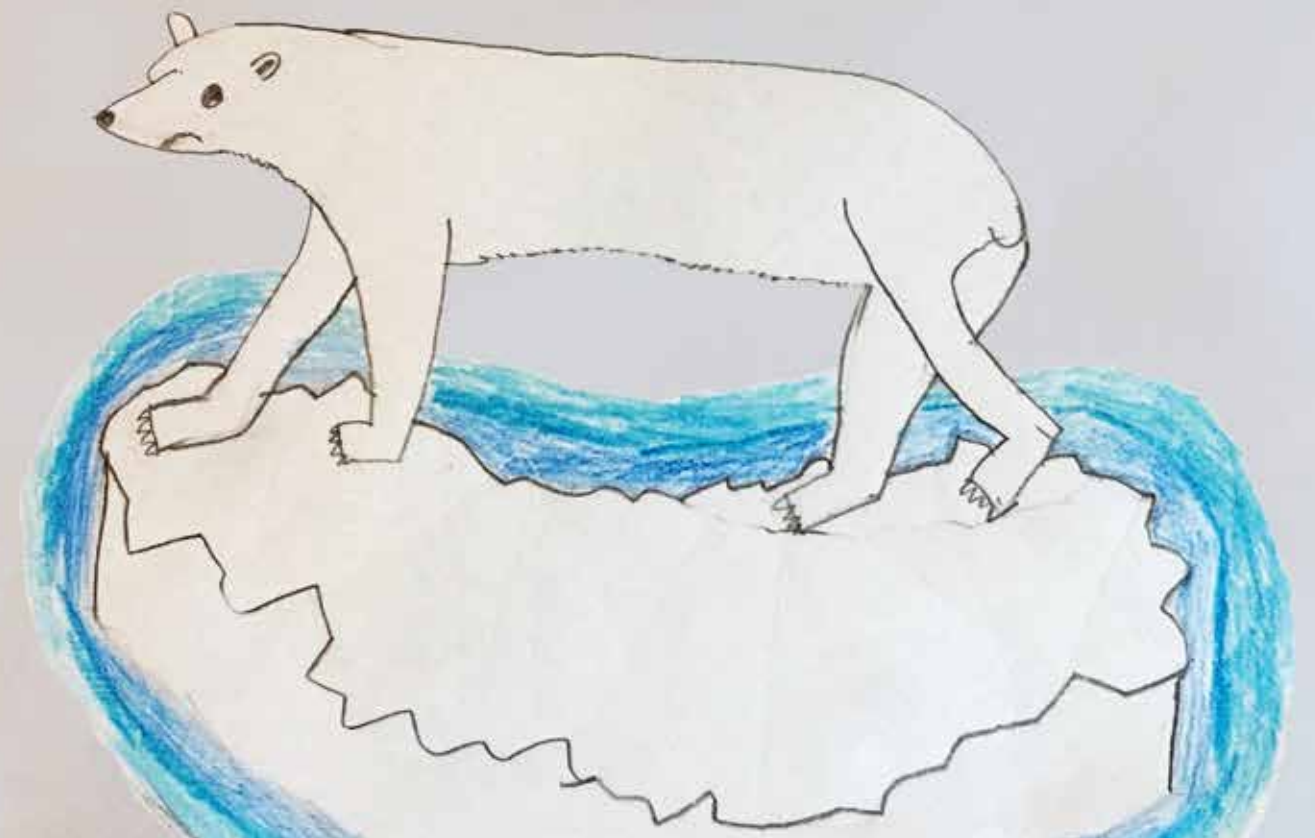
Eagle and Black bear with salmon photos courtesy of  
**Sharron Palmer-Hunt**

<http://takingtimephotography.com/>

## *Last words by Scarlet Stribling*



*change  
healthy, green  
protect, help, save  
trees, flowers, happy animals/forest fires, extinctions  
destroy, abuse, hurt  
empty, toxic  
deny*







## THE FOOTPRINT PRESS

The Footprint Press is published by the Citizens Against Urban Sprawl Society (CAUSS), as a non-profit community magazine. Articles, artwork and photography, are submitted by scientists, local Indigenous and environmental activists, farmers and other 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, in colour, at [FootprintPress.ca](http://FootprintPress.ca) or contact us at [b.causs@gmail.com](mailto:b.causs@gmail.com) or 604 820-7592. Donations to help cover our printing costs are appreciated but not solicited. The opinions expressed in this publication are those of the authors and do not necessarily reflect the publishers as a whole or individually.

Editors- Tracy Lyster, Catherine McDonald, Joanne Long, Hilde Tonkens.

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