

A WILDLANDS ADVOCATE



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Cover Photo McClelland Lake is part of a unique wetland complex in northern Alberta. It contains patterned fens made up from moss that has been forming for over 8,000 years — only 1 percent of the province's wetlands have this feature. In 2008, AWA conservation director Carolyn Campbell paddled the lake, walked on the squishy moss along the edges of the fen, and observed the diverse wildlife in the area. Over the years, Carolyn has worked tirelessly to ensure its protection along with the protection of multiple other wildlife and wild spaces. As Carolyn bids adieu to AWA and heads into retirement, we thank her from the bottom of our hearts for all she's done to keep Alberta wild. And we assure her, and you, our AWA members, that we will continue the needed work. *Photo © Chris Wearmouth*



Editorial Note Hello Wild Lands Advocate readers! June is upon us, and we are already deep into the thick of another forest fire season here in Alberta. The end of May has already crowned 2023 as the worst forest fire season in the last forty years, with the hottest months still to come. Meanwhile, Albertans returned to the polls for another provincial election, and we hope that our new government is ready to tackle the important issues facing our wilderness over the coming term. This issue sees a heavy focus on climate change, its impacts on Alberta's landscape, and the need for transition across many sectors to meet the challenges we are currently facing. Ruiping Luo discusses some of the less obvious impacts of climate change on our daily lives, while Devon Earl highlights our need for improved forest management to prevent worsening wildfires. Guest author, Aliénor Rougeot has summarized the shortcomings of the Alberta Energy Regulator in the wake of the Kearl tailings spill, which has thrown the oil sands back into the public spotlight since news broke in February. Amy Tucker outlines how we need to be careful not to repeat the mistakes of the past as we move towards sustainable energy, and there's a quick update on our Don't Mine McClelland campaign. Gillian Steward discusses a legal challenge by Duncan's First Nation on the issue of cumulative impacts, and we have a farewell to AWA's Conservation Director Carolyn Campbell who begins her much-deserved retirement in early June. This has been my fourth issue of the Wild Lands Advocate since taking over as interim editor, and I've greatly appreciated having the opportunity to shape this magazine over the past year. Amy Tucker will be taking over the role on a permanent basis heading into the fall, and I want to thank all our readers for your support in this transitional period.



*Phillip Meintzer
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ALBERTA WILDERNESS ASSOCIATION

"Defending Wild Alberta through Awareness and Action"

Dedicated to the conservation of wilderness and the completion of a protected areas network, **Alberta Wilderness Association** is a voice for the environment. Since 1965, AWA has inspired communities to care for Alberta's wild spaces through awareness and action. With a provincial office and library in Calgary, AWA has active members, volunteers, and sponsors throughout Alberta and beyond. AWA is a non-profit, federally registered, charitable society. Donations and financial support are greatly appreciated.

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Spotlight on the Oilsands:

A Summary of the Kearl Spill Hearings



By Aliénor Rougeot

The oil sands tailings ponds, once the subject of international scrutiny, were recently thrust back into the spotlight, after enjoying a few years of relative quiet. A toxic leak at Imperial Oil's Kearl mine, which the company covered up for nine months, prompted media headlines and a series of hearings in Ottawa. The hearings highlighted the systemic issues that exist in the entire oil sands industry, from government negligence to companies more concerned about their reputation than the well-being of Indigenous communities and the environment in the regions where they operate.

A leak, a cover-up, and a spill

Since at least May 2022, one of Imperial's tailings ponds at its Kearl mine has been leaking toxic sludge into the ground at significant volumes — enough for the waste to accumulate in the muskeg outside the boundaries of Imperial's lease and seep into the surrounding environment. Imperial noticed the accumulation of tainted fluids in May, and by June 3, the company confirmed to the Alberta Energy Regulator (AER) that it was contaminated with industrial wastewater known as tailings. The AER and Imperial did not notify the Indigenous nations within whose territories Kearl is situated, nor any other Indigenous nation living downstream, despite regularly discussing the disaster behind closed doors.

A subsequent incident in February 2023, resulted in the spill of an additional 5.3 million litres. The impacted area was an estimated five hectares — “enough tailings fluid to cover two city blocks up to a depth of 10 centimetres,” according to CPAWS

Northern Alberta. This large spill was too significant to ignore, leading the AER to issue a public notice on its website that also mentioned the previous leak. It was only then that the Indigenous nations, the federal government, the government of the Northwest Territories, and the public were informed about either of these incidents.

Déjà vu for Indigenous communities

Indigenous nations within the contaminated region were kept in the dark about the leak for nine months. These communities rely on food and water that pass through the affected territory. This means that community members were harvesting meat, berries, and other medicines from the territory while completely unaware of the risk of contamination. This lack of respect from Imperial and the regulator is outrageous, and when the news broke, fear took over the communities.

Jean L'Hommecourt, a member of Fort McKay First Nation whose family cabin is only 13 kilometres away from the Kearl site, told CBC, “I'm concerned about the moose I harvested, which is in my freezer right now, which I've shared with many people ... Now I have this fear of the long-term health effects that we are going to face.”

Chief Billy-Joe Tuccaro, from the Mikisew Cree First Nation, spoke to this fear during the parliamentary hearings: “My members are scared, we have people who are scared to drink the water.”

To truly grasp the level of fear this disaster evoked requires an understanding of context. These communities already experience higher-than-expected rates of various cancers, which the community

and local physicians associate with contamination stemming from oil sands operations. The communities and environment are exposed to chemicals from the tailings through multiple pathways, including the air, the wildlife they consume, and the ongoing seepage of millions of litres of tailings fluids, which are reaching groundwater and are suspected to also impact surface water.

Chief Allan Adam from Athabasca Chipewyan First Nation reminded Members of Parliament that the Imperial Oil disaster is far from an isolated incident: “It has been leaking tailings into our traditional territories for the last 11 months, let alone for the last 30 years. This is just what we know of.”

The toxic tailings in the oil sands cover 300 square kilometres of what used to be pristine boreal forest, now used as a dumping ground for more than 1.4 trillion litres of toxic sludge. Recent evidence shows that these tailings “ponds” (now larger than many lakes) were in fact designed with the understanding they would leak. While the industry claims to have an interception system for the expected seepage, industry data confirms they are not intercepting all of it.

Imperial is sorry they got caught

Imperial's CEO, Brad Corson, appeared in front of the parliamentary committee on April 20.

Corson came to the hearings prepared to apologize profusely for what he calls a “communication breakdown,” which was more appropriately called a “cover-up” by Indigenous community representatives and Members of Parliament. He was careful,

however, to avoid explicitly apologizing for his company's precariously disposing of billions of litres of toxic waste in pits that are designed to leak.

He and his team repeated the company's commitment to "operate in an environmentally responsible manner," a statement that contrasts not only with Imperial's performance in the oil sands but also with the pollution caused by their downstream operations in Ontario. Speaking to Imperial's presence on the St. Clair River near Sarnia, ON, Vanessa Gray, the Divestment Campaign Coordinator with Indigenous Climate Action, said: "In communities like mine, the Aamjiwnaang First Nation, Imperial is the oldest and highest emitting company ... This is a far-reaching issue where companies like Imperial Oil do not disclose the life-threatening impacts of the exposure of the chemicals they are responsible for."

Alarmingly, Brad Corson also attempted to shift part of the blame onto the staff of the Indigenous nations. Throughout his appearance, he said Imperial had used "established processes" to communicate with the nations but "did not speak directly with the Leaders." This statement could mislead one into believing Imperial had communicated about the leak, and that it was the nation's staff that didn't act accordingly. The truth is that Imperial hid for nine months the fact that they knew that tailings water was spilling, only telling the staff once in May 2022 that they had spotted discoloured water.

A self-regulating industry

Senator Rosa Galvez and numerous others have warned that our governments place a disproportionate amount of power in the hands of industry under the assumption that polluters know best how to deal with their pollution. This system creates a conflict of interest: companies are oriented to return profits, which means that there is an incentive to cut costs wherever possible. This results in environmental management practices that are designed for cost minimization, rather than environmental outcomes such as preventing pollution.

The Kearl leak is a clear example of the blind trust placed in the industry by our governments and regulators. While the

company was regularly updating the AER about the leak, the law states it is Imperial's responsibility to inform the impacted communities. The hearings revealed that the company chose not to share updates about the leak with the nations because "[their internal] investigation determined there were no impacts to fish populations in nearby river systems or risks to drinking water for local communities" and they "didn't want to go back to communities until [they] fully understood the situation and had a finalized plan."

The fact that industry calls the shots on what meets the threshold to be shared with directly impacted communities is a major flaw in how pollution is managed and brings into question the purpose of the AER in the first place. It is especially problematic when private companies are given more authority than the Indigenous nations, whose health and livelihoods are impacted by industry activities.

"If a leak can go unreported for 10 months at Kearl, what is happening elsewhere?" asked Chief Allan Adam, highlighting the fact that the rules that allowed this cover-up to take place have not been changed since.

Rethinking the regulator

Laurie Pushor, the head of the AER, also used his time at the hearings to apologize for his organization's handling of the situation. He, however, refused to answer questions about when the Government of Alberta was first informed of the leak, promising that an independent investigation launched by the regulator would answer these questions.

This incident adds to the mountain of evidence that the AER is failing to fulfill its mandate of keeping the industry accountable for the safety and sustainability of its operations.

"The Alberta system, when it comes to the Alberta regulator, is completely broken and should be dismantled," said Chief Allan Adam during the hearings. Dan Stuckless, who was representing the Fort McKay Métis Nation, said the regulator has "zero credibility outside of Calgary's echo chamber."

The affected Nations' calls to replace the AER were soon joined by a group

of Indigenous and environmental organizations who wrote an open letter to Prime Minister Justin Trudeau and Alberta Premier Danielle Smith demanding they work together to "dismantle the Alberta Energy Regulator and develop an independent regulatory system in which the decision-making authority is shared with the impacted Indigenous nations."

The fight continues

For the Indigenous nations impacted by the spill, the struggle doesn't stop there. "Summer's coming, there's going to be kids swimming in the lakefront ... who can give me certainty that when they go in the water in the springtime ... that they are going to be safe?" said Chief Tuccaro to the parliamentarians in attendance.

At the time of writing, Imperial Oil hasn't stopped the leak, and the Alberta Energy Regulator has not yet issued a certification confirming that the spill has been fully cleaned up. Our governments should ensure that production at Imperial Oil's Kearl facility is suspended until the company provides proof to the affected Nations that their industrial wastewater is not reaching, or is not at risk of reaching the environment. More wastewaters should not be produced while potential harm is ongoing.

Beyond the immediate dangers, the Imperial Oil incidents must result in a comprehensive overhaul of the way that the federal and Alberta governments regulate industrial activities. Indigenous nations must have regulatory authority over the approval of new projects and the cleanup of existing ones. All parties must work together to come up with a scientifically rigorous plan and timeline for the cleanup of the oil sands tailings ponds. Companies should be compelled to put aside the billions of dollars needed for cleanup costs, so that the responsibility doesn't become the burden of taxpayers. In short, the five-decade-long practice of letting industry self-regulate must stop, and this incident must mark the beginning of a new era of transparency, responsibility, and accountability.

Aliénor (Allie) Rougeot is a climate justice activist and a program manager at Environmental Defence Canada where she advocates for a just transition for workers and communities.▲

The Spring 2023 Wildfires:

What Needs to Change?



By Devon Earl

At the time of writing this article, it's only mid-May 2023, and Calgary is choked in a thick blanket of wildfire smoke, making the sky look an apocalyptic orange colour. Temperatures soared into the 30s at the beginning of the month, which is more typical of mid-summer than spring. The accompanying low precipitation and high winds created dangerous conditions and an abrupt start to wildfire season in western Canada.

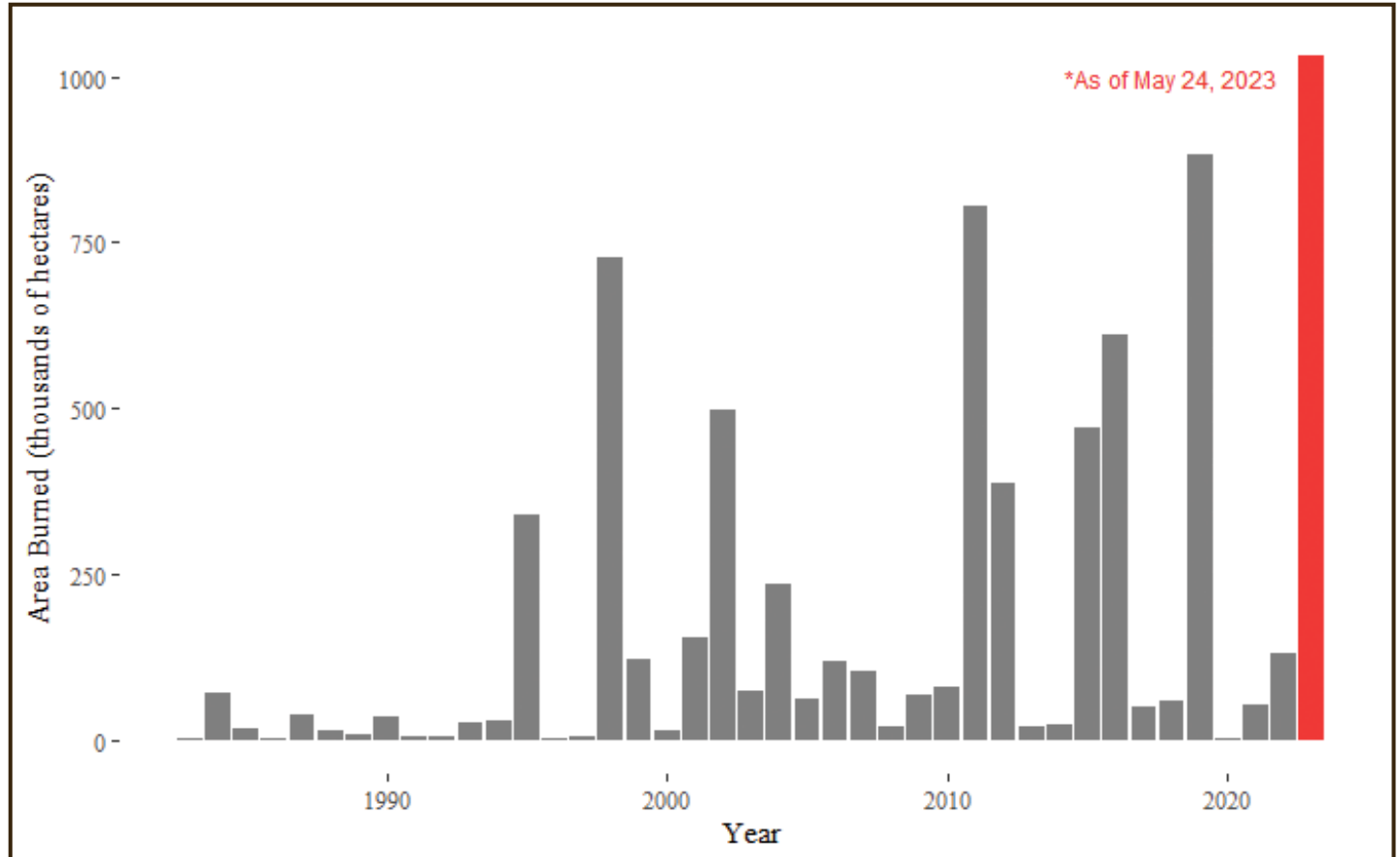
A provincial state of emergency was declared on May 6 as 110 active wildfires raged, 37 of which were classified as out of

control. By May 7, more than 29,000 Albertans were displaced from their homes and communities due to wildfire evacuations. Many people's homes were destroyed, including 45 structures in Sturgeon Lake Cree Nation, more than 100 structures in the community of Fox Lake, 25 homes in Yellowhead County, 27 homes in the East Prairie Metis Settlement in the Slave Lake region, and many more. Other Albertans are worrying about their friends and family in affected areas and dealing with the health effects of wildfire smoke. It is devastating to think of all those in Western

Canada who have been affected by this disaster.

If you are thinking that it's unusual for wildfires to be this bad in May, you are correct. As of May 24, the total area burned this wildfire season in Alberta was the highest in 40 years.

The question on many people's minds is: What is causing this wildfire disaster, and could it be prevented in the future? Climate change plays a big role in many natural disasters including wildfires. It is expected that as extreme high temperatures and drought become more common with a



Total area burned in Alberta by wildfires from 1983 to May 24, 2023. Data from Government of Alberta.

changing climate, we will deal with more frequent and severe wildfires. There is no doubt that climate change played a role in the 2023 Alberta wildfires. This should act as a sobering reminder that the time to act on climate change is now, if not many decades ago. As the proverb goes: “The best time to plant a tree was 20 years ago. The second-best time is now.” This means urgently transitioning away from fossil fuels today, rather than putting it off again and again for future generations to deal with a bigger problem later.

Most of the arguments against transitioning away from fossil fuels to prevent climate change involve economic concerns. However, these wildfires are an important example of the economic costs associated with climate change. The 2016 Fort McMurray wildfire was the most expensive natural disaster in Canada’s history as measured by insurance payouts. As of May 20, an estimated 275 structures have burned during the 2023 wildfire season. What are the economic costs of closing a major highway due to an out-of-control wildfire, and the costs to the healthcare system from the poor air quality resulting from wildfire smoke? Highway 43 in northwest Alberta between Fox Creek and Little Smoky was closed for several days, forcing trucks to turn back or stop along the road. On May 21, Alberta had the worst air quality in the world due to the extensive wildfire smoke. These conditions can exacerbate existing health problems like asthma, lung disease, and heart disease, and can be very dangerous even to those without pre-existing health conditions. What are the consequences of these fires to the lives of Albertans and to the health care system, I wonder?

Although climate change is a major player, it is not the sole culprit in this crisis. There are many things that we could do — and could have done — to prevent the frequency and severity of wildfires. Among those measures includes a change to how Alberta manages its forests.

There is a rhetoric perpetuated by forestry companies that older forests are dangerous to society due to the high levels of fuels that accumulate, and therefore they must be logged. Companies insist that fire suppression has led to an unnatural amount of old forests on the landscape which are

more susceptible to burn. Unsurprisingly, old forests are also more profitable, because companies get more wood from each tree cut down. However, there is research indicating that wildfires in Alberta’s boreal mixed wood forests are more likely in landscapes that have a higher proportion of already-harvested areas (e.g., forests that have been logged in the last 30 years). This is likely because logging can dry out the landscape; forest trees and their roots hold onto water that would otherwise evaporate. Old forests can be better at retaining moisture than young forests, and wildfires in old-growth forests are often less intense than those in young forests. Fire suppression has certainly occurred over the last century, but that doesn’t mean that we have an excess of old forests that need to be logged. Our province’s forests are wildly over-allocated for forestry (leading to the decline of beloved forest-dwelling species like woodland caribou). All you have to do is take a look on Google Earth to see the horrifying swaths of clear-cuts that occur every year in our forests. But all this logging does not emulate natural forest fires and is not protecting Albertans from large, out-of-control burns.

Another harmful forestry practice is spraying glyphosate on regenerating forests (forests that have been logged and are starting to grow back). Glyphosate is a herbicide widely known under the name “Roundup” and is famous for the many lawsuits against the company that produces it because of its alleged link to a form of cancer called non-Hodgkin’s lymphoma. In forestry, glyphosate is used to kill deciduous trees and other plants that compete for light and nutrients with the more commercially valuable conifers (evergreen trees) that many forestry companies want to harvest. This essentially creates a monocrop of one species of tree, rather than a diverse forest ecosystem. Unfortunately, it turns out that deciduous trees such as aspen are much more resistant to fire than conifers, apart from early spring prior to their new leaves emerging. The effect of suppressing aspen growth in managed forests is to remove much-needed fire breaks that could reduce the spread of wildfires. Rather than preventing wildfires, forestry practices have created vast dry landscapes full of the most flammable trees.

To make matters worse, the Government of Alberta has cut many of the province’s wildfire response resources over the last few years. Knowing that we are in the midst of a climate crisis, it is crucial to have appropriate wildfire responses to fight fires when they do occur and to protect people and communities. However, the Government of Alberta shut down 26 fire towers across the province in 2019, which are responsible for detecting wildfires early while they are still small. The Government of Alberta’s 2019 wildfire review report indicates that when crews arrive at a high-intensity wildfire when the fire is under two hectares in size, there is a 94 percent chance that the fire will be contained by the following morning. This is compared to a 43 percent chance of the fire being contained the next morning when crews arrive, and the fire is greater than two hectares in size. Funding for the Rappel Attack Program was also cut in 2019, a program where firefighters rappel from helicopters to suppress fires in areas that are otherwise difficult to access. Staffing cuts were made to Alberta Wildfire in 2020, and in 2022 there was a 10 percent reduction in wildfire staff’s seasonal contract length, leading to contracts starting later and ending earlier and leaving us vulnerable in spring and fall.

Moving forward, we need a proactive approach to dealing with wildfires. This means tackling climate change, modernizing forestry practices, and increasing the province’s wildfire response capacity. The solution to the wildfire problem is not to clear-cut every mature forest in the province and grow back plantations of conifers while cutting funding to fight fires. Forest management needs to shift from focusing on timber supply to prioritizing ecological values. In this way, forests could be managed with a mixture of safe prescribed and traditional burns (as informed by Indigenous practices), and sustainable logging in appropriate areas. This would have multiple benefits including reducing fire risk and retaining healthy, resilient forests that provide a suite of ecological services including sequestering carbon and retaining water. Without making these important changes, we can expect to see many more record-breaking wildfire seasons in the years to come. 🌲

Duncan's First Nation:

Protecting the Land and Their Way of Life

By Gillian Steward



First Nations households in the Peace River region often share the moose meat they harvest with extended family members and neighbours. Hunting is a long-held tradition and moose meat is an important source of protein. But the moose population is in decline. First, it was the bison, then the caribou, both important food staples and cultural touchstones; now moose are becoming harder to find.

There is no one culprit to blame for the decline of moose in this corner of northwestern Alberta. It's death by a thousand cuts to habitat that was home ground for moose and other wildlife for centuries. Each forestry operation, oil or gas installation, agricultural activity, or any other industrial venture is approved by provincial regulators on an individual basis. Together, the multiplying impacts of all those projects can leave a scarred landscape that is inhospitable to nearby communities and wildlife.

Many First Nations in sparsely populated areas of Alberta know all about this. Some of them have mounted court cases — and won — in an effort to stop the widespread destruction of the land in their territories.

It's still early days, but it's possible that cases such as these will lead to significant changes in environmental protection and remediation policies, laws and regulations that will benefit Indigenous peoples, wild habitat, wildlife, and all Albertans.

These cases also alert project developers to the risks of half-hearted consultation processes with Indigenous

people. The Truth and Reconciliation Commission spells out what a more thorough consultation process might look like. It calls on the corporate sector to “commit to meaningful consultation, building respectful relationships, and obtaining the free, prior, and informed consent of Indigenous peoples before proceeding with economic development projects.”

The Peace River region in west central Alberta is home to Duncan's First Nation, a signatory of Treaty 8 (1899). The reserve and its surrounding territory lie in the middle of extensive farmland, forestry operations, and oil and gas infrastructure. Rough roads have been carved out for logging trucks, seismic exploration, and pipeline construction. Those roads also provide easy access for sports hunters keen to bag a moose.

“There used to be a huge population of moose in the nearby Saddle Hills. Now we have to travel one and a half to two hours to hunt moose,” Irvin Knott Jr. told University of Alberta law students and faculty during a March 2023 webinar. Knott is a former band councillor for Duncan's First Nation, a community of 300 Woodland Cree — half living on reserve and half off-reserve — about a half-hour drive from the town of Peace River.

In-situ oil sands operations also mark the Peace River region and have created another kind of disturbance. In March 2023, geophysicists at Stanford University concluded that a 5.6 magnitude earthquake in the Peace River region in November 2022, one of the largest ever recorded in

Alberta, was most likely caused by in-situ oil sands wastewater injected underground. Upon being informed of the results of the research which it had commissioned, the Alberta Energy Regulator issued an Environmental Protection Order for Obsidian Energy which requires the company to take action to reduce the likelihood of such events. Obsidian disputes the findings of the research.

According to former band councillor Irvin Knott Jr., where once the people of Duncan's First Nation could hunt, trap and fish close to home, the land has become so diminished that they had to buy a new trap line instead of relying on older trap lines which were handed down for generations but are now seemingly inhospitable to the wildlife once found there.

Duncan's First Nation challenges the Alberta government in court

In the summer of 2022, the band's frustration came to a head. Facing what seemed like uncontrolled industrial development in the territory surrounding their reserve where they believed they could continue a way of life that included hunting and trapping as promised in Treaty 8, Duncan's First Nation filed a lawsuit against the Alberta government. It asserts that the cumulative impact of all that development has infringed on the rights granted to them by the treaty.

“The case is about ensuring that as the original inhabitants and stewards of their land, Duncan's First Nation has control over what happens on it. They

should be in the driver's seat — right now they aren't even in the car," said Aria Laskin of JFK Law in Vancouver in an interview. The lawsuit takes aim at the process by which each industrial project in the area is granted approval by provincial authorities without considering that together all those projects create a dead zone where wild habitat and wild animals can no longer thrive.

"Those cumulative impacts need to be appropriately considered and managed," added Laskin. "Right now,

if you walk in Duncan's territory, in many places it's so disrupted that you just wouldn't want to be in it, let alone have any success exercising rights, of practicing your way of life."

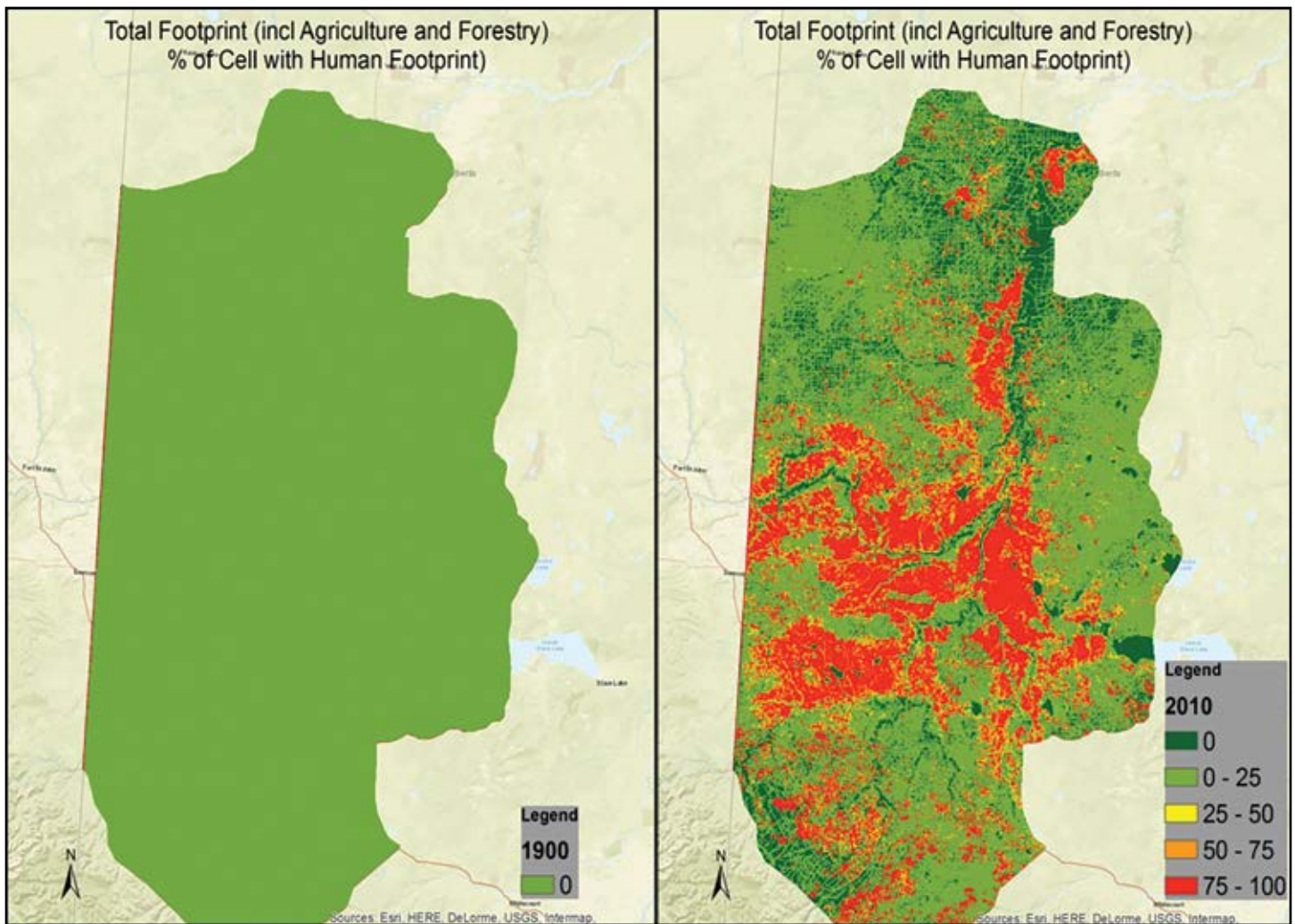
Cumulative impacts to the land and Indigenous culture were the basis of a successful claim against the B.C. government by Blueberry River First Nations (Yahey) in the Treaty 8 region of northeastern B.C. That claim and the judicial decision that followed eventually led to a negotiated agreement in January 2023 between the

provincial government, Blueberry River First Nations and several other B.C. Treaty 8 nations, designed to preserve or remediate specified areas and limit future cumulative impacts on the environment. Most importantly, it gives the First Nations a seat at the table when land-use decisions are being made.

Since Duncan's First Nation is also part of Treaty 8 which extends from northeastern B.C., across northern Alberta, and into the Northwest Territories, these claims are getting



Access road to an Alberta oilsands/heavy oil production area in Duncan First Nation's traditional territory. The Nation's hunting grounds have been transformed by significant levels of oil and gas development. Photo: © M. General, courtesy of Duncan's First Nation.



Human footprint in 2010 compared to 1900 in the Alberta portion of Duncan's First Nation traditional territory. Their 2022 lawsuit asserts that the cumulative impacts of these disturbances have infringed upon their rights ensured under Treaty 8. Map courtesy of Duncan's First Nation. Photo: © M. General, courtesy of Duncan's First Nation.

a lot of attention from other First Nations who find themselves in similar situations.

Alberta's stance

When it comes to the environmental impacts of resource development, taking on the government of Alberta is no easy task. "Often the government will invoke regional land-use planning as a way to deal with the disputes. But the land-use plans never materialize ... there certainly isn't one that includes Duncan's First Nation," Laskin said. In fact, only two of Alberta's seven regions have approved land-use plans. And they don't manage or limit cumulative land disturbance.

Matthew General works with Laskin as JFK's manager of Indigenous consultation and advisory services.

He believes land-use planning will not solve all the problems First Nations are having with the cumulative effects of industrial development.

"It's just not just a matter of all of a sudden Alberta saying, 'Hey, we're gonna do land-use planning to make this all go away'. It has to deal with the rights, it has to deal with the culture, the carrying capacity of the land, and what lands and what quality of lands are there to sustain the exercise of rights by not only Duncan's but other Indigenous nations as well," General said.

In its response to the Duncan's First Nation claim it's clear that the Alberta government is not looking to any of the precedents set by the Blueberry River case, even though a court ruling in the First Nation's favour was delivered in the summer of 2021 and the B.C

government and the First Nation reached an agreement ten days before Alberta filed its response.

Instead, Alberta outright denies any breaches of treaty rights and refutes the boundaries of Duncan's First Nation traditional territory as described by the band in its claim. It's "too late" to issue a claim, the statement of defence asserts, because the allegations of damage occurred decades ago. Alberta also maintains that Duncan's First Nation had the opportunity to register its opposition during consultation efforts and could also have used legal channels such as judicial reviews of planned projects.

Alberta's response doesn't explain how a community of only 300 people was supposed to raise the money for the technical expertise and legal advice needed to mount a challenge; one of the

reasons that makes it almost impossible for First Nations to challenge each project especially when there are so many in their territory, Laskin said.

That wasn't the case for the Fort McKay First Nation which has benefitted financially from its participation in oil sands projects and services. Just north of Fort McMurray, Fort McKay First Nation wanted to prevent an oil sands project from blocking access to and polluting its Moose Lake reserves, an important hunting and ceremonial area for band members about 65 kilometres from the Fort McKay reserve. It was eventually successful in securing that access.

"The Moose Lake Access Management Plan was a precedent-setting approach for Alberta in regards to cumulative effects," said Brenda Heelan Powell of the Edmonton-based Environmental Law Centre. "There was already strongly established industrial footprints in the area. But according to the plan negotiated between the First Nation and the provincial government there needs to be restoration of that footprint before various industries in the area can move on to new developments."

Another Indigenous community in Alberta, Beaver Lake Cree First Nation (BLCFN) situated 105 kilometres northeast of Edmonton in the Cold Lake area, first sued the federal and provincial governments in 2008 claiming cumulative impacts from industrial developments such as oil sand operations had made it impossible for members to maintain their way of life as well as hunting and trapping. That case has been winding through various levels of the judicial system since then and has so far cost the Beaver Lake Cree \$3 million, yet the substance of the case has still not been addressed.

However, BLCFN chalked up a victory in March 2022 when the Supreme Court ruled that it is entitled to make an application to the Alberta Court of King's Bench for advance costs of its legal challenge.

"I really don't think you can overstate how important the capacity funding piece is, and I think a lot of people don't

really get that," said Laskin, the lawyer with Vancouver-based JFK Law, which also acts for BLCFN. Laskin pointed out that a lot of cases involving treaty rights and environmental issues can be extremely complicated. Government regulators, petroleum and forestry companies have in-house experts or the resources to hire them when they need to get their projects approved. Most First Nations don't have that capacity. And they don't receive any federal funding to mount court challenges.

Although Indigenous rights are recognized in the Constitution, said Laskin, those rights are only theoretical if they cannot be exercised due to a lack of resources to uphold them.

She wonders what is going to happen when carbon sequestration projects come up for approval. "How can First Nations easily respond to such complex industrial infrastructure?" she asked. "Someone comes to you and says, oh, we're gonna pump carbon under your traditional land. You're like, 'well, I don't really know what that is, it doesn't sound good'. But who knows what that's actually going to do?"

O'Chiese First Nation, a Saulteaux community west of Rocky Mountain House, is also concerned about cumulative industrial impacts on its traditional territory. Its submission to Alberta's Coal Policy Review Committee in 2021 states: "The Government of Alberta's approach to coal regulation and its deficient understanding of Inherent and Treaty rights demonstrates a notable bias towards development at the expense of the environment and O'Chiese First Nation's Inherent and Treaty rights ... these collective damages and violations from all human activity are not considered in the regulatory processes."

Jason Veness has worked with the Alberta Energy Regulator and as Resource Director for Aseniwuche Winewak Nation which sits amidst forestry, oil and gas, and coal mining operations near Grande Cache in west central Alberta. He points out that the Blueberry River case put other jurisdictions on notice that they could be at "massive" financial risk if treaty

rights are not recognized.

"There is also a sense of urgency among First Nations about the impact of industry on their lands. In this area alone, for example, caribou are at huge risk and are already functionally extirpated," Veness said. Instead of recognizing their responsibility to uphold treaty rights, the Alberta government always positions industrial projects within an economic frame of reference; that's the first priority, he said. "Regulatory processes are predatory in nature," Veness added. "They are designed to remove people from the land."

It will likely take several years for the Duncan's First Nation claim to wend its way through the justice system. In the meantime, industrial development will continue in their territory and the Peace River region using the same regulatory processes that caused what the band experiences as devastating cumulative impacts to the land, waters, wilderness, and wildlife that they depend on.

That's certainly the situation the Beaver Lake Cree Nation is facing. It filed its claim 15 years ago and since then oil sands production in the Cold Lake area has increased significantly. And now there is the prospect of a multi-billion-dollar carbon sequestration project that will entail a trunk line stretching from Fort McMurray to an underground hub near Cold Lake where the carbon will be stored.

Each delay, whether it be because of government inaction or lengthy court cases means logging, oil and gas developments, and other industrial projects continue unabated. And that means every year there is less wild habitat for moose, caribou, and other wildlife. Time is quickly running out for them and for the First Nations that want to preserve and exercise their treaty rights. 🐾

The Cost of Climate Change:

Food Production

By Ruiping Luo



The world is undeniably warming, and in Canada's prairies, we are starting to feel the effects. According to Environment and Climate Change Canada (ECCC), Alberta has already warmed by 1.9°C since the mid-1900s – compared to an average global increase of 1°C — and is expected to continue warming at 2 to 3 times the global rate. With the rising temperatures, Alberta will experience changes in weather, impacting ecosystems, and those that rely on them. Forests and alpine habitats will shrink, and in a worst-case scenario, the southern grasslands could experience years of severe drought, becoming arid deserts.

For many Albertans, a noticeable effect will be in the cost of living, and one of the biggest impacts on household budgets is expected to be food. Agriculture is highly climate-sensitive, and a major factor that is believed to have influenced the development of agricultural societies was a stable climate. Wheat, a major Alberta crop and a staple in

many households, is one of several immensely susceptible crops. The 2023 *Statistics Canada Principle field crops* report expected Alberta to farm 8.0 million acres for wheat, and the province has produced an average 9,513,200 tonnes of wheat per year over the past 10 years, enough to feed a population more than twice that of Canada. Changes in wheat production, in Alberta and globally, will substantially affect food costs.

Crop growth in a warmer climate

Since industrialization, human activities have been the main cause of climate change, mostly through the burning of fossil fuels. We have also cut down forests, drained wetlands and converted grassland for agriculture, releasing carbon that had been stored in these ecosystems for hundreds or thousands of years. While there are many consequences to this human-caused climate change, some of the main effects

will be increased atmospheric carbon, rising temperatures, and changes in weather.

Climate change will alter agriculture and food production in several ways. Elevated atmospheric carbon increases the rate of photosynthesis, allowing wheat and various other crops to grow larger and faster, an effect termed “carbon fertilization.” In temperate regions, like Canada, warming is expected to increase the growth rates of crops, but also affect soil organisms and pests. Changes in rain and snow will affect water flow, impacting not only the water available to crops but also soil microbes, a community vital to crop health and nutrition. Altogether, a changing climate could have severe effects on water availability, nutrient content, and pest outbreaks in agricultural fields.

Impacts on water

Appropriate soil moisture conditions are crucial in wheat production, and agricultural soils may not adapt well to weather and precipitation changes. Under climate change models, Alberta is predicted to receive slightly more rain in an average year. However, rainfall will also become more extreme. Rather than light showers every few days, Alberta is expecting more heavy storms, with over 25 mm of water in 24 hours, followed by longer dry periods in between. Rainfall is also projected to be greater in spring and autumn, while summers could see less rain. For soils, this variation may be more damaging than beneficial.

Soils have a limited ability to store water. Less water is captured in soil from sudden, intense storms — as Alberta is expected to experience under climate change — than from a consistent light rain over several weeks. Especially with longer periods between rainfall events, soil moisture could be quickly



Agriculture is extremely sensitive to climate shifts. Climate change is likely to cause extreme weather events, degraded soils and more frequent pest outbreaks, endangering agriculture and food production. Photo © C. Olson

lost, increasing the risk of severe drought. This is especially true in summer, which is predicted to be hotter and drier with warming temperatures. Agricultural droughts might soon become commonplace, increasing the risk of crop failures and lowering production.

With more spring rain expected, flood risk is also higher. Soil water storage capacity can quickly be reached and exceeded during storms, and the resulting waterlogged soils lack the oxygen and nutrients required for crop growth. Remaining water is mostly lost as runoff, entering streams, and causing rivers to overflow. Floods damage crop roots and delay growth, as well as eroding and contaminating soils, impacting seeding and harvest. Such severe flooding could prove costly for agricultural yields.

Both drought and flood severity could be exacerbated by a reduction in snow. With warmer temperatures, Alberta is expected to receive less snow and more winter rain. Compared to rain, snow releases water more slowly. As a result, more snowmelt is captured and stored by soil, diminishing drought risk, and less snowmelt is lost as runoff. Snowmelt is also less likely to cause flooding than rain, and by remaining above soil, provides the soil with insulation against freezing winter temperatures. In contrast, rain can form a layer of ice within the soil, so that less water is able to enter, causing more severe floods. The loss of snowfall from climate change will likely worsen droughts and floods.

As well as weather patterns, climate change can affect soil characteristics, impacting the amount of water found in soil. Rising temperatures enhance rates of evaporation and transpiration — the exhaling of water by plants — which directly increases water loss from soil. Temperature also determines soil microbe activity, affecting soil organic matter (SOM) content and water storage. SOM, a component of soil made of decomposing plant and animal matter, is vital in water retention: in one acre, a one percent increase in SOM was calculated to hold up to 94.6 thousand litres more water. How quickly SOM is lost from soil largely depends on the activity of microbes and other decomposers, and warming is likely to increase the decomposition rate. As a result, SOM is lost faster, and soils with less SOM are less capable of holding water. So, warmer temperatures are likely to reduce the ability



Alberta has two-thirds of Canada's irrigated land, and expanding irrigation has been proposed to reduce drought damage. Climate change will likely increase drought severity and place irrigation sources at risk. Photo © C. Olson

of soil to store water, increasing the risks of agricultural drought.

Irrigation has been publicized as a solution to anticipated droughts. Irrigated fields are less reliant on weather patterns for water, and irrigation can increase yield through the dry summer months. Except, climate change also places Alberta's rivers, the main water source for irrigation, at risk. With summers anticipated to be hotter and drier, high evaporation rates will lower water levels, reducing the water available for irrigation. Glacier meltwater, which contributes to summer flow in many of Alberta's rivers, will decline as glaciers recede. Over the next century, up to 90 percent of Alberta's glaciers could be lost, and an estimated one in four Albertans will experience water scarcity from the loss of glaciers. Expanding irrigation is not going to prevent drought if Alberta's rivers are dry.

Impacts on nutrients

Another way that climate change can impact the soil is through nutrient content. Warming increases microbe activity, as well as altering microbial communities and distribution. Since microbes play a vital role in nutrient cycling, through decomposing organic matter and weathering rocks to release essential nutrients, these changes could significantly modify soil nutrient availability.

Increased microbe activity will affect soil nutrients through faster decomposition and loss of soil organic matter. SOM, in addition to its water retention properties, absorbs and contains essential nutrients. These nutrients

are slowly released as SOM decomposes. Nutrients not absorbed by roots or used by soil organisms are quickly lost, through surface runoff or leaching, where nutrients will be carried away by draining water. Since the ability of plant roots to absorb and use nutrients is limited, rapid decomposition could release nutrients too quickly for crops to use, increasing nutrient loss. As SOM declines under warming, the ability of soil to capture nutrients is also diminished, resulting in nutrient-poor soils.

Climate also affects nitrogen availability. Like most terrestrial plants, wheat growth is mainly limited by how much nitrogen it gets. Nitrogen input into soil is through fertilizer, decomposition of organic matter, and nitrogen fixation (converting nitrogen gas to reactive nitrogen compounds that plants can use). It can be lost from soil through processes like volatilization (the loss of nitrogen to the atmosphere as ammonia gas), leaching, and denitrification (conversion of reactive compounds into nitrogen gas). While it's not clear how nitrogen fixation and denitrification, both of which rely on microbial activity, would be impacted by a warming climate, the rate of volatilization is likely to increase since, like evaporation, this process increases in warm and dry conditions. Volatilization could especially increase during drought, thus reducing nitrogen in soil as the climate warms.

Runoff and leaching are also affected by climate. Both processes remove nitrogen and other nutrients from soil and are reliant on water flow. Runoff occurs when excess

water flows over the ground, causing soil erosion and washing nutrients into rivers and lakes. Leaching is when water enters soil and dissolves nutrients. These dissolved nutrients are carried downward as the water drains, beyond the reach of roots. More rain, especially heavy downpours, increases runoff and leaching, causing greater nutrient loss. Further, nutrient leaching can increase soil acidification, as alkaline or basic compounds are lost from soil. Acidic soils can decrease root growth, reduce microbial activity, and reduce the availability of nutrients. Very acidic soils can become toxic as heavy metals are released. The anticipated increase in heavy spring rains could prove very damaging for soil nutrients.

Lower soil nutrient content could decrease yield or reduce plant quality. Nutrient deficiency in wheat can cause stunted growth, yellowed leaves, and smaller or fewer kernels. It may also reduce plant nutrition. Cereal crops, like wheat, are an important source of minerals, and recent studies are finding that crop nutrition content is declining. One UK study found mineral content in wheat has declined 20 to 49 percent since the late 1900s, suggesting people will need to eat up to twice the amount to gain their essential minerals. The diminished nutrition in crops could be a result of less fertile soil, or due to faster growth, as increased carbon dioxide levels and extensive fertilizer use are allowing plants to grow larger and faster without incorporating as many proteins and minerals. For instance, crops grown under elevated carbon dioxide levels were found to contain 6 percent more carbon but 15 percent less nitrogen, implying crops will contain more sugars and less protein as carbon dioxide levels rise. In addition to reducing yield, climate change could reduce crop nutrition, increasing global malnutrition.

To compensate for soil nutrient depletion, artificial fertilizer use could increase, which is not a viable long-term solution to nutrient loss. That's because fertilizers, which have been shown to increase nutrient input and improve yield, come with negative repercussions. The most common fertilizers are for nitrogen, and on average, less than half of the nitrogen applied to fields is used by crops. The remainder is released into the atmosphere as nitrous oxide, a greenhouse gas over 250 times more potent

than carbon dioxide, or washed into water sources, causing extensive damage to aquatic ecosystems. Excess fertilizer use also increases soil acidification, degrading soils and creating reliance on fertilizers.

Impacts on pests

Along with the impacts on water and nutrient availability, climate change could benefit pests. Insect pests are poikilotherms, meaning they cannot regulate their own body temperature and are particularly sensitive to heat. In temperate regions like Canada, warming is predicted to increase insect metabolism, allowing faster growth and development. As a result, insect pests can consume more, grow larger and become more abundant, potentially causing more frequent pest outbreaks and devastating crops. The UN Food and Agriculture Organization estimates up to 40 percent of food production is already lost to pests. Each additional degree of warming may cause a 10 to 25 percent increase in loss.

Rising temperatures may allow for range expansion of pests. Just as warming could open northern regions to agriculture, it can also encourage pest expansion into regions that were previously too cold. In China, wheat midge (*Sitodiplosis mosellana*), a major crop pest in Western Canada, has been estimated to have moved northward at nearly 60 kilometres per decade since 1950. Wheat midge have also been migrating north in Alberta, most recently reaching the Peace Region in 2011, and climate models for Canada predict both a continued northward expansion and a higher abundance of wheat midge as temperatures increase. Similarly, the invasive weed Santa Maria feverfew (*Parthenium hysterophorus*), a species known to cause wheat yield loss in the US, is likely to be facilitated by climate change and could expand into Canada if warming conditions persist. Local plants are unlikely to have resistance to new pests, and the expansion of pest ranges could cause extensive damage to susceptible crops.

Pests could also take advantage of climate-induced seasonal shifts. Warming is expected to raise winter temperatures, and this could increase pest populations since more pests that normally die in colder weather will survive. In many pests, temperature, and moisture are major determinants of

emergence, arrival, or attack on host plants. With warmer and wetter springs, pests may emerge or arrive earlier, attacking younger and more vulnerable plants. For instance, aphid emergence and migration in Europe have advanced by roughly a month in the last few decades, leading to greater numbers when attacking crops. Earlier emergence and a longer growing season could also allow some pests to produce more generations per year, further increasing population size and crop destruction.

Many pests, especially invasive weeds, thrive on disturbance. Drought, flooding, and nutrient deficiency can stress crops, weakening crop defences. Flooding can also carry pest seeds, expanding the pests' range. In their stressed state, crops struggle to outcompete weeds, and weed establishment often aggravates the ramifications of flooding. Similarly, insect pests frequently take advantage of weakened defences to attack crops. For example, aphid outbreaks have been seen during droughts, when plant defences are low and physiological plant changes provide desirable feeding conditions for the pest. Climate change is expected to increase extreme weather, including drought and flooding, providing a benefit to pests.

As well, climate change is likely to reduce the efficiency of biological pest control. Most predators, parasitoids and other natural enemies used for pest control are also highly temperature sensitive. Even so, rising temperatures are expected to affect pests and their natural enemies differently. Since effective pest control relies on synchrony between pest and natural enemy development, even slight changes could disrupt interactions and release pests from natural controls. For instance, parasitoid wasps (*Tetrastichus julis*) are often used to control cereal leaf beetles (*Oulema melanopus*). During warmer springs, parasitoid wasps emerged earlier than cereal leaf beetles and were less effective at attacking leaf beetle larvae. Considering the widespread use of biological control in containing pest damage, disruption of this ecosystem service under climate change could be costly.

To counter increasing pest damage, producers often turn to pesticides. Pesticides, aside from toxicity to target pests, also harm a range of other organisms, including beneficial insects, birds, fish, reptiles, and mammals. Studies have shown that in 70.5 percent of

cases reviewed, pesticides harmed beneficial soil organisms. Pesticides can linger in the environment for years, polluting water, air, and soil, and producing and applying pesticides releases more greenhouse gases. Additionally, pests are continually evolving resistance to pesticides. Climate change is expected to increase pest populations, expand ranges, and induce rapid environmental changes — conditions that will encourage evolution and accelerate the development of pesticide resistance. As a result, new pesticides will need to be continually developed to keep pace with pest evolution. Expanding pesticide use could result in greater environmental harm than intended.

Benefits of climate change

There are some benefits climate change could bring to wheat production. In Canada, where agriculture is frequently limited by temperature, warming is expected to bring longer growing seasons, and carbon fertilization may encourage faster growth. Warming could also allow northward expansion of agriculture, with as much as 4.2 million square kilometres estimated to be farmable by 2080.

Despite this optimistic forecast, wheat production and agricultural expansion have several challenges and costs. Temperate wheat varieties are sensitive to heat stress, with most showing an optimal growing temperature between 15°C and 20°C. Plant breeders and geneticists are increasingly selecting for heat-tolerant varieties, though whether these varieties will survive in the extreme climatic conditions warming brings is still unknown. It's important to remember that expanding farmland to increase production has costs and can further contribute to global warming by releasing stored carbon. Agricultural conversion fragments and destroys native wildlife habitat and cropland is generally less diverse than native ecosystems, reducing local biodiversity and driving species decline. Fertilizer and pesticide applications contribute to the degradation of soil and can pollute nearby lands and waters. The loss of native grasslands, wetlands, and forests, which normally buffer against extreme weather events, increases flood and drought risk. While warming could bring some benefits to wheat production, these benefits seem far outweighed by the costs. Especially to those

living in regions of the world most vulnerable to harm from climate-related impacts.

Economic costs of climate change

Climate change is expected to increase flooding and drought, lower soil nutrient content and cause greater pest damage. Proposed responses to these threats include irrigation expansion and increasing fertilizer and pesticide use. These management strategies, in addition to environmental costs, can be economically expensive.

According to the Government of Alberta, in 2021, Alberta had 612,223 hectares of irrigated land — worth over \$3.7 billion — and aimed to expand to 625,000 hectares by 2025. These values fail to account for the water and electricity costs, which range from \$12 to \$25 per acre per year, totaling between \$18 to \$38 million per year. Nationally, 1.8 billion cubic metres of water were used to irrigate crops in 2020, and costs are likely to increase as water becomes scarce.

Costs of fertilizer and pesticides are also on the rise. Prices jumped an average of 80.2 percent for fertilizer cost in 2022, while pesticides rose at a slower 7.7 percent. Farm Credit Canada estimated fertilizer sales totaled \$10.1 billion, with an additional \$3.3 billion in agricultural chemicals, including pesticides. These costs are expected to increase by five percent or greater in 2023.

Higher production costs are already inflating bread and flour prices. In March 2022,

Canadians paid an average 13.5 percent more for bread than the previous year. While some of this cost was attributed to global events, such as Russia's invasion of Ukraine, causing uncertainty in the wheat market, some of it was linked to production costs. Statistics Canada reports that the price of grain rose 65.1 percent, with agricultural chemicals, such as pesticides and fertilizers, increasing 33.9 percent. In addition, drought conditions in the prairies severely lowered yield, causing a 37.1 percent decline in Canadian wheat production compared to the previous year. As drought becomes more frequent and severe, and as fertilizer and pesticide application increases to compensate for warming-induced changes, the costs of bread and other foods can only grow.

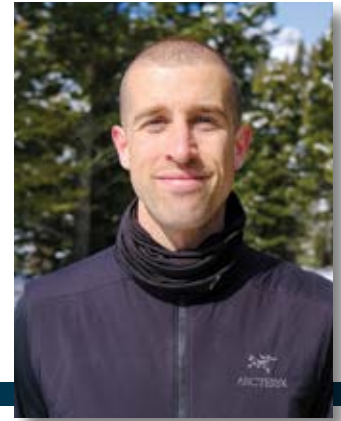
We are already experiencing the consequences of climate change, and these costs will worsen as global warming continues. At the current rate of emissions, the world could exceed 1.5°C of warming in the next five years. Even if all greenhouse gas emissions stop immediately, there is still a high chance of overshooting 1.5°C. Still, a cease in emissions would maintain global temperatures below 2°C of warming — a level associated with global crop failures and widespread famine — and 2°C is preferable to 4°C, a threshold with potentially catastrophic consequences for life on Earth. We need to act now to prevent these costs from becoming greater. 🌱



Wetlands and native habitats are vital buffers against drought, flooding and other extreme weather events. Agricultural expansion often fragments and devastates important habitats, increasing drought and floods. Photo © C. Olson

Corporate Welfare in the Oilpatch

By Phillip Meintzer



Alberta Wilderness Association learned in February that the Alberta Energy Regulator (AER) had issued an Environmental protection Order to Imperial Oil (owned by ExxonMobil) for two separate tailings leaks at the Kearl oil sands mine going back to May 2022. Tailings are a type of toxic industrial wastewater that contains harmful levels of arsenic, benzene, mercury, naphthenic acids, and other chemicals. This leak had been ongoing for nine months without any notification provided from Imperial or the AER to Indigenous communities in the region — including Athabasca Chipewyan First Nation — who have been vocal in their outrage over this situation, as well as Mikisew Cree First Nation who have demanded an independent review of the AER and their management of the tailings ponds.

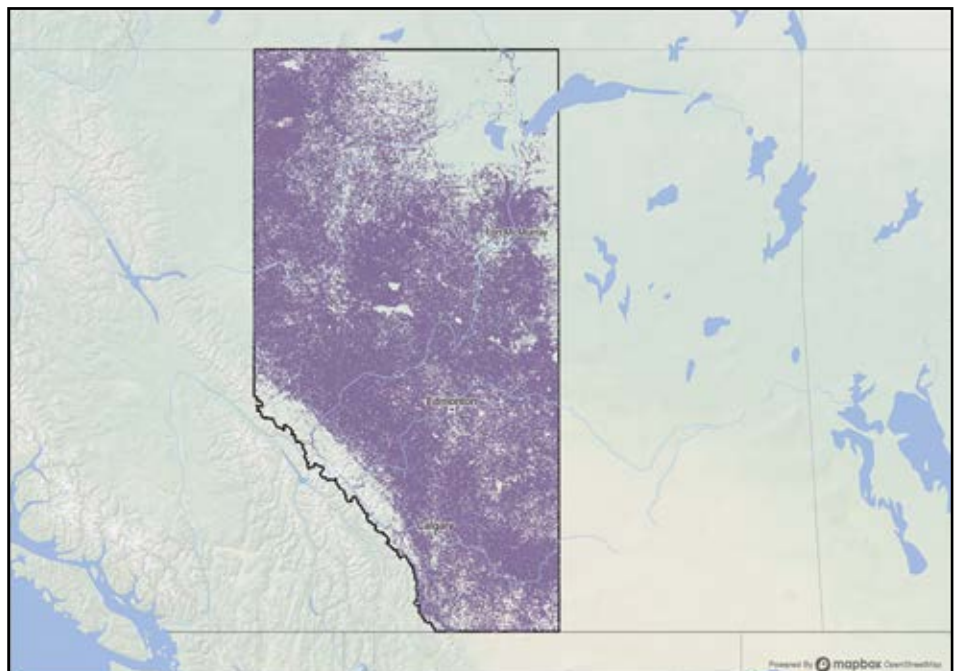
Initially, the AER and Imperial both said that there had been no impacts to wildlife or the public from these incidents, but even if that were true, it doesn't ease our concerns that these tailings ponds won't fail again in the future, with potentially catastrophic consequences. We have also learned in the aftermath of this story that Environment and Climate Change Canada (ECCC) found evidence that this seepage was likely deleterious or harmful to fish. Imperial Oil was directed, under the federal *Fisheries Act*, to take immediate action to prevent any seepage from entering fish-bearing waters. Later, it was confirmed that the AER had detected the presence of hazardous tailings

chemicals in an unnamed fish-bearing lake within Imperial's lease area at the Kearl mine.

Then in April 2023, we learned that nearly six million litres of contaminated wastewater had been spilled from a sedimentation pond at the site of Suncor's Fort Hills mine. This spill is not identical to the one at Kearl, as it was from a sedimentation pond rather than a tailings pond and therefore likely less toxic, but the spilled effluent still exceeded the approved regulatory limit for suspended solids. One week later, news broke that 32 birds (along with two small mammals) had been found dead at a tailings pond located at Suncor's Base Mine, roughly 30

kilometres north of Fort McMurray, during a bird monitoring survey. This string of disturbing incidents only serves to highlight — yet again — the risks associated with storing such massive volumes of contaminated fluid on Alberta's landscape, and preventing them from harming the neighbouring watersheds, ecosystems, and the communities that rely on them.

More than 1.4 trillion litres of toxic tailings are sitting across northern Alberta, covering more than 300 square kilometres, and the problem only continues to grow. As the volume of effluent stored within these ponds grows, it poses a greater risk of harm to downstream communities and the environment in the case of tailings



Alberta's landscape is littered with oil and gas infrastructure (pictured), with cleanup costs for orphaned and abandoned sites estimated between \$58 to \$260 billion. Map © Alberta Biodiversity Monitoring Institute (ABMI) 2019 Human Footprint Data.

pond failure. More information on the extent of the tailings issue is available in a recent report from CPAWS Northern Alberta and Environmental Defence Canada. According to this report, only one square kilometre of the oil sands has been certified as fully reclaimed by the AER as of 2016. The cost to clean up the tailings ponds has been estimated at \$28 to \$130 billion, but oil sands companies have only set aside less than three percent of the funds necessary to cover cleanup costs.

There is currently no comprehensive tailings reclamation plan for the oil sands region, but the AER and the Government of Alberta continue to allow these energy companies to produce more and more tailings without a cleanup plan in place. In 2021, we learned that the Government of Alberta, jointly with ECCC, were developing new regulations that would permit the release of treated tailings effluent back into the Athabasca River, which is a solution AWA strongly opposes. Rather than eliminating the root cause of the issue — continued oil sands production — which is driving both the climate crisis and the growth of tailings, our leaders would prefer to suggest various Band-Aid solutions, like figuring out how and where to dump the tailings elsewhere. How long would this problem go unaddressed if the seepage occurred along the Bow River upstream of Calgary?

What makes the whole situation more frustrating is that Imperial just posted a \$1.7 billion profit in the fourth quarter of 2022 alone. They are making more than enough money to set aside funds for reclamation, but we need a regulator, governments, and a public that is willing to pressure them into dealing with this issue. Instead, our governments at both the federal and provincial levels seem content to continue throwing public taxpayer money at oil and gas companies in the form of tax incentives and subsidies for activities which they are wealthy enough to afford themselves.

News broke in February of Alberta

Premier Danielle Smith's plan to dish out a \$20 billion bonus to oil and gas corporations for cleaning up orphaned and abandoned well sites across the province — a clean up which they are already required to do by law. It is estimated that the cost to remediate environmental liabilities, such as abandoned well sites, could be anywhere from \$58 to \$260 billion, but only \$1.5 billion has been collected from energy companies to date. This incentive, known as the R-Star program, would pay even more money to already profitable companies to clean up a mess that they created, and that they are already legally obligated to remediate.

The group of six Canadian oil sands companies (CNRL, Cenovus, ConocoPhillips, Imperial Oil, MEG Energy, and Suncor) known as the Pathways Alliance collectively recorded profits of more than \$35 billion in 2022. This was a record year for oil sands profits, spurred on by the rising energy costs driven by Russia's invasion of Ukraine. Yet despite record earnings, these six companies have spent a meagre \$500 million of their own money on their pursuit of much touted — and still unproven — carbon capture and storage (CCUS) technologies.

CCUS is intended to prevent carbon dioxide from entering the atmosphere at the point of production through a process that concentrates carbon dioxide so that it can be transported and stored underground. One of these projects hopes to install CCUS technology at sites across the oil sands region, while connecting them to an underground storage site near Cold Lake. The estimated cost for this project is \$16.5 billion, of which these companies have only spent a paltry \$500 million while continuing to demand public funding from governments to cover the costs. We should not be spending a cent of public money on a technology that is still unproven and would only serve to prolong the status quo by allowing these companies to continue

producing, rather than limiting their production. Especially as these companies hide the full extent of their emissions from the public.

New research from Environment and Climate Change Canada (ECCC) published in the journal *Proceedings of the National Academy of Sciences Nexus* in April 2023, found that oilsands emissions could be 65 percent greater than currently reported by industry in the greenhouse gas reporting program. The study notes that the oilsands could be releasing 21 million tonnes of unreported carbon dioxide emissions every year, with potential under-reporting dating back to at least 2018.

In a report from the Pembina Institute released in September 2022, it was noted that: "While the pledges and promises of the Pathways Alliance may give the impression that action on this front is imminent or already underway, our analysis here demonstrates that oilsands companies have yet to make the necessary investment decisions — or even release sufficiently detailed project plans, with information about allocation of capital expenditure, timelines, and individual company GHG reduction targets — to provide proper reassurance about the likely pace of decarbonization in the sector." These two reports taken together reinforce the notion that Canadian oilsands companies are not doing enough when it comes to environmental sustainability. They are taking public money to greenwash their operations through investments in unproved carbon capture, while under-reporting their own emissions, and asking for even more public money to cleanup their mess. We cannot trust that they will follow through on their emissions reduction commitments without meaningful enforcement.

We need to remember that all of this is happening while we keep approving new or expanded oil sands mines, like Suncor's Fort Hills expansion into the McClelland Lake Wetland Complex (with ditching and draining planned

to begin in 2025), as well as Suncor's proposed Base Mine Extension project. With respect to McClelland, Suncor says it can place a large underground wall in the middle of a sensitive wetland area, and guarantee that no harm will come to the unmined side from mining right next door. That means this wall, and the associated wells, pipelines, and people need to work flawlessly for over 50 years (from 2025 to 2076) without failure. Meanwhile, Suncor can't even prevent a spill from a simple sedimentation pond at the very same mine (Fort Hills) as we saw back in April. New and expanded mines will only exacerbate the problem of cleanup. More scars on Alberta's landscape, more tailings pollution, and more GHG emissions, all to line the pockets of shareholders.

As things stand, oil and gas companies are permitted to profit off the exploitation of Alberta's landscape and people, while we are left to clean up their mess. This must change, and change will only happen if there's enough public outrage directed at those responsible for this mess. Energy companies have an obligation to their shareholders to be profitable, but these profits should no longer come at the expense of Alberta's ecosystems, Indigenous communities, and people's health. Suncor's new CEO recently announced plans to cut jobs under the guise of "efficiency," which is just another great reason why we should reduce our reliance on oil and gas companies who are only here for short-term profits.

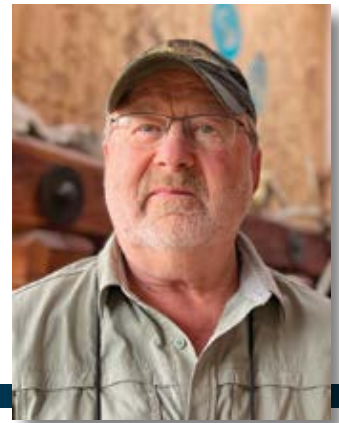
To do this, we will need a provincial energy regulator that is genuinely capable of the task of regulation, and governments that are courageous enough to stand up to corporations, and willing to create the laws, policies, and regulations that will limit and reduce fossil fuel production in line with credible science and a sustainable, equitable future. 🌱



Taxpayers should not be on the hook for covering the cost of cleanup and reclamation while oil and gas companies, like Imperial Oil, are posting record profits at the expense of Alberta's ecosystems and those who rely on them. Photos © C. Olson (top) G. Lenz (bottom).

Death of a Loon

By David McIntyre



I knew she was doomed the moment I saw her. The only hope: Could she be rescued? An Arctic cold front had moved south and the loon, swimming in southwestern Alberta within a sliver of open water in mid-November, should have been long gone. What was wrong? Why hadn't she flown to safe coastal waters?

The loon, the only sign of life on the snow-covered lake, called out a haunting, forlorn, primordial cry. Seconds passed before the lake ice, expanding, responded with a hollow, whale-like reverberating bong that echoed across the land.

Day one

I, alone on shore amid an expanse of snow, looked across thin ice toward the swimming loon, then north toward the white, knife-edged crest of the Livingstone Range. What could I do?

My first thought was to contact Fish and Wildlife and area firefighters. The envisioned rescue of the loon appeared to be a golden opportunity for firefighters to gain valuable ice-rescue training as well as the perfect occasion to cash-in on a high-profile, good news story. My subsequent phone calls to firefighters opened the door to discussion and gave me reason to believe there was interest in pursuing the envisioned rescue. I, encouraged, offered sideline support and an inflatable raft as an added safety item. I then contacted Fish and Wildlife. The person answering the call seemed interested in the issue but didn't offer any help.

I made numerous inquiries that first day and returned to Lee Lake late in the afternoon to further assess the situation. When I arrived, I was surprised to see a Government of Alberta truck parked

close to the lake. I parked behind it and walked over to the driver's side to talk with a conservation officer, a young man who was watching the swimming loon. An adult bald eagle, perched in a nearby tree, was also on watch. Six eyes were focused on the icebound loon.

When I mentioned the threat of eagle predation, the officer told me he hadn't seen any eagles. I pointed. The officer, acknowledging the sighting, told me another loon had been seen the previous day in a similar bathtub-sized splash of open water on nearby Beauvais Lake, and that bird, no longer present, may have flown away. This, I knew, didn't ring true. Loons can't fly from a virtual bucket of water. They, like seaplanes, require a

long, open-water runway. The Beauvais Lake loon was almost certainly dead.

Very few loons nest in southwestern Alberta, a southern outlier of their breeding range, and the realization that two rare birds on two rare nesting lakes were similarly trapped was deeply disturbing. Why hadn't these loons flown to freedom before the lakes froze?

The loon in front of us, imprisoned, was actively swimming, and diving, and looked to be the picture of health. What was wrong? What caused her to stay when her mate flew away?

Loons require relative solitude and don't tolerate much in the way of human disturbance. Where loons exist, they inject a brand of Northwoods magic into



Autumn gold. Lee Lake in mid-October, the day Monica and David first noticed the presence of a single, lingering loon. Photo © David McIntyre.



The Lee Lake loon, moments before Monica and David, converging on her from opposite directions, were able to capture her. Photo © David McIntyre.

the land and its waterways. Their soul-stirring calls cut through the stillness and speak to the raw, quintessential essence of ecological integrity. Whenever loons add their evocative magic to lakeshore environments, the land resonates with life. It feels intact. Beauvais Lake and Lee Lake, each supporting one breeding pair of common loons in recent years, have contributed to the birds' presence on this landscape and enriched the lives of lakeside communities. Dark clouds now obscure the future.

Loons are typically seven years old before they breed. They nest on lakes

where ice-free summers are short.

Incubation of eggs takes nearly a month, and the young require three long months to fledge. Loons, like grizzly bears, might live as long as 30 years, but they're slow to mature and breed, and when they do, the number of young they produce is small. A pair of breeding loons can be expected to produce no more than two chicks each year. One might survive. Fifty percent of all loon nests fail to fledge a single bird. The untimely death of a breeding loon on a southwestern Alberta lake is a colossal loss. Its impact could — forever — erase loons from that lake.

The conservation officer and I, on the shore of Lee Lake at the end of that cold November day, looked out across an expanse of ice to the swimming loon where, earlier in the year, I'd watched the lake's breeding loons nest and begin to raise two young. I don't believe either chick survived.

Adult bald eagles, the most obvious threat to young loons, can be seen in the area throughout the year. One pair nests in a large Douglas-fir overlooking Lee Lake. Eagle predation is, of course, a natural threat. What I was to learn suggests that fishing and, in particular, motorized trolling, appear likely to be the greatest threat to loon survival on a small lake — such as Lee Lake — where this activity is intense. Beauvais Lake is in this same lethal boat. Do trollers worry that their trailing lines and life-threatening hooks might snag a loon and cause it to suffer through weeks of pain, impaired mobility, and infection ... and silence its wailing cries?

The loon we watched that cold November day was an adult female, almost certainly the same loon that, earlier in the year, had nested on Lee Lake. I knew none of this as I, shivering, stood braced against a stiff wind while looking out at the swimming, icebound loon. The picture, still in the darkroom, was just beginning to develop.

Common loons, striking in appearance, flaunt white-on-black star-like plumage and are further adorned with iridescent green-black heads, red eyes, and a stunning necklace of white. They evolved as diving specialists. Virtually unable to walk on land, they're pure poetry underwater. feathered torpedoes powered by large, webbed feet set far back on a long, heavy body. Loons weigh approximately the same as eagles, and their bills are lethal — lightning-fast — daggers. Fish are a loon's primary prey.

Loons, perhaps best known for their spellbinding open-water sonatas, capture and convey the pulse of a lakeside forest's cryptic shadows, the magical allure of the unknown. There, where fascination meets fear and enchantment, loons inject frantic wails, tremolos, and poignant cries that dance and echo across the water. Calling

loons generate a sense of wilderness that, especially at dawn and dusk, sends a cascade of cold water down your spine, freezes the action of your canoe paddle, and steals your gaze from a lakeside campfire.

Loons, while garnering national attention and a special place in the hearts of lakeside communities that share habitation, are threatened by human activity, particularly shoreline development and the impact of recreational watercraft. Eggs are washed out of nests, critical habitat is lost, lead poisoning from ingested sinkers takes a toll, and nest site disturbance drives loons away. Loons that nest on use-intensive recreational lakes live at the outside edge of their tolerance for the impact of people. When loons are encountered in these high-stress environments, they need to be given ample room. People fishing must learn to remove their lines from the water whenever loons are in close proximity.

Days two and three

I arrived at the lakeshore each day at dawn and watched as the loon swam and dove, her intense activity keeping the small teardrop of open water ice-free despite the bitterly cold temperature.

How well could she see under the lake's overriding layer of ice and snow? Presumably well enough to catch fish and bring them to the surface. One of the fish the loon captured was a trout that seemed too large for her to swallow. I watched with binoculars as she, repeatedly, attempted to grab and swallow the trout while wind and wave action made it appear the trout would be lost under the ice, but the loon, beating the odds at the downwind lip of ice, finally lifted the trout from the water and swallowed it. A note of optimism resonated in the bitter, wintry air.

Meanwhile, my phone calls to firefighters had, frustratingly, failed to gain any rescue-supporting traction, and my calls to Fish and Wildlife had hit a brick wall. I'd talked with at least three different officers where the response was simple, consistent, and direct: "Let nature take its course." I sensed that firefighters, in obvious contact with Fish and



David, fighting to maintain control, holds the struggling loon moments after her capture, just before she was slipped into a zippered coat for transportation to waiting veterinarian. Photo © David McIntyre.

Wildlife, were being directed to stand on the sidelines, keeping me at arm's length. After three days at the lake and hours of frigid phone calls, I was no closer to coordinating an ice-rescue support team than I had been when I'd first spotted the icebound loon.

Daylight faded as the loon swam in her tiny sliver of open water, and the Arctic cold front intensified its grip on the land. There was, however, a soft glimmer of hope within the day's long shadows: The Alberta Institute for Wildlife Conservation (AIWC) reported that the loon, if rescued, would be accepted, her health assessed and, if necessary, she'd

be kept through the winter months for a spring release.

Day four

I arrived at the lakeshore at first light. The temperature was -18°C. The lake, under a soft carpet of overnight snow, was a solid sheet of ice. The loon's former sliver of open water was gone.

The loon, on the ice, was surrounded by two adult bald eagles and three ravens. The eagles, facing the loon, pecked at her head as the ravens attacked from her rear. The loon, encircled and caught in the center of a virtual knife fight, spun, and stabbed at her attackers. The situation

looked dire. I parked quickly and, waving my arms, ran toward the lake. The eagles and ravens took to the air. Thirty long, bitterly cold minutes passed as the loon, wearing a coating of ice, remained relatively motionless.

I called Fish and Wildlife where I received the same “let nature take its course” message coupled with a stern footnote: If I attempted to rescue the loon by myself, I could fall through the ice. The comment, valid as an uninformed evaluation of any on-ice rescue attempt, didn’t reflect a current and experienced assessment of the lake’s ice. I knew it was likely to be dangerously thin where the loon had been swimming, but I also knew, due to successive nights of extreme cold, the ice was safe closer to shore.

As I stood there, alone and feeling helpless, the loon did the last thing I expected her to do. She, in labored

wingbeats, propelled herself forward — toward me — for five metres, then another five, then ten. The altered picture cracked a window of hope. When the loon added another ten metres of known ice-safety to the equation, I, moving quickly, walked out on the ice and, circling behind the loon, advanced toward her and toward shore. When I had approached to within a metre, I, crouching, dove to grab her. She, sensing this move, was able to elude my grasp, flap past me and, disturbingly, propel herself farther out onto the ice. Reassessing the situation, I knew I, alone, wasn’t likely to be successful.

I walked off the ice, called my wife (Monica) at home, and asked her to come with a coat and several tie-down straps. Thirty minutes later she was at my side. We, on the lakeshore, positioned ourselves east and west of the loon,

then walked out onto the ice to a point beyond her. There, under a veil of ice fog, we turned around and, facing the loon, listened to her heart-rending, hopeless cries as they echoed in the stillness of overnight snowfall. We carried the weight of knowing we were the loon’s last chance for survival as we, converging, advanced toward her.

I’ve rescued more than a few horned and western grebes and one common loon from their nighttime crash-landings on wet roadways that, to airborne birds in rain or snow, look like open water, but are, in fact, lethal deathtraps from which the birds — needing a long open-water runway — can’t fly.

While I had this experience in my back pocket, I also knew that no amount of knowledge or training prepares a person, already stiff and cold, for an on-the-ice dive toward a loon who, fighting for her life, has a lethal, dagger-like bill and the strength to drive it home. There’s always an element of luck involved, and I was lucky in my first Monica-supported dive, able to get a gloved hand on the loon’s neck and turn her head and breast away from me as I restrained her wings, pinning them to her body.

The loon fought a good fight, but Monica and I were able to slide her into a zipped-up coat with her head emerging from the hood. The coat’s arms were crossed and tied. The loon, straight-jacketed, was further secured with three strategically placed straps.

When the phone rang a few minutes later, my hands were free and I answered it. An unknown male identifying himself by only his first name — I later learned he was a Fish and Wildlife officer — asked if I had captured the loon. I responded, saying I had. I was then told I was in illegal possession of protected wildlife, subject to arrest, and asked for my location. My response was polite but firm. I told the caller I was too busy trying to save the life of the loon to talk further, that I wasn’t going to provide my location, and hung up. I then drove to Nanton, where a veterinary clinic would be entrusted to care for the loon until, later that same day, she would be placed in the capable hands of staff from the AIWC.



The loon had lethal, debilitating wounds caused by fishing hooks, wire, and multiple loops of tightly-bound fishing line. Photo © Alberta Institute for Wildlife Conservation.

During the loon's capture, I saw a fishing lure and fishing line wound tightly around one of the loon's wings. The discovery suggested that the fishing gear, while it had seemingly prevented the loon from flying, could be removed by capable veterinary staff. This vision was supported by the loon's ability to catch and eat fish, her profound strength, and her ability to defend herself against attacking eagles and ravens.

That evening, while optimistic and hopeful, and fortified with the vision that I might be present for the loon's envisioned springtime release on Lee Lake, I received a message from the AIWC. I learned that, sadly, and tragically, the loon was dead. Bottom line: Nature didn't take its course. Barbed hooks, wire-and-metal lures, and tightly wrapped fishing line — lethal loon killers — had taken a deadly toll. The AIWC provided me with photos of its examination of the loon and reported that she'd been impaled by two separate fishing hooks, that the resultant damage was substantially more than staff had anticipated.

The comprehensive exam was performed with the loon fully sedated and included x-rays, revealing that the loon was suffering from life-threatening injuries. The most extensive of two wound sites was a fishing line entanglement in which line was wrapped tightly around the humerus, radius, and ulna (elbow joint). There, wire and fishing line were so tightly embedded it had led to extensive nerve damage, as well as necrosis. Because of a lack of blood supply, tissue had started to decay, and the patagium had become shortened and locked.

The infection caused by necrosis had spread along the loon's wing and into her major organs. The amount of tissue and bone death made it impossible for the loon to recover. It was thought she would survive no more than two weeks before succumbing to the infection. An AIWC veterinarian made the difficult decision to humanely euthanize the loon to ensure she did not continue to suffer.

The loss of the loon brought tears. Her death, like the tragic, recent deaths of a sow grizzly and her two cubs —

bears that, daily, lived, fed, and played within our home's viewscape — weighs heavily on Monica and me. How long had the female loon lived and bred on Lee Lake? How many chicks had she fledged? Would her death result in the disappearance of breeding loons from the lake?

Monica, almost immediately upon learning of the loon's death, wrote a poem and song in response to the grief-laden, heartbreaking saga. I had to wait longer, let more water flow under the bridge before attempting to convey the gravity of the story in words.

Ending on an up-note

As winter gave way to spring and ice melted on Beauvais Lake and Lee Lake, I, worried amid thoughts of what I might not see, walked at the water's edge.

When just one loon appeared on Lee Lake, I held my breath. Several days later, a second loon appeared. As I write in late May, paired loons are present on both lakes. A note of unanticipated optimism is in the air.

Epilogue

Monica and I have a decades-long love affair with Beauvais Lake and Lee Lake. We launch canoes on both lakes frequently, usually targeting calm mornings when we have the lakes to ourselves. We also walk the lakeshores. There, we've had the opportunity to look out at nesting eagles and loons, foraging grizzly bears, and diving ospreys. While we've enjoyed days of solitude on and near these lakes, we've also witnessed times when dozens of boats, many of them trailing multiple fishing lines, are on the water.

I hadn't given serious thought to boats with their trailing lines and hooks as a lethal threat to loons until this vision — seen within the rescued loon's post-mortem — suddenly loomed large, and appeared likely to be the most plausible cause for a loon's entanglement with fishing gear.

The picture: There are times when the density of pontoon boats and other boats trailing fishing lines on these small lakes is — if you're thinking about the welfare

of diving loons—disturbingly high. Logic [hopefully] suggests that people fishing will reel in their lines whenever they are in close proximity to diving loons, but do they?

What is the future for common loons on Beauvais Lake and Lee Lake? To know at least two loons died on these lakes during the past year — a number that represents 50 percent of the lakes' known breeding loon population — is to know the future is far from secure. Will mature loons arrive to fill the void? No one knows.

Throughout Alberta, resource managers, biologists, park staff, and enforcement officers need to do more to protect vulnerable water's-edge nesting habitat and reduce the recreational footprint of lakeshore users. Snarls of discarded fishing line and other fishing gear cannot be tolerated. And people fishing need to think — and act — beyond their desire to catch fish. Diving loons can't be expected to survive a deadly web of trailing lines and lethal hooks.

Loons serve as a living litmus test revealing the outer edge of a lake's raw and tenuous ecological integrity. They are mirrors exposing the health of their surroundings. Loons in southwestern Alberta are living in great danger, breeding near the absolute edge of their range. Where they exist, they act as bellwethers, supersized canaries that work the waterways beyond yesterday's underground coal mines.

The bottom line: Loons need your help if future generations are to be given the gift of hearing their haunting calls and witnessing their spellbinding injections of wilderness magic.

David McIntyre lives on the land he loves in the storied headwaters of southwestern Alberta's Oldman River. He has passionate interest and knowledge in diverse natural history disciplines and is a strong advocate for the long-range economic and ecological worth of intact landscapes. David holds a Masters of Science from the University of Washington (College of the Environment) and, for decades, led multi-day study tours for the Smithsonian Institution — via hiking and white-water rafting trips — throughout the U.S. West and the Canadian Rockies. 🐾

Why Renewable Energy Isn't Always "Green" Energy

By Amy Tucker



As a kid, Lorne Fitch's playground was a long stretch of mostly untouched aspen parkland near Red Deer, Alberta.

He'd walk out his family's back door, through a wooded lot of about 60 acres (about the equivalent of 45 American Football fields) — unbroken — then cross the road into the neighbour's quarter, where about 60 acres of it had been cleared and broken. From there, Fitch would cross into a full section of undisturbed land: groves of aspen trees, interspersed within grassland with "willow donuts" around all the wetlands.

"It was wilderness," he said. "I consider myself very lucky to grow up as a sort of a feral

child on this landscape."

Parts of this wild landscape remain, although it's very much diminished. Fitch remembers how even back then, within the span of just one year, after a neighbour bought a bulldozer, drained their wetlands, and planted barley, the landscape began to change.

Fitch is a long-time biologist in the province with roots in central Alberta. His grandparents on both sides of his family were homesteaders, who each settled in areas just west and southwest of Sylvan Lake in 1900. It was a time when this was essentially an undeveloped landscape, though not altogether unaffected by settlers. Bison had disappeared not long before, and one of the last grizzlies

of the region was killed just south of his paternal grandparents' homestead five years before they settled there.

So, when it was announced recently that Kiwetinohk Energy Corp. proposed to set up a solar farm on about 930 acres of private land in the Sylvan Lake area, it felt personal. It wasn't just the expansive nature of it that troubled him, but that it was one more blow to a once wild area, a consistent trend seen throughout the province.

"This solar farm is just one more step in transforming what was a remarkably diverse landscape," he said.

"[It] has a completely different feel to it," he added, pointing out the industrialization of the land. "Not only from a biodiversity stand-



Putting up more renewable energy projects can mean more transmission lines. Photo © C. Olson.

point but from a social standpoint.”

The number of renewable energy projects in Alberta has been ramping up over the years. There are several wind and solar projects in the queue to be approved by the Alberta Utilities Commission. Many other projects have already been given the green light and are in operation.

Fitch, a retired provincial Fish and Wildlife biologist and a former adjunct professor with the University of Calgary, said renewable energy isn't in itself a bad thing.

But with a lack of research on its impact on wildlife, we're nearing something of a *déjà vu* — we're at risk of making the same mistakes as we did in the oil and gas heyday, where infrastructure went up before enough research was done to understand the harm to the environment.

Studies on the impacts of wind and solar projects on wildlife are still limited, but researchers who have undertaken the work have found some signs that the infrastructure can be problematic.

For example, in a study from 2010 to 2016, and published in *Ecological Applications* in 2021, researchers monitored 57 Whooping Cranes — an endangered bird also found in Alberta — within the U.S. Great Plains area. They found the birds' migratory habitat is impacted by wind farms since the birds tended to avoid wind-energy infrastructure by up to five kilometres when selecting stopover points during their migrations.

Some studies suggest that each year, thousands of birds die after colliding with solar panels or transmission lines. In part, it could be due to what's known as the Lake Effect Hypothesis, which suggests waterfowl may be attracted to solar panels for their similar appearance to water.

Wind turbines may be partly to blame for the decline of three bat species common to Alberta. The hoary bat, eastern red bat and silver-haired bat were recently assessed as *Endangered* in Canada by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). The organisation is an independent advisory panel to the minister of Environment and Climate Change Canada, and is made up of experts on wildlife biology.

The committee says hundreds of thousands of bats die each year from wind turbines. But, it points to ways to mitigate these deaths, like turning off wind turbines for

short periods of low wind during the fall, when bats migrate south.

“Mitigation works,” Stephen Petersen, co-chair of COSEWIC's terrestrial mammals subcommittee, said in a news release from May. “Turning wind turbines off for very short periods at low wind speeds during the fall season can reduce mortality by 50-80 percent, while minimally compromising energy generation.”

There's also concern for problems posed to wildlife due to the space these projects can take up, especially if projects are sited close to one another. An interactive map on the AUC's website shows blocks of wind projects in the southern regions of the province,

which could be a disrupter to wildlife migration by blocking parts of animals' routes or posing a danger for some species. For example, there's about a 30-kilometre stretch of wind projects practically side by side between the southern Alberta communities of Stowe and Glenwood alone. To the west lies another approximate 30-kilometre stretch of mostly in-service wind projects between Lundbreck and Brocket.

“I'm very concerned with the siting of all of these projects in southern Alberta so close together,” said Richard Secord, an environmental lawyer, and AWA board member.

Secord, who often represents clients who oppose energy projects near them, is also



There are several windfarms that are being established relatively close to one another in southern Alberta. Photo © C. Olson.

concerned about Transalta's plans to build a wind farm called "Riplinger" on the edge of Waterton National Park. It could consist of up to 50 wind turbines, according to Transalta's website, and span roughly 14,000 acres (nearly twice the size of the Town of Cochrane) of private land. He said it's rare that environmental considerations cause the Alberta Utilities Commission to turn down a power plant project.

In fact, this year marked the first time Secord has seen an entire power plant application before AUC be denied due to environmental concerns. Elemental Energy, the company behind the Foothills Solar project, had pitched a plan to build a solar farm, spanning roughly 1,500 acres of cultivated land near Frank Lake, situated within what's internationally recognized as an Important Bird Area.

"The whole case was decided on the environmental issue," Secord said. AWA joined in the proceedings of this case as part of the concerned citizens group.

There has been another case where the environment was a factor in the denial of part of a project, Secord added. The Brooks solar project — the decision for which came out last year — was approved aside from a section on native prairie grassland. But Secord said in general "it's really tough" to get power plant projects, including renewable projects, denied.

Municipalities, and people within them,

hoping to block these projects, for agricultural or other reasons, don't have much authority, since rulings made by either the Alberta Energy Regulator or the Alberta Utilities Commission trump municipal bylaws.

"Community members, who as the first line of defence, reach out to their municipal council ... they're often told that 'we can do nothing,'" Fitch said.

"What it means is that community members are thrown into a very protracted, very expensive contest with, generally, deep-pocketed industry."

Earlier this year, Rocky View County Reeve Crystal Kissel sent a letter to about 30 rural Alberta municipalities asking for financial commitment to hire a consultant to lobby the provincial government to develop a policy for land-use decisions on renewable energy projects "that is more inclusive" of municipal interests. Kissel said that she's heard from many residents that they'd like the county to have more power at the AUC board.

Some municipalities replied with their agreement, Kissel said, and a few have also committed funds.

The county is also working on mapping out its lands to better inform the council — and industry — of the most viable places for projects to be set up, and areas that are prime agricultural land or else ecologically sensitive.

Kissel makes it clear the county is not op-

posed to renewable energy projects, but added "Like ... oil and gas, we don't want to look back in 10 years and say 'oh my goodness, we got that wrong.'"

Minimising the negative effects of solar and wind projects on wildlife, like other industrial activity, will take more research, and should be done before more projects are approved and built, not the other way around, Fitch said.

"This is often I think the conundrum for biologists, is that we're often dealing with things after the fact, as opposed to providing good information that leads development down a much less negative pathway for habitat or for wildlife," Fitch said.

"We're always playing catch up. We're always playing mitigation," Fitch said. "And, the results are never satisfactory, in terms of maintaining biodiversity."

Ensuring there are unrestricted travel avenues for both physical access and reducing avoidance behaviour due to noise and human activity is a strategy that could help going forward, Fitch said. So could building renewable energy infrastructure closer to where people live — like solar panels on rooftops and parking lots.

And, Fitch said government needs to step up its land-use planning, and implement cumulative effects assessments, to set "reasonable thresholds" for all developments, and "so that we don't run the risk of getting ahead of ourselves."

"The reality," Fitch said, "and maybe even the irony of it, is that we have such poor inventories of wildlife species impacted by wind and solar facilities, that the best information we can glean is the amount of mortality from existing features. That just strikes me as a backward way of addressing this."

For Fitch, the solar farm proposed so close to the place he grew up, strikes a chord in him. But, he said, it also feels like an opportunity for awareness. He said often developments proposed in far-off wild areas can lack a personal connection to people. As a consequence, we see the boreal forest either being cut down for pulp, or turned into mine pit lakes, or the grassland cut up into oil and gas roads or cultivated, or become part of an expanded irrigation scheme.

"This," he said, "is why it sometimes needs to be more personal — so people pay attention." 🌿



Solar panels can sometimes look like lakes or ponds to waterfowl, meaning the birds may crash into them.
Photo © Ruiping Luo.

Wilderness Watch

Captive Breeding of Jasper Caribou Gets the Green Light

On February 27, 2023, the federal government approved a program to capture, breed, and release mountain caribou over 20 years to re-populate caribou ranges in south Jasper National Park. This followed consultation last year with Indigenous communities, stakeholders, and the public. Caribou have occupied these areas for millennia, but the Maligne population has been recently extirpated, while Tonquin and Brazeau caribou are on the brink.

A 'conservation breeding' facility will be built in a quiet area of Jasper Park, not open to the public. It will mainly consist of secure outdoor pens, with some indoor veterinary areas. After that, source animals from Brazeau, Tonquin and other (as yet undetermined) populations will be captured, in several rounds over several years. The program will try to keep the animals as wild as possible. It aims to introduce captive-born yearling caribou into Jasper's Tonquin valley as early as 2026.

Despite AWA's intense frustrations with Parks Canada's caribou range access decisions in recent decades — which too often appeared to prioritize local

recreation interests over habitat security, while caribou numbers continued to spiral downwards — AWA accepts that the remaining Tonquin and Brazeau caribou populations are now too small to recover on their own.

Leading up to this proposal, AWA urged Parks Canada to complete a transparent review of whether a breeding program was indeed the only thing that could save south Jasper caribou. A rigorous review in early 2021 by independent scientists concluded this was the case.

We reluctantly agree. AWA supports Parks Canada pursuing this conservation breeding program, combined with continuing precautionary habitat management actions, as a tragic but necessary interim measure to keep wild caribou in Jasper National Park, where they belong.

AWA is encouraged by Parks Canada's recent positive actions to improve Tonquin Valley caribou habitat. In October 2021, Parks Canada finally ended backcountry recreation for the entire snow season in Tonquin and Brazeau, which will reduce caribou predation risk and winter stress. In autumn 2022, Parks Canada bought out licences of two horse-based Tonquin Valley backcountry lodges, reducing

summer-fall recreation pressure. In December 2022 they announced that no new licences of occupation would be issued in Tonquin. AWA also recognizes that since the early 2000s, Parks Canada has managed for more sustainable elk and wolf populations focused in Jasper's valley bottoms, reducing caribou predation risk.

AWA has requested that Jasper Park continue to raise public awareness of human impacts upon caribou, including ongoing engagement with local and regional tourism and recreational groups. A very positive aspect of Jasper's caribou recovery program is the collaboration with Indigenous rights holders.

AWA will continue to seek precautionary recreation measures from Parks Canada. In Tonquin, for example, Marmot Basin ski hill's current range-shrinking impacts should be reduced, and summer/fall backcountry visitor impacts carefully monitored. As well, it is Parks Canada's responsibility to ensure that the prime caribou habitat of the Maligne valley is maintained and protected for caribou to re-populate as soon as possible.

- By Carolyn Campbell



Photo © Alberta Wilderness Association

Don't Mine McClelland

For those who are unaware, on April 17, 2023, AWA launched our Don't Mine McClelland campaign, with the aim of protecting the McClelland Lake Wetland Complex (MLWC) from the expansion of Suncor's existing Fort Hills oil sands mine

in 2025, which currently sits adjacent to the area.

The launch of our campaign was driven by the release of our newly published report *A Review of Suncor's McClelland Lake Wetland Complex Operational Plan for the Fort Hills Oil Sands Project*. This report summarizes an independent, expert review of Suncor's Operational Plan for the MLWC, and highlights several major concerns with Suncor's proposed mitigation plan for protecting the unmined half of the wetland complex from the impact of mining and related activities. To learn more about the report itself, please visit AWA's website, or you

can read our summary of the report which was included in the previous Spring 2023 issue of the *Wild Lands Advocate*.

AWA submitted an advanced copy of this report to the Alberta Energy Regulator (AER) on March 21, 2023, requesting that the AER reconsider and revoke its approval of Suncor's Operational Plan pursuant to section 42 of the *Responsible Energy Development Act* (REDA). Under this legislation, AER may, in its sole discretion, reconsider its decision and may confirm, vary, suspend, or revoke the decision. The report was also forwarded to relevant ministers at both the provincial and federal levels of government including

Pete Guthrie, Alberta minister of energy, Sonya Savage, the Alberta minister of environment and protected areas, Steven Guilbeault, federal minister of environment and climate change, as well as Jonathan Wilkinson, Canada's minister of natural resources.

After we published our report, we were pleased to see that the issue of Suncor's mine expansion into the MLWC made it into headlines on prominent news media outlets across the country. Reporters like Bob Weber with the Canadian Press, (where the stories showed up in CBC, CTV, and The Globe and Mail to name a few), Robert Tuttle with BNN and Bloomberg, and Drew Anderson with The Narwhal, picked up the story.

Meantime, we received two responses from the regulator following the submission of our report. The first reply was received on April 12, 2023, stating that the AER had received and reviewed our report, but without acknowledging any of the concerns expressed within our report regarding Suncor's plan. This letter did state, however, that our request for reconsideration would be processed through the AER's reconsideration process. The second correspondence we received was on April 18, 2023, from

the AER's regulatory appeals coordinator, which provided an outline of the AER's reconsideration process and how AWA should move forward with our submissions to this process. We were told in the letter that the reconsideration process has two phases. The first, the letter states, "is whether the AER should exercise its discretion to proceed to reconsider this authorization." If the AER does decide to reconsider its approval for Suncor's expansion, the letter says it would prompt the second phase of the process. That involves "submissions from each party on the authorization of the MLWC Operational Plan and whether it should be confirmed, varied, suspended or revoked."

After receiving this information from the AER, AWA engaged the services of our colleagues at EcoJustice to help refine our submission into the AER's reconsideration process, which was due to be submitted on May 9, 2023. EcoJustice helped us draft a strong letter that would accompany the resubmission of our report, to optimize our impact and influence as part of this process.

This letter states — in part — that new information in our report indicates that Suncor's Operational Plan does not

satisfy the condition that it guarantees the protection of the unmined portion of the McClelland Lake Wetland Complex. This submission package was delivered to the AER by email on May 8, 2023, and is available on AWA's website for those interested in reading the submission in greater detail. We eagerly await the AER's feedback on our submission.

AWA has also been busy sharing information about this issue across our newsletter and social media channels. We have set up a letter-writing form on our new Don't Mine McClelland webpage for concerned citizens to express their dissatisfaction or opinion to Laurie Pushor, AER's president and CEO. We have also released a short video clip on AWA's YouTube channel that talks about the ecological importance of the McClelland Lake Wetland Complex and the threats to its sustainability posed by Suncor's flawed Operational Plan.

We greatly appreciate the huge amount of support we have received and continue to receive for our efforts to protect the important and stunning McClelland Lake Wetland Complex from being destroyed. Please stay tuned for more details as our efforts continue.

- By Phillip Meintzer

The Impacts of Wetland Loss: Tiger Salamanders

Wetlands, once carelessly dismissed as worthless from the Western or settler-colonial perspective, are finally being appreciated. More and more studies are describing the vast benefits of wetlands: they filter water and mitigate flooding, and many sequester carbon, with an estimated one-third of global soil carbon stored in peatlands. They are also one of the most productive or fertile ecosystems in the world. Wetlands in Alberta are estimated to host 400 species of plants, some of them threatened or endangered, and they provide food and shelter for many more fish, birds, mammals, insects, and amphibians.

One of the inhabitants of Alberta's wetlands is the western tiger salamander (*Ambystoma mavortium*). Although most adult tiger salamanders are terrestrial

creatures, they need water to breed, and they prefer small, shallow ponds. Wetlands are often ideal, holding water during the months that salamander larvae need to grow and metamorphose without the presence of fish, which can either prey on or compete with salamander larvae



Wetlands serve as important habitat for the western tiger salamander (pictured), and the destruction of wetlands has been recognized by Environment and Climate Change Canada as a key threat to this species in Alberta. Photo © A. Teucher.

for food and habitat. Most salamanders will leave the water in autumn, although some larvae will stay in their breeding ponds until the next spring, and a few tiger salamander populations are neotenic, never metamorphosing into terrestrial adults.

Even the salamanders that leave their breeding ponds rarely go far. Tiger salamanders breathe through both their lungs and their skin, and therefore they must keep their skin moist to survive — not easy to do in the hot, dry prairie summers. To keep cool, tiger salamanders spend most of their time underground, in burrows they or other animals have dug, emerging to forage in open grassland, meadow and riparian areas. Their burrows also help tiger salamanders avoid freezing in the harsh winter. In spring, terrestrial tiger salamanders return to breeding ponds, risking roads and predation in the migration.

The underground nature of tiger salamanders means populations aren't easy to track. Federally, the prairie/boreal western tiger salamander population found in Alberta is listed as Special Concern, though the abundance and population trends for the species are unknown. In January, Environment and Climate Change Canada released their proposed management plan for the species, listing threats and actions. The main threats were determined to be habitat loss, degradation, and fragmentation, especially because of wetland drainage and agricultural development.

While AWA agreed with many of the threats

and strategies presented, we recommended more consideration for the impacts of renewable energy development, a sector that is expected to expand rapidly in the coming years, and more effective mitigation of pollution into tiger salamander habitat. Above all, we urged for stronger policies and incentives for wetland retention and restoration, as loss of wetland habitat has been a major cause of tiger salamander decline.

Approximately 20 percent of Alberta is classified as wetland, but this land is disappearing. The provincial government estimates 60 to 70 percent of wetlands have already been lost in settled areas, and despite

policies to prevent further damage, more are drained each year. In cities, the loss may be even higher; Calgary has lost 70 to 90 percent of its wetlands, and the city is still expanding. Mining, oil and gas exploration, forestry, and agricultural expansion also contribute to wetland destruction and degradation. As well as direct loss of wetlands, these activities can produce toxins that many amphibians, including tiger salamanders, are highly sensitive to. The best way to protect tiger salamanders and a range of other species is by retaining high-quality, intact wetlands.

- By Ruiping Luo

Where are the State of the Environment Reports?

The last annual report for the Oil Sands Monitoring (OSM) Program was published in September 2019. That's nearly four (FOUR!) years since the OSM program last provided a comprehensive update for decision-makers and the public on the findings of important monitoring in Alberta's oil sands region. State of the Environment (SoE) reporting was identified as a key program deliverable in previous years. However, the reports are still yet to be released — at least publicly — at the time of writing.

That's despite the 2018 Operational Framework Agreement (OFA) for the OSM Program which includes a list of objectives, desired outcomes, and actions required to meet those outcomes. Among the objectives are to ensure transparency by "timely public reporting through accessible, comparable, and quality-assured data and information, reports, and publications evaluating, interpreting and synthesizing the monitoring results of the OSM Program." Some of the desired outcomes are to report on the environmental impacts of oil sands development, including cumulative effects, provide information to decision-makers and others and ensure data and reporting is accessible in an open, transparent, and timely manner.

The completion and dissemination of the SoE reports is important for developing an understanding of the cumulative effects of oil sands development on the

oil sands region in Alberta. Delays to the development and publication of these reports mean that the important results of monitoring cannot be acted upon in a timely manner, which is a crucial component of adaptive monitoring.

Adaptive monitoring or adaptive management is an iterative process for continually improving management through long-term monitoring. In this process, a successfully adaptive program would learn from existing research and the outcomes of prior monitoring to improve future management, but this is only possible if the collected data can be analyzed or mobilized in an effective manner. Without the release of timely SoE reports, it's hard to know whether adaptive management within the OSM Program has been successful.

We believe that the delayed release of SoE Reports significantly hinders the OSM Program's ability to achieve



The Oil Sands Monitoring Program hasn't published State of the Environment reports in nearly four years. Adaptive monitoring is difficult without the timely release of monitoring data and decision makers are left without the knowledge needed to inform policy decisions. Photo © G. Lenz.

its stated objectives and outcomes, and that the intended actions of the program as outlined in the OFA do not match the actions of the program. The data, information, analysis, and reporting on baseline environmental conditions, indicators, environmental impacts, and cumulative effects of oil sands development need to be collected and shared in a timely manner with both decision-makers and the public to ensure that decisions regarding the program — and oil sands development more broadly — reflect the most up-to-date scientific evidence.

Given the recent string of unsettling news stories coming out of the oil sands (e.g., Imperial's Kearl mine tailings leak, Suncor's sedimentation pond spill at Fort Hills, bird deaths at Suncor's Base Mine), there is an increasing urgency to better understand the impact of oil sands extraction activities across the region.

Continued delays with the release of the SoE Reports means that the results gained from collected monitoring data and subsequent analyses are not being reported to decision-makers or the public in a timely and transparent manner. This means that those in decision-making roles are left without the knowledge needed to inform any relevant policy decisions. The absence of this important communication and reporting component keeps the public in the dark and prevents action if the results of monitoring show a deteriorating environment due to oil sands activities.

- By Phillip Meintzer

Departments

A Farewell to Carolyn Campbell

From Alberta Wilderness Association,
written by Amy Tucker

A note to Carolyn: The time you spent at AWA has made an enormous impact, not just on the environment, but on the people you met, mentored, and were a friend to along the way. Many of the people who worked with you over the years reached out to share their memories with you, offer you well wishes, and of course, thank you for protecting our wilderness and for being someone to look up to. The following article is a tribute to you.

When Carolyn Campbell was first offered a job at Alberta Wilderness Association, she didn't immediately say yes, according to the former executive director. Christyann Olson, who led AWA for over 20 years, said she remembers Carolyn taking her time to consider her responsibilities and the people she would work with. "She interviewed them to be sure this work, this new career for hers, would be a great fit," said Christyann.

That careful consideration, Christyann said, of investigation and research is "perhaps Carolyn's trademark." Carolyn did eventually accept the job, and for the next 16 years, she was a leader, a mentor, and a meticulous researcher. Most recently, she's been serving as AWA's conservation director. June will mark her last month in the role before retiring. From caribou protection, to fighting to preserve the unique McClelland Lake wetlands in northern Alberta, Carolyn has made an enormous impact in Alberta conservation.

Christyann said in her day-to-day work, Carolyn exemplified AWA and its mission of defending wilderness and helping others learn and be inspired to care, leading by example, and "above all" with her passion for understanding the relevant history and knowing the facts. "Carolyn was always one of, if not the most prepared person at the table when she was in meetings or making



Carolyn Campbell has worked for AWA for almost 20 years, and her work has been vital to the protection of natural spaces and wildlife.

presentations," Christyann recalled of their time working together.

"The support she had from her family through the years, at events, for long hours, for heading out on trails and to be in the field, has proved to be a vital part of her success. Carolyn has been a steadfast part of AWA's success and will always be remembered as part of the team."

It was around 2007 when Chris Saunders, AWA board member, first encountered Carolyn as he was looking for volunteer opportunities at AWA. He had been invited to meet the staff who were in the office that day — and Carolyn happened to be the first person there. "I heard about Carolyn's workload and the significance of the problems she was trying to solve. One of them was the threat to the McClelland Lake watershed," Chris said. "I was impressed by Carolyn's calmness, realism, and commitment. Carolyn's approach was focused and rigorous ... I wish her all the very best. It has been a pleasure to work with her."

Jim Campbell, an AWA board member, said one of the most powerful experiences with Carolyn he remembers early on was

hearing her present on a subject.

"It's joyfully intimidating," Jim said. "Because, you're thinking, I'm sitting in front of somebody who really knows what they're talking about. She's one of those people who you could throw anything at them and they will give you a full and detailed response on the issue — and totally rational, totally calm." He added that "you'll never be able to outsmart, out fox, out debate Carolyn, because she is going to know the file better than anyone."

AWA board member Cliff Wallis said Carolyn was able to "move the ball down the field" while working on the caribou file. He said some of her ENGO friends who also work on caribou were in tears when they heard she was retiring. "Fortunately, Carolyn is just retiring, not disappearing. She will still be around to weigh in so that gives all of us great comfort," Cliff said. "We are most appreciative of the contributions she has made ... I wish her all the joys and rewards of being out in nature more. Thanks, Carolyn, for the hard work, passion, guidance, and inspiration!"

Her thoroughness also struck Sean Nichols, who worked with Carolyn for many years. He said he has a friend who calls work that has been done perfectly as "good enough" — work done to any less a standard, is not. "In my mind, Carolyn personifies that ultimate standard," he explained. "The only things that I can imagine Carolyn considering good enough to attach her name to, are those where every detail has been considered, and found correct."

Before Carolyn came to AWA, she was an economist. Sean said that experience and "the rigour this background imparts has bestowed on AWA a level of credibility that cannot be overstated." Adding that "AWA has benefitted immeasurably from this meticulous attention to detail over the years. If Carolyn has written something, it is trustworthy. One can be certain that there

is no conjecture posing as fact.”

Edmonton-based AWA board member Richard Secord said he appreciated the many trips that Carolyn made to support AWA events in his home city over the years — especially the evening talks at Jackson Power & Electric Ltd. “Many of the trips were made in very sketchy weather in the wintertime,” Richard added. “Carolyn has been a wonderful ambassador for AWA and her contribution to conservation efforts in Alberta has been immense.”

Joanna Skrajny, who was an AWA conservation specialist before moving on to law school, had the chance to be mentored by Carolyn. “Carolyn was there through thick and thin and always took the time to listen, no matter how busy her day was,” she said. “I fondly remember all of the wonderful conversations and excursions that we have shared — whether it was dealing with a crazy day of media calls, going on a hike, or simply enjoying a meal together.” Joanna added that Carolyn “has a great big heart and is unwaveringly loyal to both the environment and the people in her life. She has managed to move mountains with her persistence and patience ... Congratulations Carolyn — You have made such an amazing impact with your work. I hope your days are filled with music, wildflowers, and sunshine.”

Carolyn’s current work family will also miss her cheerful and good-natured presence at the office, and the wealth of knowledge she is always willing to share.

Among the fondest memories of working with Carolyn for Lindsey Wallis, AWA’s event specialist, was from her days as a writer. “I hated calling people for interviews, but I always looked forward to speaking with Carolyn. The kind voice on the other end of the phone puts one at ease,” Lindsey said. “Her knowledge of conservation issues in Alberta is wide-ranging and deep — I can always count on her for an insightful answer to my questions ... She is a wealth of knowledge, and the thoughtful, passionate work she has put in has left an indelible mark on the conservation community in Alberta.” Lindsey added that it is because of Carolyn, along with

many others, that caribou might continue to roam Alberta’s forests for generations. “Carolyn’s genuine compassion and deep connection to Alberta’s wild spaces is infectious,” said Lindsey. “I wish her and George the very best as they take time to enjoy these wild places that she has poured her heart and soul into protecting for so many years.”

Phillip Meintzer, AWA conservation specialist said he feels “incredibly privileged to have had Carolyn’s mentorship and guidance” over the two plus years they worked together. “I only wish that we could have had a longer working relationship, because her shoes will be difficult — or impossible — to fill.” Phillip added that Carolyn, even when dealing with interests who are hostile to AWA’s goals, “is an expert in the art of diplomacy ... I hope that I may one day be able to emulate her ability to remain graceful in the face of resistance,” he said. Phillip added he appreciates “the way that she consistently refocuses our work to ensure that we are being strong allies to Indigenous communities who need our support.” From the start, Carolyn made an impression on Phillip. He said it was Carolyn who asked Phillip “the most thoughtful and philosophical of all the questions,” during his job interview.

AWA’s current executive director, Debborah Donnelly, said that Carolyn has gone above and beyond over her many years in representing AWA. “She has been a fountain of knowledge for me since I joined AWA last August. Her experience has helped in guiding the work of the conservation staff, but also in providing context and contacts for me during my transition,” Debborah said. “I will deeply miss her. Carolyn, I wish you the happiest retirement!!”

Ruiping Luo, AWA conservation specialist, said she has really appreciated Carolyn’s guidance. “She’s so knowledgeable about Alberta’s political structure and she taught me a lot on writing statements, speaking about environmental issues and strategies for working with government,” Ruiping said. “I’ll miss her insightful comments and additions to our conversations.”

For AWA conservation specialist Devon Earl, Carolyn has been an inspiration and role model since Devon joined the team two years ago. “She always knows the right questions to ask, and gives thoughtful and thorough feedback. I appreciate the time she took to listen and get to know me, and her one-on-one mentorship. Above all of that, I will miss her positive presence in the office greatly,” Devon said. “Carolyn is such a kind and caring person, and that is evident in the work that she has done and in her interactions with others. She has affected real change in the world of conservation, and her retirement is well-deserved. I wish all the best for her in the next chapter of life.”

Randi Ducharme, AWA admin and bookkeeping specialist, said the privilege of working with Carolyn for the past year has been a wonderful experience. “She is the warmth of our office; she greets our team every day with her kind smile and always makes a point to see how your day is going,” Randi said.

“She is an ocean of knowledge and the passion in her work is inspiring. She is the most thorough person I have ever worked with and one of the best communicators. Carolyn is always willing to help and offer her opinion, which is so respected, her presence will be greatly missed. Congratulations on your retirement Carolyn, your mentorship has helped strengthen some great wilderness defenders!”

Amy Tucker, outreach and communications specialist, said in the short time she got to know Carolyn, she’s been a guiding force. When Amy recently came on board as part of AWA’s team, it was Carolyn who helped make her feel at home. “Carolyn was the first person to stop by my office and asked to have lunch with me. She asked me thoughtful questions about myself, and offered her own advice to me, which I will never forget,” Amy said. “I appreciate how Carolyn can move through the world making such positive change, yet doing so with gentleness. All the best to you in your future endeavours, Carolyn.”

Golden Eagles over Alberta's Foothills

By Dick Dekker



Golden Eagle soaring over foothills.
DDecker

To the west of Calgary, just before you reach the Rocky Mountain front, lies a range of grassy foothills that I call the Eagle Hills. In 1960, as a new immigrant to Alberta, I discovered that both golden and bald eagles could often be seen here, particularly during their spring and fall migrations. In 1970 and again in 1985, I wrote about my findings, which drew the attention of a Calgary birdwatcher (Peter Sherrington). 'Where exactly is your point of observation, and could I please meet you there?' he asked.

I explained that my favourite spot was on private ranch land near Morley, where trespassers were not always welcome. However, I added that he might see even more eagles closer to the mountains. In 1992, he and others found a great observation point at Mount Lorette in Kananaskis Provincial Park. The huge numbers of eagles sighted there each spring and fall have become quite famous. For instance, in the fall of 2017 their tally was 3,233 golden and 190 bald eagles. All of these migrants flew high in the sky, mere specks to the naked eye.

Hiking in the Eagle Hills I looked for a vantage point that gave a wide view over adjacent slopes, and I sat down for hours



Golden Eagle carrying gopher.
DDecker

in the hope of seeing distant eagles come closer and begin hunting. Their common target was ground squirrels. Spotting them from afar, the eagle descended with furled wings to just over the grass, contour-hugging the slope. If successful in taking its prey by surprise, the eagle skidded to a sudden stop. If he missed, he continued his low-power glide, until he turned his wings into the wind and soared upward, in preparation for another long-range

attack. Over the years, I also watched other interesting eagle behaviour. The king of birds is not above stealing just-caught gophers from red-tailed hawks. And I quite often saw a golden eagle hovering low over a coyote, which jumped up defensively at the big bird. On one rare occasion, an immature eagle landed on the back of a Hereford cow. Flapping its great wings for balance, the eagle rode the startled bovine downhill before releasing its hold.



Alberta Wilderness Association

TREAD LIGHTLY

In an effort to reduce AWA's environmental footprint, we are asking our members to notify us if you are interested in switching to the digital-only version of the Wild Lands Advocate.

Photo © P. Meintzer

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