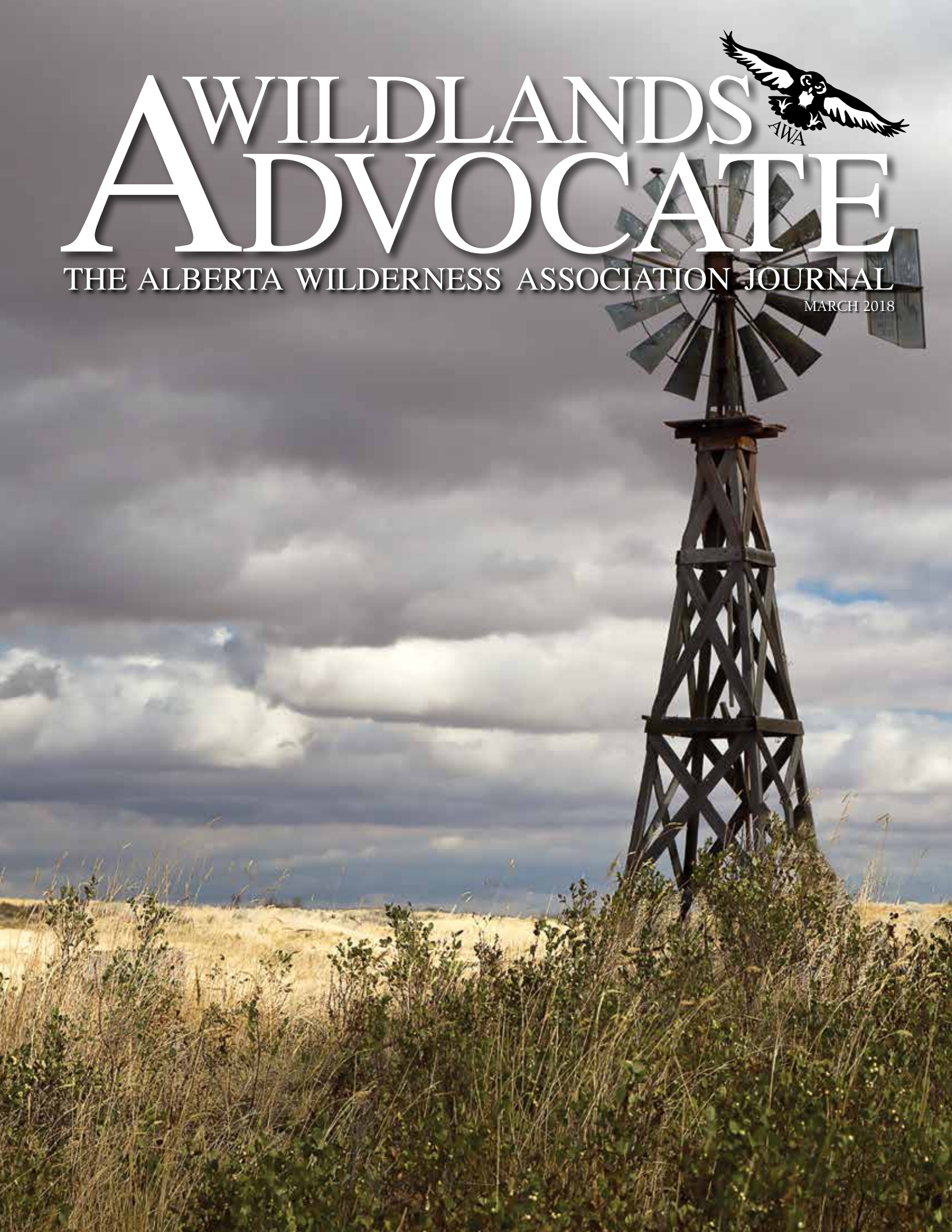
WILDLANDS ADVOCATE

THE ALBERTA WILDERNESS ASSOCIATION JOURNAL

MARCH 2018



CONTENTS

MARCH 2018 • VOL. 26, NO. 1

Features

Association News

Wilderness Watch

Cover Photos

A scene from a back road in Alberta' s Middle Sand Hills invites us to look to Alberta's past and future. Windmills, pumping vital water for agriculture, have been a part of rural life in Alberta for generations. Alberta's Renewable Electricity Program promises to make their more gigantic descendants more prominent on the prairie landscape. PHOTO: © D. OLSON

Featured Artist: Colleen Campbell

Colleen Campbell was born in Victoria, B.C., and has lived and traveled all over Canada and in many other parts of the world. She holds three degrees in visual arts. Colleen also studied in the sciences and worked as a wildlife field researcher in the Central Rockies for 20 years, concentrating on coyotes and grizzly bears.

Studying any wildlife species means learning about everything with which they interact – plants and other animals – and about how and where they travel. Every field day left Colleen with increased awe of nature and filled with questions that prompted an endless cycle of learning. One persistent question was this: "All this great "stuff" – all this perfection of nature – how do we share it and foster excitement and respect for it all, and the energy and will to guard and preserve it? How can we love it without killing it?

Colleen's art has been about our relationship with the land and with the animals around us since two long trips to the Canadian Arctic during the 1970s. Her recent work is about local species, especially grizzly bears, coyotes, and ravens — animals that still play major roles in stories wherever people have shared the environment with them.

Editor:
Ian Urquhart

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Please direct questions and comments to:
403-283-2025 • wla@abwild.ca

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Alberta Wilderness Association
455-12 ST NW, Calgary, AB T2N 1Y9
403-283-2025
www.AlbertaWilderness.ca
awa@abwild.ca

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Wilderness, Species at Risk, and the Rule of Law

The rule of law, not the arbitrary rule of individuals, is a cornerstone of all democratic political regimes. The Supreme Court of Canada, in its 1985 decision in *Reference re Manitoba Language Rights*, noted that one thing this fundamental constitutional principle demanded was "that the law is supreme over officials of the government as well as private individuals, and thereby preclusive of the influence of arbitrary power."

A fundamental understanding of equality is a foundation of this principle. Prime Ministers and premiers must obey federal and provincial laws just as you and I do. For most of us, Canadian law requires us to file our personal tax returns by the end of April; Prime Minister Trudeau and Premier Notley must presumably do so as well. On a darker note, Alberta Premier John Brownlee couldn't use his position of power to avoid trial for seducing a young woman in 1934. Similarly, Senators Brazeau, Duffy, and Harb couldn't use their political positions to stop the RCMP from laying criminal charges against them over the expense claims they had made as Senators.

But does that equality apply to governments and their behaviours? Surely it must. Governments must follow the laws they enact, just as we must. But, is it increasingly the case that governments play rather fast and loose with their obligations to respect the rule of law when it comes to species at risk and the critical habitats those species require in order to survive and thrive?

This suspicion gained strength when I read an early April press release from AWA and the Timberwolf Wilderness Society. The press release took Ottawa to task for the federal government's refusal to act with respect to westslope cutthroat trout. The species is designated as Threatened under the federal *Species at Risk Act* (SARA). The final federal recovery strategy was published in 2014 with a deadline to produce an action plan to recover the species by the end of March 2015. That deadline came and went.

Things haven't improved with the passing of the Conservatives and the arrival of the Liberals in Ottawa. The 2017 deadline for producing an action plan became nothing more than another footnote in this bi-partisan story of neglect. Federal documents suggest that Ottawa doesn't intend to release an action plan until late 2019. While the federal government has dithered, one westslope cutthroat population (in Evan-Thomas Creek) has vanished entirely. In the absence of an action plan and, yes, real actions on the ground to recover this threatened species the smart money is betting that more populations soon will vanish.

Does this sounds like the federal government respects the spirit of what the rule of law demands? The letter of that principle?

The caribou stories in this issue of the Advocate make the same point. They point to governments of different political stripes that appear content to flout what Canada's species at risk law demands. "Federal officials drag their feet at every turn," wrote University of Calgary law professor Shaun Fluker, "making the implementation of SARA one of the most disappointing aspects of Canadian environmental law."

What might our federal and provincial governments think if their constituents started to question the spirit and letter of laws as these governments seem willing to do when it comes to wilderness and species at risk legislation?

-Ian Urquhart, Editor

Public Lands:

What's in a name?

By Joanna Skrajny, *AWA Conservation Specialist*

The Power of Language

Language: it's how we communicate, how we hope to understand each other despite our differences. It's amazing that we can make sounds with our mouths, gesture to each other, or write down symbols on a page and others can interpret meaning from them. It's how we maintain order and progress in a world of billions of different people living chaotic, unpredictable lives.

Language holds incredible importance then as the basis of our society and our laws. Replacing one innocuous word with another can change things tremendously. It's the difference between "you will be paid a lump sum of a million dollars or be paid 1,000 dollars every week" and "you will be paid a lump sum of a million dollars and be paid 1,000 dollars every week". The so-called "legalese" found in laws and other legal documents may be intended to reduce the number of ambiguous interpretations, yet that legalese may be near-unintelligible to the average person.

People who have mastery over language have power and influence over others – think of the sway that advertisers, authors, journalists, and celebrities have over our day-to-day lives.

Politicians and companies know this and they use it to their advantage. For example, let's say there is a new project like a new coal mine or dam being proposed and you are concerned about it. You try to read the environmental assessment or the management plan so you can provide some informed feedback. These documents often can be hundreds of pages long and, in my experience, filled with jargon that is challenging to decipher. I often feel frustrated, stupid, and discouraged from even reading the thing; it doesn't encourage me to engage in public consultation!

> *"Obsfuscation: Concealment or obscuration of a concept, idea, expression, etc."*
> - Oxford English Dictionary

Are these documents intentionally written this way? Often, I think the answer to the question is yes. Corporations, governments too, use language that is "technically" English, but may be so full of technical terms and obtuse writing that you can't understand what's happening.

The Language Associated with Alberta's Public Lands

In this way, the abuse AWA feels too often has been inflicted on Alberta's public lands has roots in language, in the meanings attributed to a phrase like "public lands."

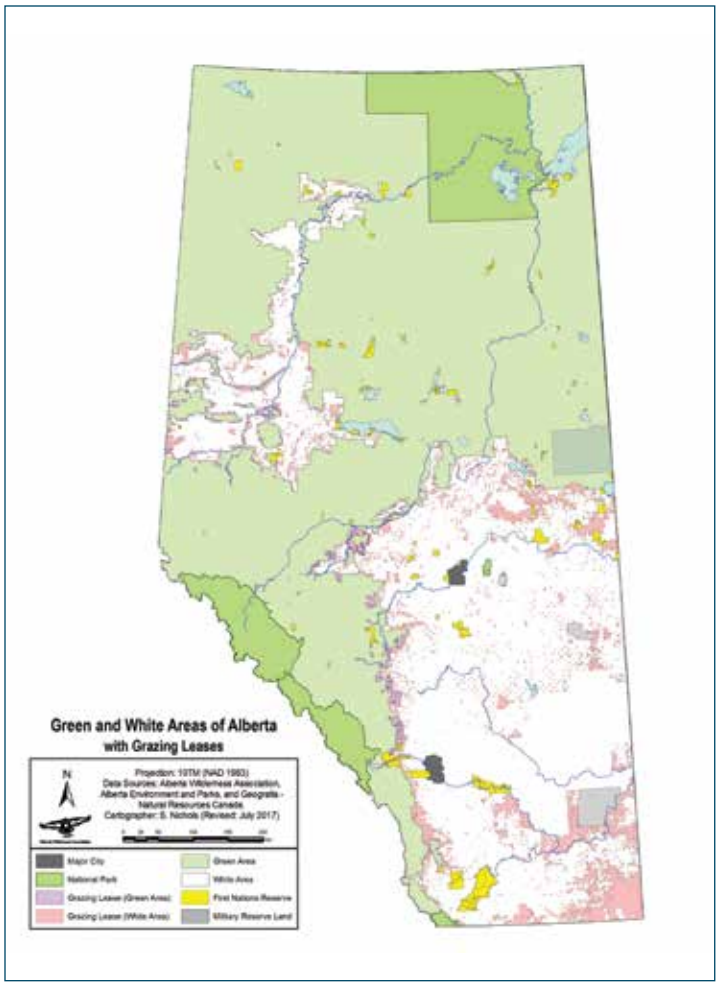
What does the phrase "public lands" mean? Some of you might ask if I'm talking about Crown lands. Yes, I am – that's what public lands *used* to be called in Alberta.

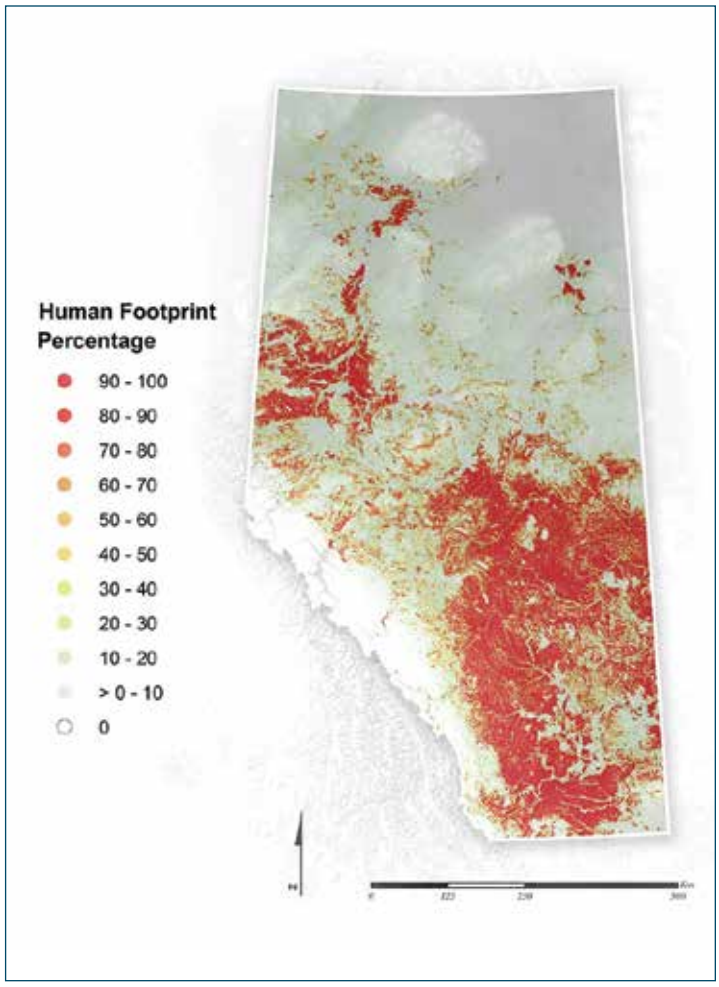
Public lands are lands that we, as the public, own. Our provincial and federal governments manage and administer them on our behalf. Approximately 60 percent of Alberta is provincial public land, which means the province is responsible for managing these lands. The federal government has jurisdiction over federal public lands, which include national parks, military land, and First Nations reserves – together these make up about 10 percent of the province. The remainder is private lands – lands owned by individuals of one type or another (such as a person or a corporation).

Provincial public land is used and valued for many things. Agricultural pursuits, such as farming and livestock grazing, join resource extraction activities (such as coal, oil, gas, gravel, timber, and minerals) as industrial pursuits that depend on public lands. Water production, wildlife habitat, and recreation also depend on public lands and protected areas help provide us with their suite of benefits.

To reiterate, the public – you and I – own these lands. The government has a responsibility to manage and care for them *in our best interest*. Like any good investment, it only makes sense that we would want these lands to appreciate in value over time. And much like a financial manager, we pay our government, through taxes, to ensure these lands are managed responsibly.

In 1948, Alberta's public lands were divided up into two main zones: the Green Area and the White Area, which are also referred to as the forested and settled portions of Alberta, respectively. The Green Area (the forested portion) is located in Northern Alberta as well as the Eastern Slopes of the Rockies and is overwhelmingly public land. The White Area (the settled portion) is found primarily on Alberta's grasslands and parkland landscapes and contains only about 25 percent public land. Not only is the White Area largely private land but government has given private actors permission to use much of the remaining public land in the White Area for





A map of the Green and White Areas of Alberta (left) compared to the percentage of human footprint (right). Right map: ABMI, 2018, The Status of Human Footprint in Alberta. Accessible at abmi.ca/home/reports/2018/human-footprint

agricultural and non-renewable resource extraction activities.

This basic division has resulted in major differences in how these two areas have been developed and managed. The Alberta Biodiversity Monitoring Institute recently released a report on the status of human footprint in Alberta, for which they produced a map showing the percentage of human footprint across the province. When you compare the two areas, it's quite shocking to see the difference. Virtually the entirety of the White Area is over 60 percent disturbed. Major disturbances in this area include agriculture, energy, roads, and urban development.

Since most of the province's grasslands and parkland are located in the White Area, it's no surprise that these natural regions have greatly suffered: 73 percent of Alberta's Species at Risk rely on native prairie, yet less than one percent of our grasslands have been protected.

The only relatively undisturbed pockets of the White Area closely mirror the locations of grazing leases and military reserve land. AWA has long supported grazing domestic livestock on public lands, primarily in the grassland and parkland regions, for this reason.

While there may be less human disturbance in the Green Area than the White Area our impact there is considerable: the footprint of the forestry industry, which primarily operates in the Green Area, doubled from 1999 to 2015. In the Foothills, which are located almost entirely in the Green Area, forestry disturbance alone covers 20.5 percent of the region. When that disturbance takes place in our headwaters, Alberta's native trout suffer. Clearcuts and haul roads, combined with thousands of kilometres of seismic lines and other industrial linear disturbances, have contributed to the population collapse of woodland caribou in this region.

It's clear that our public lands need support and involvement from the public in order to be managed in our best interest. Yet as a member of the public, it's very difficult to find out the "what, where, and who" of our public lands. What activities are allowed on public lands, where are those activities allowed, and who decides what's allowed?

For example, let's say you wanted to get out into the country this weekend. You want to know where you can go to recreate and what you can do. How would you find that information? Perhaps you would check the government website to see what their guidelines are. As a *starting point* the provincial government suggests that you should be familiar with the *Forest and Prairie Protection Act, the Public Lands Administration Regulation, Off-Highway Vehicle Reg-*

ulation, Recreational Access Regulations, and the Traffic Safety Act (Part 6).

I don't know how many of you have read these laws and regulations in their entirety, but I can assure you it is not light reading.

But let's assume you are a model citizen and have read them all. You would then need to know whether you are on public land in the Green or White Area, a public land use zone, or in one of Alberta's eight types of protected areas. You would also need to know if there were any dispositions restricting your access onto these lands.

There is no pamphlet, no single web resource to figure out what you can do. If that's not enough, rules sometimes vary between the same types of areas!

Recreation on Alberta's public land is just one example. Thanks to decades of inaction and ineptitude, Alberta has a complete hodge-podge of laws and regulations for managing Alberta's public lands.

As a result, the issues surrounding Alberta's public lands are as numerous as the laws that govern them. Our forests are being logged with too little concern for other values such as water, recreation, or wildlife. Critically valuable public lands containing native prairie and wetlands are currently sold, drained, and ploughed without consultation. On public land that is leased for cattle grazing, leaseholders are receiving compensation for oil and gas activities instead of the public, the true owners of the land.

I believe this confusion, this lack of clear language defining what is acceptable, has had significant consequences for Alberta's public lands. It has confused the public about the rules, disillusioned some of us and made our public lands anything but "public." Our wilderness has suffered as a result.

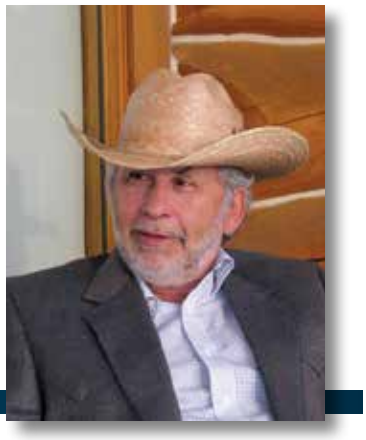
It is long past time for our public lands to be managed in the public interest, in a way that can be sustained and enjoyed by generations to come. The government must regain the public's trust by taking responsibility for our public lands and having honest and clear conversations about how it is managing our collective resource. Our future depends on it.

The true tragedy of the commons of public land is really not a tragedy at all but the farce of uncaring, negligent governments who do not manage and steward the land remotely competently. - Bob Scammell

Featured Artist
Colleen Campbell

My Paw is Sacred
55cm x 75cm
Medium: graphite (the whole bear), gold and silver leaf powder painted on with a medium, silver watercolour and acrylic paint.
PHOTO: © C. CAMPBELL

Fish and Fishermen



By Jim McLennan

The provincial government has released its plan to aid fish population recovery in a number of Alberta trout streams. It's called the North Central Native Trout Recovery (NCNTR) program, and was outlined nicely by Joanna Skrajny, AWA Conservation Specialist, in the December, 2017 issue of this magazine. As outlined by Skrajny, the problem is that populations of native fish have declined and need help to recover.

Reading through the document and Skrajny's article produces mixed reactions. Much of the plan is laudable. Repairing hanging culverts, improving road crossings, and increasing enforcement of angling regulations are all logical tools for attempting to right some of the wrongs that have occurred in these waters for the last hundred or so years. But that said, the plan is light on identification of baseline science to justify the types of initiatives to be implemented, less than completely transparent, and short on input from the public.

One action in the plan jumps out at me above the others: Removing anglers from the streams. Portions of seven streams in the Red Deer, North Saskatchewan and Peace River drainages will be closed completely to fishing for at least five years, starting in 2018. Not closed during spawning seasons when trout and their eggs are vulnerable; not closed on alternate years, as many streams were from the 1950s to the 1980s; not closed at times when high water temperatures add additional stress to trout; but closed completely for a *minimum of five years*. Five years is a long time, especially for those of us who realize that such closures will prevent us from ever fishing these waters again. Given the aging demographics of anglers in Alberta, that group will have plenty of members. Melancholy reflection aside, let's consider things more concrete.

First, there is the practice of catch-and-release fishing, which for a number of years has been in effect on most of the streams to be closed. It's no longer a new idea, but one that has been used widely to maintain fish populations in the face of increasing

A bull trout (left) and a cutthroat trout (right), two of the species-at-risk that the North-Central Native Trout Recovery program aims to assist.
PHOTO: © J. & L. MCLENNAN

Fly-fishing in Alberta's Foothills PHOTO: © J. & L. MCLENNAN

numbers of fishermen. It's my opinion that catch-and-release, or "no-kill" regulations should not be implemented for emotional reasons (as espoused in the "it's immoral to kill and eat a fish" view) but as a tool to address a particular issue. I've always thought that when used this way C&R was the best of three regulation-options where the population is low due to natural factors, or where trout face heavy angling pressure. If C&R is the first option, the second is allowing harvest of trout until there aren't enough fish left to pursue – neither a logical nor popular idea. The third is disallowing fishing altogether. This is the one the government has chosen, and the one the AWA and other Alberta conservation groups are supporting.

Of the many questions left unanswered in the NCNTR document, many concern the role of anglers. Is there evidence that fishing pressure – either through non-compliance with catch-and-release regulations, or through incidental mortality from C&R – is a significant cause of the decline? Are there comparative studies of the number of angler/days on these streams that show an increase or decrease in stream-use over time?

It's logical to assume that the closures of these streams will direct pressure to other waters that remain open to angling. How will this be monitored and addressed? If angling pressure is the problem, as the implementation of closures suggests, with fewer waters available to anglers the problem will simply be shifted to the waters that remain open. What then?

The government document says catch-and-release has "mostly failed." A strong statement. How was this determination made? Are there comparative population studies done over a suitable period of time that show this, or is it opinion? What is the level of compliance with catch-and-release regulations? That is, to what degree is illegal harvest ("poaching") a factor in catch-and-release streams? If poaching is significant, it could make the regulation appear to be ineffective when really the problem is compliance, and thereby an issue not of regulation, but of enforcement. And if compliance with C&R regulations is poor, why would one expect compliance with closures to be better?

The NCNTR program document says "Local results will be compared with fish population targets (Fisheries Management Objective) established for each watershed in 2017/18." How were the population targets established? What was their initial baseline? It also says, "All recovery efforts in the selected watersheds will be carefully recorded to determine which actions were successful and which were not." Is it just me or does this sound more like an experiment than a proven strategy?

Even more significant, by closing streams to all fishing, the government is choosing to address what is at worst a minor cause of population decline. Is it a case of doing the easy thing because addressing the real cause of the problem is more difficult?

Is it using a water pistol to fight a forest fire? The more serious problems, the government document acknowledges, are the impacts of public roads, industrial disturbances, forestry, and off-highway vehicle activity, all of which fall under the category of *habitat degradation*, which is the real wearer of the black hat. These factors easily trump whatever negative effects anglers may have on fish populations. If the major problems are not addressed more aggressively, closing streams won't help. A bandaid on the thumb won't do much good if the body is diseased.

In a letter to Alberta's Minister of Environment and Parks, Shannon Phillips, the Alberta chapter of the conservation group, Backcountry Hunters & Anglers (backcountryhunters.org), put it this way: "… public concern, spearheaded primarily by anglers, about Arctic grayling, Athabasca rainbow trout, and bull trout all led to past proposals to eliminate or rigorously control industrial activity in, among others, the upper Little Smoky, Berland, and McLeod River systems… with the hopes of population recovery/improvement." But previous administrations implemented catch-and-release regulations, without addressing the root cause of the problem (habitat degradation), possibly contributing to the view that C&R regulations have "largely failed."

While I agree with many of the government proposals it should be clear that I strongly disagree with closing the streams to fishing. And it's not simply because I want to continue to fish these places. It's because I believe that in the big picture – which is the only one that counts – trout need fishermen more than fishermen need trout.

Why? Because history has repeatedly shown that the staunchest and most committed supporters, protectors and restorers of wildlife and the places they live are the people who spend the most time with them – hunters and anglers. In a world that boils most everything down to the presence, availability, and use of money, the greatest amount raised and directed toward wildlife conservation has come from hunters and anglers, often through groups like Trout Unlimited and Ducks Unlimited. Readers interested in learning more about this should read *How Sportsmen Saved the World*, by E. Donnall Thomas Jr..

Those who don't hunt or fish may question the motives of hunters and fishers who say they want to preserve wildlife. But it comes down to this: a realization that the hunter/angler and the conservationist are not adversaries, but teammates (and often the same person). It's a position articulated in the 1940s by Aldo Leopold, more recently in Alberta by Andy Russell, and presently in Alberta by others, including avid hunter, angler, writer, and conservation activist (and former Banff Park superintendent), Kevin Van Tighem.

There are two places fishermen and women need to be found: First, in the water, enjoying these places in a non-destructive way, watching them, monitoring their health, providing strong and unified resistance to the threats that inevitably appear. In short, *loving* them, and putting their money, time and sweat where their mouths are, to preserve and protect the wild places and the creatures that live there. Second, they need to be present at the discussion-table, speaking for the resources, playing a larger role in the consultation process than they have in general, and a larger role in this issue in particular.

In private correspondence leading to this article, *Wild Lands Advocate* editor, Ian Urquhart, said, "Fishermen have played a very important and positive role historically in many, many conservation efforts. Keeping them off the waters arguably weakens the very attachment to the landscape that organizations like AWA strive to promote." Truth, that. And truth I hope organizations like Alberta Wilderness Association and Trout Unlimited Canada will embrace, hopefully rethinking their positions on the wisdom of forcing the fish's strongest and most committed defenders (dare I say *advocates?*) off the water.

Jim McLennan is a writer, fly-fishing instructor and musician. He is author of Trout Streams of Alberta *and* Blue Ribbon Bow.

In late February Minister Phillips, citing a need to review the scientific evidence her department used to propose the angling bans contained in the North Central Native Trout Recovery program, withdrew the proposed bans for the 2018 fishing season. The Alberta chapter of Backcountry Hunters and Anglers did not support the ban; in a letter to the government they expressed their view that "the burden of recovery is being placed on anglers, with little effort undertaken to remedy the underlying root causes of the population decline, which can specifically be defined as: public roads, industrial disturbances, forestry, and OHV activity". Trout Unlimited Canada's statement on the closures said that while "catch and release angling is an effective management tool for stable fish populations, the science suggests even incidental or accidental mortality related to catch and release angling may elevate the risk a population faces" and supported the use of an angling closure rest period, but reiterated that "the recovery of East Slopes salmonids is not just a Fisheries Management issue, nor is it solely the responsibility of Alberta Environment and Parks. Protection of these shared resources for current and future generations demands action across ministries, including Alberta Agriculture and Forestry, Alberta Transportation, Alberta Energy, and Justice and Solicitor General." AWA agrees with this conclusion; it's clear that addressing degraded fisheries habitat and preventing further damage from occurring must be a top priority, but a rest period for these watersheds might just be the boost these fish need in order to recover. AWA looks forward to announcements in the near future from the province about the ambitious measures they will take in 2018 to improve trout habitat in the foothills of north central Alberta.

- Joanna Skrajny/Ian Urquhart

Draft Management Plans for the Livingstone-Porcupine

By Joanna Skrajny, *AWA Conservation Specialist*

The Livingstone-Porcupine – it begins just south of Kananaskis and extends all the way to the Crowsnest Pass. It's largely composed of public lands and contains a few protected areas such as Chain Lakes Provincial Park, Bob Creek Wildland, and the Beehive Natural Area. It's a key area of connectivity for grizzly bears and elk; its fescue grasslands are important for ranching and conserving species at risk; it previously boasted many healthy populations of native fish. It's one of the most iconic and diverse landscapes in Alberta.

Unfortunately, the area has suffered the same fate as many other public lands in Alberta. Too often government has turned a blind eye towards excessive human disturbance on the landscape. This decades-long pattern of neglect has fueled an uncontrolled explosion of cutblocks, pipeline right-of-ways, seismic lines, and motorized use.

Back in 2008, the provincial government conceded that Alberta was reaching a "tipping point" and that the current laissez-faire approach to land-use was no longer acceptable. The government then developed the Land-Use Framework, which divided Alberta by major watersheds, and committed to developing land-use plans within each of these watersheds. The South Saskatchewan Regional Plan, finalized in 2014, was the second of these plans to be developed. It saw placing disturbance limits on public lands in the Livingstone-Porcupine as a key priority.

After extensive consultations and planning with a variety of stakeholders including local landowners and ranchers, municipalities, First Nations, industry, recreationists, and conservationists, the government released draft Land Footprint Management and Recreation Management Plans for the Living-

The Livingstone- Porcupine Hills is home to the Whaleback, one of the most extensive and least disturbed montane landscapes in the Rocky Mountain natural region.
PHOTO: © C. WEARMOUTH

stone-Porcupine in mid-March.

The draft plans signal the first real attempt by the province to manage the cumulative effects of competing land uses on our public lands. They establish limits on land uses including industrial activity and motorized recreation and determine where such activities would be appropriate. As these are the first plans of this type ever developed under the *Alberta Land Stewardship Act*, it is important they set a positive precedent for managing cumulative effects on public lands throughout Alberta.

The Livingstone-Porcupine Land Footprint Management Plan states that its purpose is to "minimize the extent, duration and rate of cumulative footprint to achieve landscapes with healthy, functioning ecosystems that provide a range of benefits to communities and all Albertans."

The most valuable dimension of these plans is their legal standing. The limits set on motorized access and footprint should become legally-binding and have enforceable regulations under the *Alberta Land Stewardship Act*. Therefore, the question of "how much is too much" becomes a very important one. In AWA's submission to the government, we urged the draft plans be more ambitious when it comes to limiting the activities we know damage watersheds and biodiversity.

The Land Footprint plan begins by dividing the land into two types of "zones" which are intended to provide land managers with a tool to identify high value landscapes which should be prioritized for lower intensity disturbances, as well as landscapes which are more damaged and could accommodate industrial and motorized use. In theory, this is a good way to concentrate disturbances and protect the most important areas; however, in practice this method almost always becomes a trade-off discussion. Unsurprisingly then these zones exclude protecting several reaches of westslope cutthroat trout critical habitat and bull trout spawning areas.

Within the more protective zone, "open motorized" trails and roads will have a limit of 0.4km/km^2, while the rest will have a limit of 0.6km/km^2. The plan also establishes near-stream motorized limits of 0.04 km/km^2 and commits to build bridges over every water crossing. These limits are good. They follow the limits recommended for grizzly bear recovery (0.6km/km^2) and recognize the importance of streams and native trout.

However, we fail to follow the plan's logic to provide an *additional* 0.6km/km^2 of 'Restricted Motorized Access' for industrial use in each zone. Essentially this significantly exceeds acceptable limits of roads and trails for grizzly recovery… by a factor of two. The plan justifies this by saying that these roads and trails will only be approved if it can be demonstrated "there are no significant, long-term or irreversible impacts to wildlife, habitat, and/or watercourses." The plan states this will be accomplished by placing limits on vehicle volume restrictions, speed limits, timing of use, noise, and road construction standards.

It makes sense to restrict motorized use on industrial roads through this designation. But, by allowing additional disturbance exclusively for industrial use, it gives the false perception that industrial roads have no long term ecological impacts.

We know and have documented the very real problem of industrial roads in the Livingstone-Porcupine. Take the example of Hidden Creek, once a stronghold for bull trout (the spawning site for 80 percent of migratory bull trout in the Upper Oldman) and the home of one of the most secure

Sediment running off of cutblocks into Hidden Creek during the summer of 2013. The sediment retention barriers were clearly ineffective in preventing silt and mud from entering the creek. PHOTO: © L. FITCH.

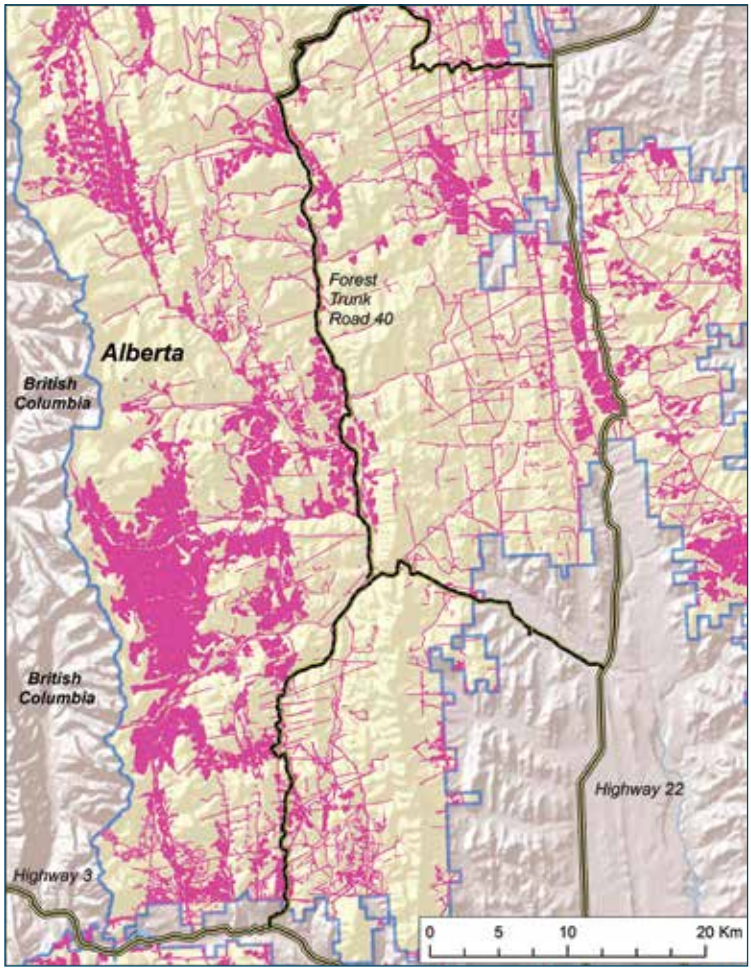
populations of westslope cutthroat trout. In November 2012, government approved Spray Lake Sawmills' plan to log in Hidden Creek and to deviate from provincial road building standards. As we detailed in a 2014 *Wild Lands Advocate* article, this government approval completely ignored concerns raised by conservationists and Fish and Wildlife staff. For example, the proposed road crossed two tributaries ~60 m from Hidden Creek. This meant that suspended sediments would settle into Hidden Creek immediately upstream of a 1.8 km section of the creek with the highest bull trout redd densities anywhere in the Oldman basin.

Logging approvals went ahead and subsequent observations found that clearcut logging and the removal of the canopy caused Hidden Creek to fill with massive amounts of sediment-laden water. Following logging and the 2013 flood, bull trout redd counts dropped from over 100 redds a year to 15 in 2014. Instead of reclaiming the road, Spray Lake Sawmills has left it for use by off-highway vehicles (OHVs). To this day, this road is dumping large amounts of sediment into Hidden Creek, threatening further this endangered species.

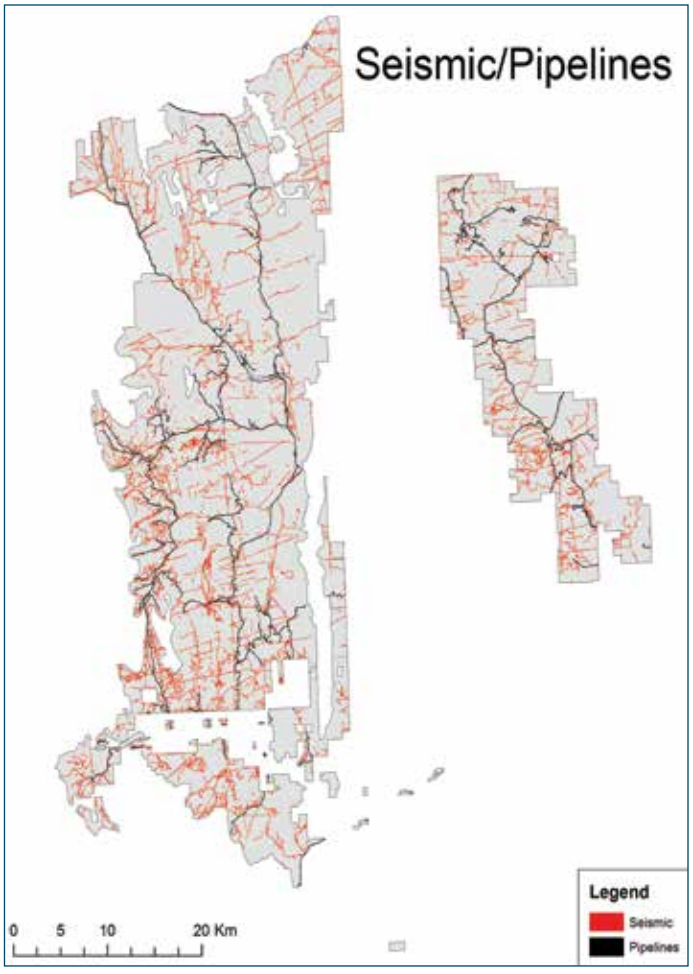
The plan's treatment of utility corridors, seismic lines, and pipelines adds to this concern. These disturbances are not held to these motorized limits and are instead categorized as "human footprint." Industry requires motorized access on pipeline right-of-ways and other linear disturbances, so these disturbances must also be included. Looking again at Hidden Creek, there was also an old seismic trail which had been closed and was on the road to recovery prior to the return of Spray Lake Sawmills to log the watershed. To my knowledge, the Forest Service has resisted closing this seismic line again. Due to heavy OHV use, this trail has become a significant contributor of sediment to the creek. No more than 0.6km/km^2 of all linear disturbances should be permitted throughout the Livingstone-Porcupine region. This limit would help to recover grizzlies and other species.

Another temporary "get out of jail free card" for industry in these plans comes from avoiding altogether any limits on activities such as industrial scale logging that obviously contribute to the size of the human footprint in ways that may compromise biodiversity and watershed integrity. The Land-Footprint Plan seems to have punted this off to be dealt with in yet another plan, the long-overdue Biodiversity Management Framework. The Plan reads in part:

> The framework will focus on key indicators that represent the broad range of biodiversity in the region. The indicators will reflect species, habitats and the landscapes that sustain long-term ecosystem health



The extent of existing human footprint in a section of the Livingstone-Porcupine region. Important disturbances such as pipelines, seismic lines and cutblocks are not currently being addressed in this plan. MAP: © P. LEE.



Map outlining the current extent of seismic activity and pipelines in the Livingstone-Porcupine. MAP: © P. LEE.

(e.g., headwaters areas and existing intact native grasslands). The biodiversity management framework will include the criteria for selecting the indicators.

Surely the key indicators of biodiversity need to be in place before plans to realize biodiversity are developed. And, as is so typical of the wilderness files we work on, this key framework was promised years ago. Late 2015 was when this framework was promised. AWA provided comments for the draft in early 2016; the only indication that a final plan may be in the works is the Land Footprint Plan's comment that, with respect to managing ecosystems and habitat to sustain biodiversity and watershed integrity, management thresholds to "guide" the size of the human footprint will be developed"(w)ithin one year."

To its credit, once these limits are finally in place, the plan is explicit in that everybody – including Alberta Agriculture and Forestry, municipalities, the Alberta Energy Regulator – is responsible for ensuring that limits are complied with. This would be a major shift from the current mode of operation, where projects often go ahead with little or no consideration for the environment.

It's encouraging that the Land Footprint Plan has also committed to developing a Restoration Strategy for the entirety of the Eastern Slopes. Given the high amount of disturbance on this landscape, I wonder how this plan will be financed and implemented. These government activities have been underfunded for decades and it's hard to see any indication that this government intends to change that pattern. Where industrial development opened up access to OHV use the burden should be placed on industry to fund the reclamation of those linear disturbances. The public has borne the financial burden of the destruction of public lands for too long.

The Recreation Management Plan intends to manage recreation in the Livingstone-Porcupine in a way that follows the limits set by the Land Footprint Management Plan. It is largely focused on managing motorized recreation in the area.

The Livingstone Porcupine is currently considered to be 'vacant public land', which means that off-highway vehicles (OHVs) are allowed to go basically anywhere as there are no designated trails. It would be chaos if our city streets had no roads for cars to drive on, and impossible for officers to give out speeding tickets if there are no speed limits or stop signs! Along with the approval of the recreation plan, the province will be establishing a Public Land Use Zone which will allow the government to designate specific trails for OHV use and allow enforcement officers to do their job. It will be illegal to go off of designated trails in this Public Land Use Zone.

There are currently 4,053km of linear features in the Porcupine Hills/Livingstone with an average trail density of 2.28km/km^2. There is no question that this has a significant damaging impact on these ecosystems and reducing the linear density here is desperately needed.

In addition, there are almost 4,000 instances where roads and trails are currently crossing water bodies, most of which do not contain any crossing structures – which is illegal. Limiting the number of roads and trails located near water, minimizing crossings, and placing bridges over each of them will be a significant improvement. However, the plan needs to contain defined timelines and standards for when bridge instalments will be completed – it's useless, and a sad example of symbolic politics, if it will take 20 years to build them all. In addition, placing crossings over water bodies that are critical for native trout is inappropriate, as bridges are known to increase sediment delivery at either side of the bridge and elsewhere along the stream and we know sediment retention structures are largely ineffective.

Regarding trail locations, the plan intentionally appears to leave certain areas free of motorized use, which would provide benefits for wildlife and provide opportunities for other forms of recreation. For example, it proposes to designate non-motorized areas in the upper reaches of the Livingstone River and remove motorized use from Hidden Creek, which would benefit westslope cutthroat trout and bull trout populations in those areas. Given the high density of road networks in the area, AWA believes there is no room or appropriate place to accommodate OHV use in the Porcupine Hills.

With respect to the OHV trail system, this system must avoid critical habitat for westslope cutthroat trout and bull trout. Without avoiding critical habitat, it is reasonable to believe that native trout will remain in serious jeopardy. And, avoiding critical habitat is required to honour the government's legal obligation to recover westslope cutthroat trout and protect critical habitat.

Finally, the vast majority of Albertans agree that wilderness is important, and the previous refusal to follow through and implement plans have let them, and Alberta's landscapes, down. This plan must do more than sit on a shelf. To that end, comprehensive on-the-ground monitoring is crucial to see if the plans are working and provide accountability to the public. Increased enforcement is important in order to ensure these plans succeed. More public money needs to be invested in these functions.

These plans appear to signal an important shift in public lands management in Alberta. However, I feel that the plan is overly lax on industry; one has to wonder and worry about how much of a change this will really mean to industrial development given the number of concessions that have been made in the plan and historically. While there are still outstanding concerns regarding the locations of OHV trails, the proposed plans appear to call for a significant reduction in the amount of OHV use that is currently occurring on the landscape. The cumulative impacts of land uses are taking a significant toll on our public lands throughout Alberta and the responsibility to reduce these impacts must also be shared. To this end, this is one of the first examples in Alberta where various industries, ministries, and decision makers will have to co-operate in order to achieve a common goal: better management of our public lands. AWA hope this plan is successful in achieving that goal and sets a positive example for future provincial policy.

Braking for the Planet- Learning the Limits

By Lorne Fitch, *P. Biol*

It would have been the wildest hyperbole to have called my father a patient teacher, especially in coaching someone to drive a car. He came from a lineage where sons were expected to observe and then flawlessly perform whatever action was demonstrated. Thankfully my mother enrolled me in a driver training course or I would still be a pedestrian.

There, under the tutelage of a very patient instructor, I learned many important driving tips, not the least of which was the idea that stop signs meant **stop**. They were not yield signs to motor through when the traffic seemed light. The other was the concept of leaving suitable distances between yourself and other moving vehicles to make safe stops possible. I wasn't to realize until much later how relevant these fundamental driving tips were to a grounding in ecology.

Technology has gotten in the way of good driving skills. Cruise control, a standard feature on most modern vehicles, is a servomechanism that takes over the throttle of the car to maintain a steady speed set by the driver. It is a curious bit of technology, at least as far as most of us use it. Watch, on any highway, as other drivers with cruise control engaged are reluctant to disengage it when approaching another vehicle, coming into a curve or an area of traffic congestion. Cruise control can be disengaged with a flick of a finger or a touch of the brake, yet the tendency is to keep speed up, despite looming danger. Brake lights flash at the last possible moment. Failure to disengage in a timely way can lead to unsafe and dangerous responses, collisions, and death.

I offer the unsafe use of cruise control as a metaphor for our over-consumptive lifestyle. We happily give control over to a machine, are reluctant to slow down to match changing conditions, and believe things will all work out. This is resource use on autopilot, mind unengaged, attention unquestioning, using things up at a speed that isn't safe and hoping we can steer around the issues coming up much too quickly in front of our grill. Rather than cruise control, it really is cruising with little or no control.

My driving instructor instilled in me the concept of defensive driving, being observant, engaged, and understanding limits. Perhaps we should apply these principles to how we manage the earth's resources and our future.

So, braking for the planet before the planet breaks is essential. Fundamental to this ethic is the reality of finite limits to space, resources, and energy. This is couched in a variety of terms. A *tipping point* happens when a small shift in pressure or condition brings about a large, often abrupt change in a system. Often synonymous with *threshold*, once a tipping point is passed an ecosystem is unlikely to be able to return to its previous state because its resilience is compromised. There are also *regulatory limits,* points in some variable up to which a risk of system change is permitted (as in legislation or policy) or accepted (as in social or economic values).

What are some safe speeds for resource use and what are the limits, tipping points, and thresholds and, where should we stop?

Before a tipping point is reached populations, habitat, and ecosystems have the ability to bounce back, to rebound from pressures and stressors. Once that point is reached and exceeded, like a rubber band stretched too much, elasticity is lost, a snap occurs and the ability to rebound back to a robust form is lost.

The change may be dramatic, like a light switched off. Fish disappear with a chemical pollutant above a certain concentration, a swift change in the pH, an exceedance of thermal limits, or a stream dries up due to drought or diversions. For many species of wildlife the cause is too much human traffic and the associated disturbance.

Arctic grayling population declines in the Wapiti River watershed were studied by Adam Norris for his 2012 MSc thesis. Many things can individually kill fish, but usually it is a combination which work together synergistically. The Wapiti watershed has an extensive land use footprint of logging, petroleum development, agriculture, motorized recreational uses, high road density and losses of riparian buffers. With less water came higher water temperatures; more nutrients, like phosphorus in the runoff, depleted dissolved oxygen, especially under times of low flow. High water temperatures coupled with low dissolved oxygen levels led to losses of arctic grayling in many streams. But, the critical threshold, the line between extant populations and missing ones was a threefold increase in phosphorus concentrations over pre-development levels, a

function of changes from land use.

Recent University of Alberta research on the relationship between roads and grizzly bears indicates that areas with road densities greater than 0.6 km/km² have fewer bears. Areas with quality habitat and fewer roads have the most bears. Clayton Lamb, the principal researcher summarized the work with: "Not only do bears die near roads, bears also avoid these areas making many habitats with roads through them less effective."

Other wildlife, like elk, avoid roads and areas within 500 metres of roads (and the human/vehicle traffic) which constrains effective use of habitat in landscapes with high road densities. Research on elk populations and their reaction to roads shows a threshold of 0.55 km/km², beyond which elk avoid such busy landscapes.

The change might be less dramatic, more gradual, like a dimmer switch, where a population declines on a gradient, until the light of resilience goes out. Fish and wildlife populations require a critical mass, a minimum viable number, to maintain themselves. This is expressed as the smallest number of individuals in a population capable of persisting over time without winking out from natural and/or human causes. Once the numbers drop below that point, the chances of successful reproduction to fill the void are overwhelmed by additive mortality, such as changes in suitable habitat conditions and/or competition with non-native species. The end happens, not with a bang, but with a whimper.

The density of roads and trails that bisect the landscape is a case in point. Roads and native trout don't mix well. All linear features – roads, trails, pipelines, skid trails and the like – intercept runoff, capture and redirect it downhill faster, increase erosion along the way, and then dump excess water and sediment into a watercourse, to the eventual dismay of trout. Fisheries biologists generally agree that the best road density to protect trout is zero roads/km².

Travis Ripley, in his MSc thesis research, found increasing road density in the Kakwa sub-watersheds from 0 km/km² to 0.6 km/km² was associated with a decline in the probability of occurrence of bull trout from 60 percent to 20 percent, a drop of 67 percent. David Mayhood, an independent fisheries biologist, points out, based on the literature, there is no road density threshold below which there is no effect.

In stark terms this means with any road development in a watershed, the best available science shows that bull trout and cutthroat trout populations can be expected to decline. All native trout populations are at risk in the Eastern Slopes and many species like bull trout, cutthroat trout, and Athabasca rainbows are "threatened".

Highways, roads, railways, and to a great extent pipelines, powerlines, logging roads and off highway vehicle (OHV) trails are the fracture zones, the schisms separating and impacting intact landscapes and the creatures dependent on them. Where linear density has been calculated for the Eastern Slopes, it currently exceeds 2.0 km/km² and is as high as 5.0 km/km². Clearly, these are levels that exceed limits by several orders of magnitude.

Road density can be an index for many other factors like the total human land use footprint and the overall effects of that footprint on runoff patterns in a watershed. The land use footprint affects how water flows off the landscape, when it does, and the extent of runoff. Removal of forest canopy, by logging, can increase flows in the spring but result in lower late season flows. This can exacerbate both flooding and droughts. Neither benefit native fish.

A collaborative research effort, undertaken in the lower Athabasca region (that includes the Athabasca tar sands area) and published in the journal *Environmental Review* (2015), documented the effect of land use on flow patterns and fish. The researchers found an increased flow variability of 20 percent in hydrologic patterns over time from land clearing, logging, road building, and mining (including the diversion of streams to accommodate tar sand removal). These activities increased sediment loads, contributed to other changes in water chemistry, increased the flashiness of watersheds, and changed base flows from pre-development conditions. The effect of this on three native, migratory fish species was a 53-100 perecent decline in populations following a 15 percent change in the landscape due to the footprint of human land uses.

Prairie grasslands and many of the bird species that nest there are not immune from human footprints. Jason Unruh, in his 2015 Master's thesis *"Effects of Oil Development on Grassland Songbirds and their Avian Predators in southeastern Saskatchewan"* noted effects from noise, well density, conversion of native grassland, traffic, and human activity. Limiting relationships on sensitive species became apparent at a disturbance threshold of only 3 percent of the landscape. As Unruh pointed out: "These are not large scale disturbance factors yet they still have detectable effects on grassland songbird abundance."

At a global scale, given current rates of greenhouse gas emissions, the temperature is projected to rise 2.7°C. This doesn't sound like much, like an insignificant threshold. But, with that temperature increase comes the real risk of tipping points for the melting of Arctic sea ice, the Greenland ice sheet, and the Antarctic ice sheet. Melting ice causes a rise in sea levels, maybe by a metre. This may seem insignificant… except for people living on the coasts or islands in the worlds' oceans. Currently the storm surge risk for New York City is once every 100 years. With a one metre rise in sea level the storm surge risk for the city changes to once every three to four years, hardly insignificant.

A threshold is a line drawn in sand, that an ecologist or a climatologist says is a stop sign. To ignore it to risk serious consequences and repercussions. Extreme weather events, plummeting populations of grassland bird species, native fish hanging on by a fin and crashing caribou numbers are all grains of sand in the beaches of evidence indicating we have exceeded

critical ecological and climate thresholds in our pursuit of economic advantage.

We live in a time when too many wants compete now with too few remnants of wild places and wild things. Because we did not want to think about or engage in limits we have landscapes replete with consequences and complications. It is easier to dream than to unseat a culture drunk on the illusion of plenty, impatient with restrictions, determined to wring more from a landscape than can be done sustainably.

Cruise control for our cars was an invention that made us lazy and complacent in our driving habits. Ignoring or avoiding ecological limits has had a similar effect on our decision making function for appropriate amounts of land/resource use. New cars with advanced safety systems, to help avoid or mitigate collisions, are already on the market. Examples include automatic emergency braking, forward collision warning, and blind-spot warning. Imagine if we applied the concept of this technology to the landscape to help us avoid approaching or crossing essential ecological thresholds.

But, it isn't technology we need, but rather it's the discipline to set and maintain limits on our activity. How hard can it be to apply the brakes? Perhaps, if we learn to use the brakes, the next step will be to shift into reverse and begin the task of restoring the places where we've exceeded the limits.

Lorne Fitch is a Professional Biologist, a retired Fish and Wildlife Biologist and an Adjunct Professor with the University of Calgary.

Featured Artist
Colleen Campbell

Wanted: Bear
55cm x 75cm
Medium: silver and gold watercolours and graphite (pencil)

Regulating coal mine runoff:
part two

By Nick Pink, *AWA Conservation Specialist*

Environment and Climate Change Canada (ECCC) is still developing an approach for regulating coal mining effluent in Canada. The second round of stakeholder consultation on this subject ended on January 31, 2018.

Effluent is wastewater released into the environment. In coal mining, this wastewater comes from a variety of sources. They include tailings ponds, settling ponds, seepage from rock piles, and surface water runoff. The regulations seek to reduce the threat coal mining effluent poses to fish, fish habitat, and human health (from fish consumption). They will be enforced under the federal *Fisheries Act.*

But isn't coal being phased out, you ask. *Won't coal effluent quickly become a problem of the past? Are these regulations too little, |too late?*

Too late?

Yes and no. Thermal coal – coal that is burned for generation of electricity – is being aggressively phased out in Canada. But, metallurgical coal – coal used in steelmaking – is not. Teck Resources Ltd.'s Cheviot Mine currently is the only mine exporting metallurgical coal. But, both the Crowsnest and Grande Cache areas have attracted interest from companies interested in reviving the mining and export of Alberta's metallurgical bituminous coal. Westmoreland Coal Co.'s Coal Valley mine, south of Edson, mines thermal bituminous coal. Coal Valley's production is exported to power utilities in Asia where it is used to generate electricity.

Of course it can be argued that strict federal limits on coal effluent should have been developed and implemented much sooner – similar requirements for metal producing mines have been in place since 2002. But, since coal mining will be part of the Alberta economy for the foreseeable future we are glad to see the promise of federal action. We hope then that these regulations will be implemented in the near future.

Too little?

AWA sees value in these proposed regulations. For example, the limits on sediments, nitrate, and selenium are scientifically supported and compare well with other jurisdictions around the world. The regulations require mines to monitor aquatic life for lethal, sub-lethal, and chronic effects caused by the release of effluent. In addition to these harmful substances, a variety of other parameters, such as the pH, hardness, and levels of other metals are also monitored.

What's not to like?

Several of the most significant problems with the regulations are the conservative timelines proposed.

The regulations will allow for relaxed effluent limits for existing coal mines, compared to that of potential new mines. As currently proposed, any mines that come into commercial operation within three years of registration of these regulations will be considered an existing mine. There does not appear to be precedence for this kind of window, as the similar *Metal Mining Effluent Regulations* considers any mine that "begins commercial operation on or after the date of registration of these Regulations" to be a new mine.

Similarly, meaningful action towards reducing selenium will be deferred for even longer. Selenium is a naturally occurring element that can be found in rock formations. High concentrations of selenium in aquatic environments can be taken up by aquatic organisms and bioaccumulate in fish, causing deformities and reproductive failures.

Existing mines would be given a grace period of six years to become compliant with the effluent limits for selenium. When this is combined with the three-year allowance for existing mines described above, a mine that hasn't even been proposed yet could theoretically be permitted to pollute fish-bearing waters with high levels of selenium until 2028.

AWA also is concerned by various mechanisms that would exempt mines from conducting environmental monitoring. Because of the bioaccumulative nature of selenium – where concentrations of selenium increase as you go up the food chain – fish tissue studies are required to determine the effects on fish populations. However, the regulations allow a mine to stop conducting fish tissue studies if selenium concentrations in fish tissue are below a "trigger" concentration for two study periods and effluent concentrations remain below another trigger limit. While selenium would still need to be monitored in water, selenium concentrations in effluent do not always accurately represent the biological uptake of deleterious substances.

In fact, a selenium treatment method used in BC, at Teck Coal Ltd's West Line Creek Active Water Treatment Facility, was found to be removing selenium concentration in effluent to acceptable levels while simultaneously increasing selenium concentrations in downstream aquatic organisms. While this sounds paradoxical, the fact is that biochemistry isn't so straightforward. The increased uptake discovered in fish occurred because a by-product of the treatment method, selinite, is much more easily taken up and accumulated by aquatic organisms. Under the proposed regulations, the mine would have been under the effluent trigger that would require fish tissue studies, while directly causing an increase in the concentration of selenium in fish tissues.

The southeast portion of Caw Ridge, critical habitat for a wide variety of flora and fauna, is less than two kilometres from the Grande Cache surface mine.

Another attribute of the regulations that AWA will continue to monitor will be the public availability of information. The proposed regulations have promised that "Information related to deleterious substance concentrations... would be made publicly available and accessible." While at a glance this appears positive, a cynic might see how "information related to" could be interpreted as something as simple as a checklist. AWA believes that meaningful information must be available so the public may hold coal mines and their regulators accountable to the public interest.

Featured Artist Colleen Campbell

Wanted: Raven
75cm x 55cm
Medium: silver and gold watercolours and graphite (pencil)
PHOTO: © C. CAMPBELL

Courtney Taylor:

A Top Hand Striving to Ensure the Land Will Be in Good Hands

By Ian Urquhart

Do you remember when you were 17 years old? Do you remember that time, as a 17-year old, when you stood before a room of professionals and experts and spoke to them about "their" issues, issues they thought about and dealt with on a daily basis?

If you're like me, you might be able to remember some of your experiences as a 17-year old, but those experiences likely won't include speaking to a roomful of experts. Not many of us had the opportunity, or the nerve, to try the latter.

Let me introduce you then to Courtney Taylor, a 17-year old from the County of Warner in southern Alberta. Courtney is the first Canadian high school student to win the Society for Range Management's High School Youth Forum competition. The High School Youth Forum has been part of the Society's activities for more than 50 years now. The competition asks high school students to make a six to eight-minute formal presentation based on a paper they have written on a range related topic. Judges then pose questions to the students after they have made their presentations.

The Society for Range Management is composed of 21 sections. Most sections coincide with the boundaries of American states such as Colorado or Idaho; some, such as the Pacific Northwest, International Mountain, and Northern Great Plains, are transboundary and have members from both Canadian provinces and American states. Mexico is the only national section. Courtney represented the International Mountain section (Alberta and Montana) in the 2018 competition

2018 High School Youth Forum L to R: – April Alger (2nd), Cecil Shannon (3rd), Courtney Taylor (1st), (HSYF Sponsor) Bayer Representative Derek Sebastian, BaiLee McMillon (4th), 2017 SRM President Larry Howery, and Maggie Justice (5th) PHOTO: © G. REESE

Courtney and calf…no enjoyment in that relationship PHOTO: © R. TAYLOR

held as part of the Society's annual meeting held in Sparks Nevada.

The educational dimension of the competition makes winners of all the students who participate in the Forum. The presentations that Courtney and the other students gave were based on papers they had written in collaboration with the Society's members. In Courtney's words, Tracy Kupchenko and Tim Romanow "really helped me put my presentation together." Tracy is the acting-president of the International Mountain section and a Senior Reclamation Assessor with the Alberta Energy Regulator; Tim is the Executive Director of the Milk River Watershed Council.

Tracy enjoyed working with Courtney on her presentation and it's clear to me why that would have been the case. Eager to learn, witty, charismatic, able to use personal experiences to communicate clearly scientific information – these are some of the qualities Tracy sees in Courtney. Combine those qualities with a deep appreciation for wildlife and biodiversity and it's easy to see why Tracy would call Courtney "a bright shining light."

As part of her final preparations for her trip to Sparks, Courtney offered a dry-run of her presentation to the annual meeting of the Prairie Conservation Forum in mid-January. Courtney's paper and presentation, entitled "Sustainable Range Management," dealt with a subject dear to the hearts of Courtney and her family as well as Alberta Wilderness Association members. The Taylors ranch close to the Milk River Ridge area south of Magrath. AWA regards the Ridge as an internationally significant grassland. Ross Lake roughly marks the western boundary of the Ridge; the Twin River Heritage Rangeland sits on its eastern boundary.

Courtney's paper outlined some of the practices the Taylors use to try to realize healthy bottom lines – for both the rancher and the native prairie landscape. Skim grazing was one of the practices Courtney helped me to learn more about. Bales of tame grass (non-native grass), used to feed cattle in the winter, may introduce non-native plant/grass species into a native prairie pasture. Courtney spoke about how, on some of their pastures, straight lines of timothy or bromegrass, are a legacy left behind by previous owners who placed bales of tame grass on the native prairie. As she pointed out to me, tame grasses didn't arrive across the Alberta prairie only courtesy of ranchers using bales to feed cattle in the winter. The history of oil and gas exploitation across the grasslands is one where planting exotic grasses such as crested wheatgrass on native prairie was a common policy and practice when it came to revegetating lands disturbed by the need to slake our thirst for petroleum.

Skim grazing the tame grasses is a grass species management practice that improves the competitiveness of the native grasses, increasing their abilities to go to seed and flourish. I asked Courtney why improving native grass competitiveness was important. She explained that a native grass "dries on the stem and keeps its nutrients in the grass so you can utilize it later on in the year." So maintaining the health of native grasses on the prairie plays an important role in how you manage your cattle on the range over the course of a year.

Courtney also stressed how important riparian area management is to the Taylors' vision of sustainable range management. Situated in the headwaters of their watershed the Taylors realize how important riparian area management is for both their ranch and the downstream lands of others. She reminded those of us at the Prairie Conservation Forum meeting that sometimes it's very simple to promote sustainability on the land. For example, consider the placement of mineral salt blocks. The Taylors don't follow what some regarded as the preferred method for providing salt to cattle – using a stationary salt shack. Instead, they rotate salt blocks in the pastures. Courtney delights in finding some thistle to put salt blocks in. The cattle stress the thistle as they use the block and this reduces the spread of another unwanted plant species.

It's also apparent that, when it comes to riparian areas on their ranchlands, the Taylors go the extra mile in order to promote a healthy landscape. One part of their property had been used essentially as a graveyard for old cars and machinery; the Taylors restored the riparian health of that area. Their efforts are good for both wildlife and cattle. The restoration work has contributed to the fact the Taylor ranchlands are a premier nesting site for pintail ducks in Alberta. "By ensuring that that riparian area remains healthy," Courtney said, "when we turn out cows there in the fall they have somewhere to drink."

Fencing is another activity that Courtney feels is done on her ranch in ways that ben-

efit pronghorn and deer. Raising the lowest fence wires allows pronghorn to pass under the fence; since pronghorn cannot jump over fences this ensures that fences won't be an obstacle to migrating pronghorn. The top strand can be lowered in order to make it easier for deer to jump the fence while ensuring that cattle remain where the Taylors want them.

The Aldo Leopold Foundation describes Leopold's famous land ethic, the moral responsibility Leopold thought we have to the natural world, this way: "At its core, the idea of a land ethic is simply caring: about people, about land, and about strengthening the relationships between them."

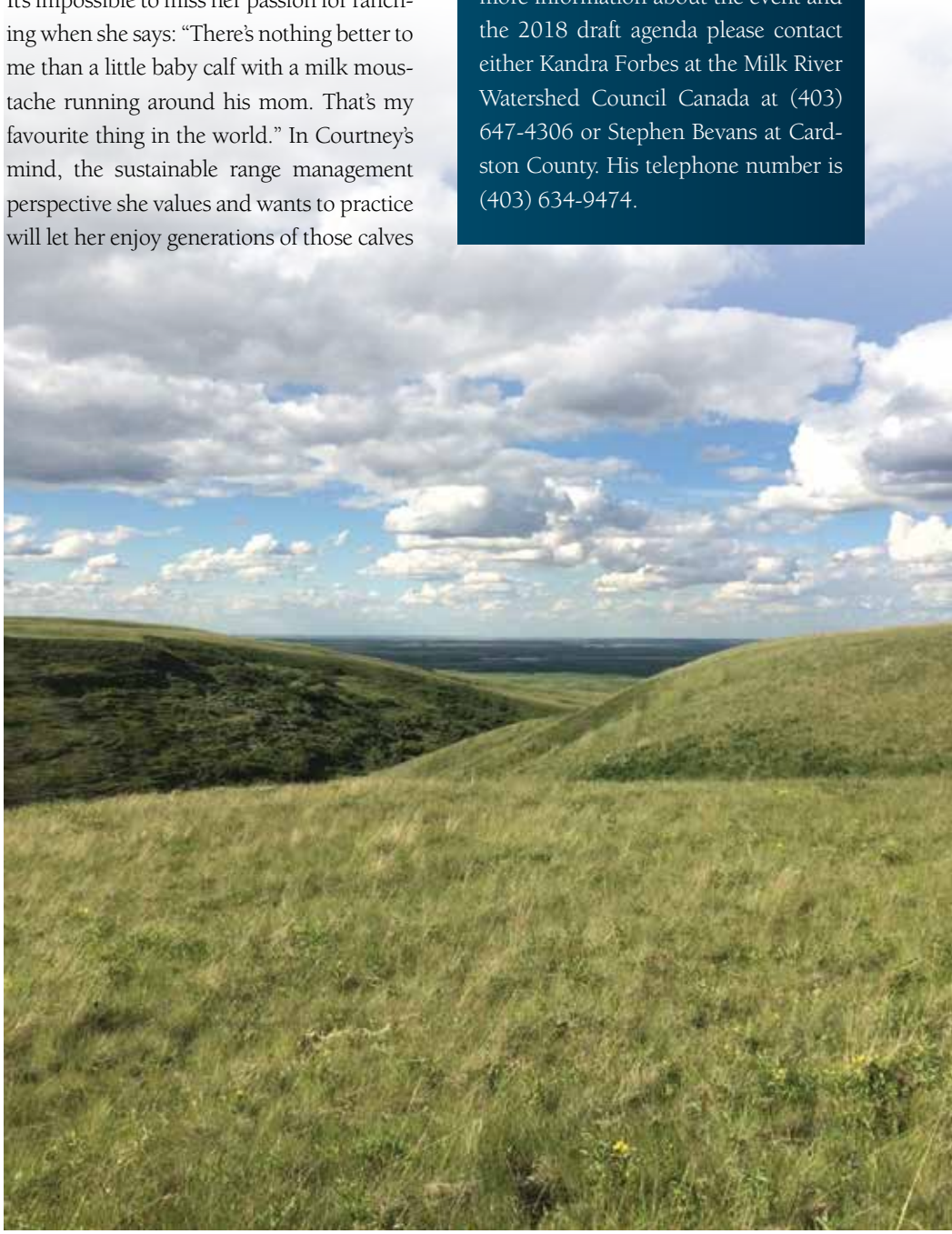
At several points in our conversation Courtney used language that illustrated how important this land ethic is in her background and to her approach to range management. "Everything's connected," she said, "when you take care of the land the land takes care of you." Or, when we were talking about pintail ducks, she said "what we do is to try to keep disturbances away from them." This attitude animates their ranching operations as well as their views of projects such as power lines and wind farms.

What can we, as a society, do to foster the passion, knowledge, and appreciation found in the Courtney Taylors of the world? Here Courtney takes me back to a formative experience in her life – Southern Alberta Youth Range Days. This three-day summer program had a tremendous impact on Courtney. Winning the Top Hand award in the last year she attended the program put her on the path that ended with her participation and win in the high school competition in Sparks. Interacting with professionals who pass along amazing facts about a wide range of subjects – from ferruginous hawks to blue grama grass – inspired Courtney and strengthened her already existing interest in sustainable range management. Courtney corrected me when I suggested that Youth Range Days would help the next generation of ranchers to embrace the land ethic that her parents have helped to instill in her. "I'd say just help the next generation…period," she said, "not the next generation of ranchers because lots of the kids that come don't have a ranch, don't have any cows. They're just interested and they want to make a difference and they want to learn. That's exactly what should be promoted through programs like this."

With one year left to go in high school Courtney plans to pursue an Agricultural Business degree after graduation. After that I'm betting you'll see her back on the ranch, raising the cattle she is so passionate about. It's impossible to miss her passion for ranching when she says: "There's nothing better to me than a little baby calf with a milk moustache running around his mom. That's my favourite thing in the world." In Courtney's mind, the sustainable range management perspective she values and wants to practice will let her enjoy generations of those calves well into the future. A future nurtured from Courtney's perspective also will be a future with many benefits for wildlife and the landscapes they roam.

Southern Alberta Youth Range Days 2018

Southern Alberta Youth Range Days will be held this year from July 10th to July 12th at the Rangeview Ranch in Cardston County. If you would like more information about the event and the 2018 draft agenda please contact either Kandra Forbes at the Milk River Watershed Council Canada at (403) 647-4306 or Stephen Bevans at Cardston County. His telephone number is (403) 634-9474.



The landscape the Taylors care for PHOTO: © C. TAYLOR

Louise Guy Poetry Corner

In 2018 the Advocate is going to republish the past winners of the Louise Guy Poetry contest that formerly was part of the Climb for Wilderness. We're very pleased to start this series with late Rick Collier's poems about the Castle Wilderness. We hope that Rick's words and spirit animates Minister Phillips' actions in the year leading up to the next provincial election.

AWA is very grateful to Peter Sherrington, a judge from past competitions, for the following introduction to this series.

- Ian Urquhart

Louise Guy, who died on September 30, 2010 at the age of 92 was a lover of the outdoors, wilderness and animals and was a role model in sharing these enthusiasms. She took up Rock Climbing and mountaineering in her fifties and was still participating in the AWA Calgary Tower Climb in her nineties where her ready smile and example urged climbers to make yet one more ascent of the stairs. In her memory the AWA instigated the Louise Guy Poetry Prize in 2011 as part of our annual Earth Day celebration and I was privileged to be one of the judges throughout the life of the competition.

We did not know what to expect but were heartened by the response and each year produced several submissions that varied greatly in theme, form and length. Every year, however, one poem clearly stood out from the rest and in a real sense selected itself. Many of the submissions expressed the frustration and anger of seeing our wilderness destroyed and the apparent unwillingness of our governments to address the problems, but such sentiments rarely translate into good poetry although they can be excellent therapy for the poet. As Auden observed "*… poetry makes nothing happen…*" and on a large scale this is probably true; however, the resonance of a poem with its reader or listener can profoundly change their perception of the world, or provide words for what were previously vague or dormant feelings, and these can be the seeds of profound change. To transform emotions into thoughts, thoughts into words and words into poems takes skill and to then share them with others is an act of courage.

It is a pleasure to present the winning poems all of which reflect some aspect of our wonderful, but fragile, wilderness and the poets' emotional responses to it. Some are short *haikus*, there are longer narrative poems, one relates to a single flower, others are cosmic in scale, but all essentially speak of love. This is eloquently expressed in a line from Rick Collier's poem sequence, *"This love transforms you utterly,"* a poem that is given extra poignancy as Rick was to die in a climbing accident just a few months after they were written.

The poems speak for themselves: read them, enjoy them, learn from them and share them.

- Peter Sherrington

Rick Collier was synonymous with passion. Mountaineering, literature, social justice – these were some of the subjects Rick was passionate above. In the dead of winter in 2012, Rick's love of the Castle Wilderness led him to join dozens of others in protesting plans to clear-cut forests there. That commitment led to his arrest along with Mike Judd, Jim Palmer, and Reynold Reimer. Later that year Rick's love of mountaineering took him from us far too early - he perished in a fall on Mount Geikie in B.C.

Rick Collier is arrested by RCMP officers near Beaver Mines. PHOTO: © D. THOMAS

SEVEN ALPINE POEMS (for the Castle Wilderness)

By Rick Collier

I

Is your true home
In thick, untrailed forests
And on the scree-strewn slopes
Of unnamed mountains?
This love transforms you utterly:
You are a mountaineer,
Not a teacher, nor an accountant, nor a clerk.
The bondage of ropes
On limestone ascents of the vertical desert
Are here likewise irrelevant:
The peaks themselves pull you upward,
Spontaneously, inexorably,
With no reason or reward
Than the tough scrabble heavenward itself.
Such devotion lifts beyond the summit
Its own mantra of prayers,
Of gratitude.

II

I have learned much
From books and from strangers
And even from the quotidian events
Of everyday life.
But only on flawless mountain days
Can I see far, far beyond the horizon.

III

No words tonight,
No poem possible,
All language silenced
By the tracery of cloud at twilight:
A high camp near Castle Crag

IV

Before dawn, I rouse myself,
Bivouacked
On the bare mountainside,
Dream
Mingled with the cool mountain night,
With thoughts of the day's climbing ahead.
Do I wake or sleep?

V

The stove sputters, heating snow to water,
Fingers chilled cinching packstraps,
The craggy high places beckon . . .
And yet I linger,
Savouring the delicious anticipation
Of the day's exertions –-
Tangled forest,
Streams white with froth,
Soaring towers wind-scoured.
Above, a shooting star
Rips a zipper of fire across the sky;
A huddle of bright stars
Hangs over Castle Pass.
Once more
I am immersed in the moment.

VI

Up early,
And now in morning's glimmer --
Forest, paternoster lakes, dusty scree
Arrayed exactly as they should be
For my delight
Alone
On this frosty October ascent.
Sun surprises me
As I crank up into
A couloir
Lined with plump boulders
Like sleepy sentries.

VII

On the best of days
I am the bear I hope to meet,
Shambling through
The jumbled wilderness,
Or the deer that leaps through the bush,
A dancer perfect.
I pause at a rain-rotted log:
Brown moss like fur,
Turreted gray fungi.
My inner voices
Go silent.

Introducing Dylan Conley, the Winner of AWA's Calgary Youth Science Fair Award.

Dylan Conley, from Tom Baines School, received the AWA Award at the 2018 Calgary Youth Science Fair from AWA Board Member, Jim Campbell. Dylan's project, "Danger! Animal Crossing!," created an impressive in-depth presentation on the positive impact that well-constructed animal crossings can have to mitigate wildlife deaths as well as demonstrating how important they can be for human safety.

AWA sponsors this award, in part, in the hope it will inspire those who win it to continue their work on scientific subjects vital to the future of wildlife and wild lands. In a very thoughtful letter to Christyann Olson, Dylan said how much he appreciated AWA's "contribution to help young scientists grow." Later he wrote how winning the AWA award has inspired him to continue his research into the future. AWA thanks Dylan for those thoughts and wanting to continue to contribute to building a better future.

The 2017 Annual Awards and Martha Kostuch Wilderness and Wildlife Lecture

By Christyann Olson

Last November AWA members and friends gathered to celebrate AWA's 52nd year, three Wilderness Defenders, and the memory of Martha Kostuch through another inspired and challenging lecture. The 17th Annual Awards and Lecture evening was filled with conversation about conservation, our challenges, our hopes for the coming year, and our reflections on the past many years of perseverance and dedication.

Chris Turner walked three streets over from his home to the AWA Cottage School and offered some thoughts about Conservation in a Changing World and how AWA will be part of the future.

Vivian Pharis has chaired the Awards Committee for 17 years

Owen McGoldrick welcomed everyone and opened the evening with thanks to some of our major supporters and recognition for staff and board.

Ian Urquhart presents Wilderness Defenders Award to Colleen and Dylan Biggs. We missed Dylan – one of the most dedicated grassers we know – who was home on the ranch caring for calves. Hannah Biggs attended with her mom.

Reg Ernst received his award following tales from Vivian about his time rescuing rattle snakes and finding rare plants.

PHOTOS: © K. MIHALCHEON

Kevin Mihalcheon received the Great Gray Owl award for his dedication as a volunteer, helping to create a photographic archive of our work that reflects what conservation means and who conservationists are.

The 2017 Martha Kostuch Annual Lecture

Chris Turner Imagines the Future: Climate Change, Conservation, and Cities

By Ian Urquhart

For years now AWA's November calendar of events has been distinguished by the always thought-provoking Martha Kostuch Annual Wilderness and Wildlife Lecture. Last November Canadian writer Chris Turner added his name to the list of those who have offered that fare to AWA members. In the 2017 Kostuch lecture, Turner invited his audience to join him on a journey to consider what one of our futures might look like as we move farther into the Anthropocene – what the Oxford English Dictionary defines as "(t)he era of geological time during which human activity is considered to be the dominant influence on the environment, climate, and ecology of the earth." During his lecture Turner challenged AWA members to consider, if they hadn't already, changing their understandings of conservation and urban living in order to address what will likely be the 21st Century's defining issue: climate change.

The challenge of addressing climate change is daunting. In Turner's mind it demands a speedy transition from today's situation, where 85 percent of primary energy comes from fossil fuels, to one where almost none of that energy comes from fossil fuels. It's a transition we must make as fast as humanly possible. The imperative to make such a radical switch in global energy use has significant implications, at the very least, for how we think about conservation and for how we think about the life styles we should aspire to.

Turner began with what I thought was an optimistic appraisal of the global commitment to reduce greenhouse gas emissions. That optimism originated in part from his observation that the world's leaders "broadly, vaguely agree" that all countries must contribute to efforts to reduce global warming and assist less-developed countries to adapt to climate change. The 2015 Paris Agreement strongly affirms this view. This agreement outlines how the countries that signed the United Nations Framework Convention on Climate Change (UNFCCC) in 1992, will implement their UNFCCC commitments after 2020. It intends to strengthen the international response to climate change threats while promoting sustainable development and eradicating global poverty. Its climate change ambition is to see the global community develop policies that will limit the increase in the Earth's average temperature "to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels…"

Turner joins many others in seeing the Paris agreement as a significant achievement. It's a "landmark," "a watershed moment," and an international agreement that "should be celebrated as the triumph that it is and was in 2015." What he finds very encouraging is its "recognition…that fossil fuels as the core of our economy and the engine…was done now. We were going to have to use it for a long time but…it was now a necessary evil that we were trying to move away from as fast as we could."

The Smart Prosperity Institute, an organization Turner has worked with, reflects this changing landscape, this "vague, broad consensus that this is the direction the world is going in." The members and supporters of the Institute, drawn from corporations, First Nations, non-governmental organizations, and the public sector, agree on "a general vision of Canadian society and some of the policy ideas to get us there that we can all agree on." It's important, in Turner's mind, for conservation organizations like AWA to appreciate that there may well be more allies now than previously in corporate Alberta and Canada for the conservation objectives

Wind turbines in southern Alberta PHOTO: © C. OLSON

AWA was created to pursue.

What does Turner think this climate change challenge means for conservation in Alberta? Generally, it requires conservationists to adapt to a very different toolkit than the classic conservation toolkit. If we are going to get off of fossil fuels as fast as possible we are going to have to warm, at least to some extent, to industrial scale renewable energy projects such as wind and solar farms. "One of the tricky things about it, particularly from the point of view of a conservationist," Turner said – perhaps with some understatement, "is that thinking about what a rural landscape should be does change a bit in this new paradigm." Renewable energy on an industrial scale will be "a little bit more intrusive to some degree on the landscape."

For conservation groups this rapid switch to renewables doesn't mean that, in Turner's view, they should abandon their concerns about the landscape impacts of industrial-scale renewable energy development. But, it does mean that they shouldn't unconditionally oppose all such projects. Instead they should be prepared to accept, perhaps even advocate, that these projects are appropriate in some locales, on some landscapes. He sees conservation groups as potential allies to those who seek to increase public acceptance in rural Alberta of designs to boost the importance of renewables in Alberta's electricity system. If getting off of fossil fuels as quickly as possible is the Prime Directive for civilizations in this century then conservationists must understand the necessity to welcome industrial-scale renewable energy projects on the land.

At the start of the evening Turner playfully suggested that he hoped to turn everyone into urbanists by the evening's end. He ended his lecture by focusing on the important contribution that city design and density may have to reducing the carbon footprint of humans on this planet. If cities have high urban density levels and their residents don't rely heavily on automobiles then these cities are likely to have smaller carbon footprints. This is a theme that featured in the debate he had with Sid Marty about the respective values of rural and urban life in the April 2018 issue of *Alberta Views*. In his Kostuch lecture, Turner used Copenhagen to illustrate a city where daily living is much less energy intensive than in others such as Calgary or Edmonton. Rethinking cities and increasing urban density may create less pressure on some of the landscapes AWA cherishes.

This outlook has implications for conservation agendas: "If you're working on conservation in southern Alberta and one of the big pressures you see is urban encroachment and urban growth…your top conservation goal might be to strongly encourage the kind of urban density and urban liveability that makes a city like Copenhagen function so well because a lot of those pressures go away if people are living on this much smaller footprint." Urbanism, according to this perspective, may be seen as a type of conservation.

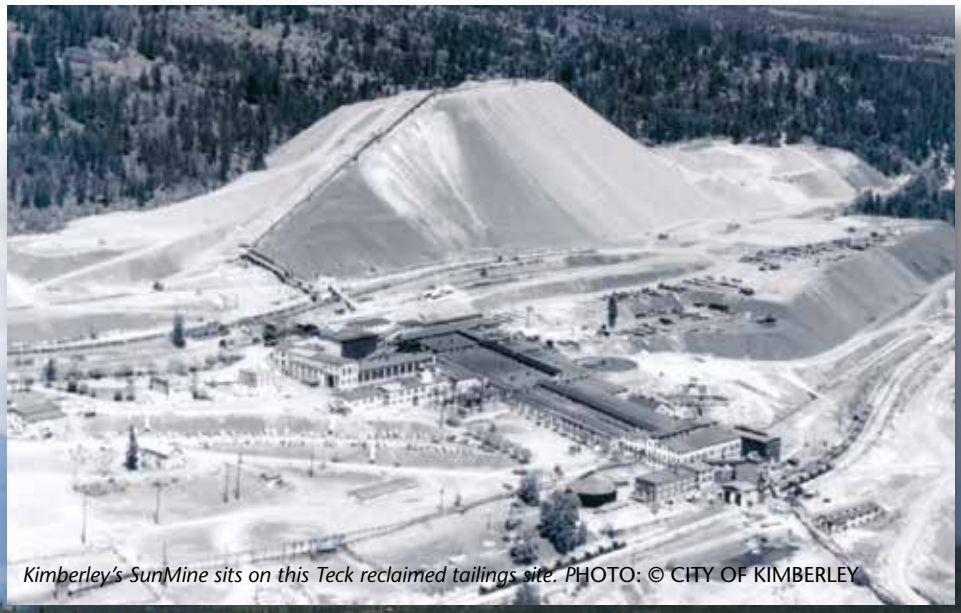
I hope Turner's audience found his remarks both illuminating and challenging. I certainly did. Several of his messages are ones I believe should have been accepted when I first started studying climate change at the dawn of this century. They are messages that must be implemented if North Americans are finally going to start to address climate change seriously. Should we be reducing our dependency on fossil fuels as quickly as possible? Yes. Should industrial-scale renewable electricity development be part of the drive to reduce fossil fuel use? Yes. Should development in

Kimberley's SunMine PHOTO: © City of Kimberley

our cities encourage higher density and less sprawl? Yes.

Those points of agreement notwithstanding I question some of his claims and disagree quite vigorously with others. How really green, for example, is urban living? Recent research, unveiled at the Intergovernmental Panel on Climate Change conference on Cities and Climate Change held in Edmonton in March, suggests that major metropolises such as New York and Toronto may not be as green as the then-state of Turner's analysis suggested. The C40 Cities Climate Leadership Group's study, *Consumption-based GHG emissions of C40 Cities*, contends we must consider the emissions associated with the goods/services we consume when measuring carbon footprints. It's certainly true that London, Paris, New York, and Toronto have reduced significantly their local GHG emissions into the atmosphere. But, the C40 study argued that when you included the emissions associated with what the residents of the above cities consume "these cities' emissions have grown substantially and are among the highest in the world on a per person basis." While this research doesn't question the merits of urban densification, it demands we also account for the GHG emissions associated with that latté we enjoy on a sunny day in one of Calgary's walkable neighbourhoods. Global carbon emissions have risen by 60 percent since the ill-fated Kyoto Protocol was signed in 1997… in a mere 20 years… in less than a generation. As Mark Watts, the Executive Director of C40, told *National Geographic* in his comments on his group's analysis: "Using more renewable energy and mass transit won't be enough to reverse this. We have to reduce our consumption."

When it comes to the need for industrial-scale renewable energy projects I agree with Turner that this has to be part of our energy future if we are going to reduce fossil fuel use as rapidly as possible. But, in making his argument for why we need industrial-scale renewables, I think he's incorrect to say that industrial-scale renewables are "not fundamentally as intrusive as a coal power plant." Coal-fired electricity emissions certainly are more intrusive to our lungs than renewables but industrial-scale renewables claim the prize for being the most intrusive on the land. Dustin Solberg, writing for The Nature Conservancy, noted that wind turbines have a "disproportionately large footprint" for the amount of energy they produce. He reported wind's footprint in the United States to be 72.1 square kilometres per terawatt; coal's footprint was much smaller – 9.7 square kilometres per terawatt. While I agree with Turner on the need for industrial-scale renewables to be part of the new toolkit I don't



Kimberley's SunMine sits on this Teck reclaimed tailings site. PHOTO: © CITY OF KIMBERLEY

think we should minimize their impact on the land – an impression I think reasonable people could have taken from his lecture.

I believe it's these "disproportionately large" landscape impacts of industrial-scale renewables that rest at the heart of many a conservationist's concerns about how renewables may be developed in Alberta. So I don't think Turner was necessarily correct to suggest that, for conservationists who are concerned about wind farms, "there is a tendency…with things like renewable energy to judge it almost aesthetically." There's much more to conservationists' concerns than aesthetics. Solberg's piece in *Cool Green Science*, for example, points out the disruptive effect wind turbines have on songbirds in the native prairie or on the nesting habits of mallards and northern pintails. AWA members know well that the majority of Alberta species at risk call the grasslands home – the same grasslands that, more often than not, are viewed as prime locations for wind and solar farms. I would argue it's the possibility of increasing the risks already faced by these species or the lack of protection of native grasslands that is the more serious source of a conservationist's concerns about industrial-scale renewables. Public policy must take those concerns seriously.

As we rush to increase dramatically the amount of Alberta's electricity generated by renewables I wish I saw more signs of creative thinking from governments. I wish I saw more interest from government in increasing renewable electricity production without intruding on already otherwise productive, and sometimes threatened, landscapes. Why the fascination, if not fixation, on industrial-scale renewable projects? Why don't we see more interest from government in decentralizing energy production and using investment tax credits to encourage homeowners or corporations to put solar on their roofs. Governments should do more to encourage small businesses to follow the examples set by Stu Moore Clothier's in Medicine Hat (a 10 Kw system sits atop their building) or by my daughter and son-in-law who have a 5.72 Kw system on their home in Calgary's Hillhurst neighbourhood.

Or, why don't we hear more about purchasing or using brownfield sites such as old open-pit mines to develop industrial solar and wind? Revitalizing brownfields through renewable energy development was one strategic objective of President Obama's energy and climate change policies. Why haven't we made that a priority here in Alberta? Alberta surely doesn't lack brownfield sites that get plenty of sun and wind. The City of Kimberley, B.C. offers a valuable model to follow. Kimberley developed its "SunMine" on a portion of Teck's reclaimed Sullivan mine site. This 4,000 plus solar-module facility is capable of generating 1.05 megawatts of electricity. Following Kimberley's example would enable us to build some of Alberta's renewable electricity path on lands that our actions already have compromised severely.

Finally, Chris Turner and I will disagree quite profoundly when it comes to assessing the value of the 2015 Paris agreement. Of course, it's significant when the nations of the world broadly agree about whether this or that issue is a problem that needs to be tackled. Paris is significant for that reason. But I would argue the international community recorded its broad and vague agreement about the need to tackle climate change a generation before the Paris agreement. This is exactly what the 1992 United Nations Framework Convention on Climate Change (UNFCCC), an international treaty ratified by 196 countries and the European Union, did. In the words of the Center for Climate and Energy Solutions, the UNFCCC provided "a foundation for the global climate effort."

What the world has needed since 1992 is not an affirmation of whether climate change is serious and needs to be addressed. Instead the world has needed targets and measures to reduce greenhouse gas emissions. Those targets and measures have been largely missing in action (the European Union stands out as an important, commendable exception to this record of neglect). For me, this is the vital test of the worth of the Paris agreement – the targets and measures it prescribes for governments to insist their societies follow.

Some will tell me that Paris has targets. They're right. It does. The Agreement asks those countries that ratify it to strive to hold:

> the increase in the global average temperature to well below 2 °C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change.

Paris also refers to measures. These are the so-called "Intended Nationally Determined Contributions" (INDCs). But not enough of those who celebrated Paris and its targets drew the public's attention to the efficacy, really the lack of efficacy, of the INDCs proposed by the countries who signed Paris. The United Nations document that adopted the Paris Agreement noted with concern:

> that much greater emission reduction efforts will be required than those associated with the intended nationally determined contributions in order to hold the increase in the global average temperature to below 2°C above pre-industrial levels…

In other words, Paris acknowledged that the-then national commitments couldn't reach or satisfy the Agreement's targets. As the Climate Action Tracker Consortium reported on the eve of the Paris conference in 2015, the INDCs of the countries that would sign Paris were estimated to increase the global average temperature by 2.7°C by the beginning of the 22nd Century. This projected increase is 0.9°C lower than the world would experience without those INDCs but it is considerably higher than the Paris targets.

The specific targets and (binding) measures I believe Turner is glad to see set aside by organizations such as the Smart Prosperity Institute are, I'm afraid, exactly what the world needs in order to realize the targets for increases in the average global temperature presented in the Paris Agreement. Governments have yet to serve them to us. After another generation goes by I hope I'll be able to buy Chris Turner a latté in one of Calgary's walkable neighbourhoods and tell him he was right and I was wrong.

Updates

Alberta Caribou Need More than a 'Plan to Plan'

AWA's Carolyn Campbell, moderator Peter Lee and colleagues Kecia Kerr (CPAWS Northern Alberta) and Nikki Way (Pembina Institute) at a February 2018 caribou press conference. PHOTO: © N. PINK

Alberta's woodland caribou urgently need habitat protection. Despite promises from successive Alberta governments to achieve self-sustaining caribou, human-caused habitat loss continues to rise in almost every Alberta caribou home range, pushing them nearer to extinction.

In October 2017, Alberta missed a five-year federal deadline to produce range plans that describe how caribou ranges will be managed to reach a minimum of 65 percent undisturbed habitat. On December 19, the Alberta government released a draft provincial caribou plan. In AWA's view, it is basically a "plan to plan." It outlines current problems – habitat disturbance and population trends by range – and it states some industry-specific strategies. However, it once again avoids committing to maintain current intact habitat and to steadily restore fragmented habitat; it gives no timelines or maps showing how or when the minimum habitat requirements will ever be reached.

Saving caribou from extirpation in Alberta matters, and we need plans that say so, and do it. Caribou are a sentinel species for older, relatively intact boreal and foothills forests and wetlands – landscapes that store significant water and carbon and which many other wildlife species rely upon. Aligning other Government of Alberta plans and regulations with effective caribou range plans would be a major advance to give real meaning to Alberta's longstanding commitment to maintain biodiversity and manage our forests sustainably.

In keeping with boreal scientists' recommendations, AWA strongly supports establishing permanent protected areas in a portion of each range. Clear surface disturbance limits and a good process for phasing in optimal access and infrastructure networks are also urgently needed. These steps are vital to reaching the goal of at least 65 percent undisturbed habitat. This goal isn't going to be reached overnight, because fragmented forests need to regrow, but the plan as drafted is much too vague about when the habitat target might ever be reached: it should include maps and a timeline committing to get the job done in 50 to 70 years .

Forestry and energy activity that respects caribou habitat requirements is also part of AWA's vision for caribou range management. Saving caribou isn't about jobs vs. caribou, it's about re-shaping how we manage our forests so there's room for wildlife that Albertans value. A regional timber supply sharing approach to support mills and jobs, extensive restoration work, energy activity in clustered development corridors, and eco-tourism all will help move Alberta toward healthy forests and healthy wildlife.

Decision makers need to know Albertans value caribou. Caribou4ever.ca is a great website to learn about caribou, industry impacts, and what you can do to help. You can download a brochure to send to others who care about wildlife, and there is an easy template for writing the Premier about why saving caribou and their habitat matters to you.

In recent weeks, AWA's caribou activities have included an Edmonton press conference, radio interviews, speaking to Calgary-area students, and attending government public open houses on caribou plans. AWA is also an Alberta Environmental Network delegate for several Alberta government-hosted multi-sector meetings that are expected to wrap up in March; we will be putting forward habitat solutions for caribou that are not business-as-usual, but fair to communities.

- Carolyn Campbell

"Caribou come first. That's the law, and that's the right thing to do."

This update's title comes from mediator Eric Denhoff's May 2016 report *Setting Alberta on the Path to Caribou Recovery.* Nearly two years ago now, the provincial government celebrated the Denhoff report's release with a news release entitled: "Alberta leads Canada on woodland caribou protection." In that release Alberta Environment and Parks Minister Phillips said that, unlike Progressive Conservative governments of the past, her government was taking action. "We rolled up our sleeves and looked for solutions," she said. "Eric Denhoff engaged every voice on this file, and provided us with a path forward. His recommendations are based on collaboration, science and protecting jobs." AWA joined others in praising the part of the plan to protect permanently 1.8 million hectares of caribou range in the boreal forest.

> *"Alberta's approach to protecting caribou populations and fulfilling the requirements under federal law cannot and will not come at the expense of our economy."*
>
> - Hon. Carlier, McCuaig-Boyd, and Phillips

On March 19, 2018 Agriculture and Forestry Minister Carlier and Energy Minister McCuaig-Boyd joined Minister Phillips in a letter to the federal government telling Ottawa that Alberta was suspending any plans to set aside those lands to protect woodland caribou. The Alberta ministers' letter said: "At this stage in the caribou range planning process Alberta is suspending consideration of conservation lands recommended in the Caribou Task Force Report pending further review and the outcome of the socio-economic impact study."

The Alberta letter constitutes a stunning policy reversal from what the Minister of Environment and Parks announced in June 2016. It disavows the statement by Eric Denhoff, now the Deputy Minister of Environment and Parks, used to introduce this update. Professor Shaun Fluker, environmental law expert at the University of Calgary, states in a post to the ablawg.ca blog that the provincial letter signals "the abdication of responsibility for protection and recovery of caribou." AWA hopes Professor Fluker is wrong to suggest that the Notley government "has little intention of completing its Caribou Range Plan" but we certainly see how this latest provincial action encourages that conclusion.

To read the letter I received from Premier Notley about caribou conservation you might well think the government isn't creating caribou conservation areas in northern Alberta for two reasons: a lack of consultation and the damage such action would do to the economy. This is ironic because consulting widely and a concern for the economy were two noteworthy features of Eric Denhoff's report in 2016. Minister Phillips commended Denhoff for this in her quote above. She said the 2016 report's recommendations "engaged every voice on this file" and rested in "collaboration, science and protecting jobs."

Or, if ministerial statements don't convince you, look more closely at the report itself. Collaboration and consultation? Now-Deputy Minister Denhoff produced his report after consulting with 37 stakeholder groups representing First Nations, municipal governments from west-central Alberta, non-governmental organizations (including AWA), the petroleum industry, and the forestry industry.

Protecting jobs? The Denhoff report portrays the proposed conservation areas in northwestern Alberta as being an excellent choice for promoting protection with minimal economic impact. Here's what his report concluded about the conservation measures that would either on their own or in combination with existing protected areas, protect – immediately – 24 percent of the Chinchaga caribou range, 61 percent of the Bitscho range, 72 percent of the Caribou Mountains range, and 72 percent of the Yates caribou range:

> It does not require displacement of any existing forestry tenure and existing oil and natural gas leases can be grandfathered in; these are not as extensive as some other areas. There are no operations currently underway in the area involving major drilling programs, mines or similar developments. It further protects vast areas of wetlands and there are substantial opportunities to use this protection to provide valuable sinks for carbon.

This job-sensitive approach is the one the Phillips et al letter takes off the table. It's difficult to imagine a more meaningful contribution to species-at-risk conservation efforts in Alberta that would have such a minimal impact on economic activity than following this recommendation from Denhoff's 2016 report.

> *"What is disappointing to me here is that even under the NDP reign, the Alberta government still pretends it is serious about protecting and recovering endangered species but refuses to do just about anything meaningful in relation to the most important step in the process – which is to protect critical habitat."*
>
> - Prof. Shaun Fluker

But, Alberta has decided to ignore that carefully considered recommendation for the time being. The province's action reaffirms the position AWA took last November out of our concern for the five remaining caribou populations in northeastern Alberta, on the other side of the province. Then, in a letter and documents sent to Environment and Climate Change Minister McKenna, we joined the Cold Lake First Nations, the David Suzuki Foundation, and Ecojustice in underlining that the majority of caribou critical habitat in the northeast remains unprotected.

In light of Alberta's refusal to honour its own language about the importance of the rule of law – "Caribou come first. That's the law, and that's the right thing to do" – Ecojustice has again written Minister McKenna on our behalf. AWA, Cold Lake First Nations, and the David Suzuki Foundation again have asked the federal minister to issue an emergency

protection order to protect the critical habitat of the Cold Lake, Richardson, Red Earth, West Side Athabasca River, and East Side Athabasca River caribou populations. We have urged the federal government to recommend a protection order that would prohibit additional disturbances in the ranges of those five northeastern populations. Such an order should remain in place until the provincial government prepares legally enforceable range plans that will realize the minimum 65 percent undisturbed habitat threshold in the northeast. A similar approach may be applicable to the dilemma the Alberta government has created in northwestern Alberta.

If Alberta truly intends to lead Canada on woodland caribou it must take its responsibilities under the *Species at Risk Act* as seriously as the dire situation of Alberta's woodland caribou demands.

- Ian Urquhart

Fresh Water Use in Oil and Gas Fracking Operations

Hydraulic fracturing or 'fracking' typically uses quantities of pressurized water and sand to crack open 'tight' rock formations to release oil and natural gas; horizontal directional drilling has become the preferred technique to access these formations in Alberta. Over 10,000 wells were completed in Alberta between 2008 and mid-2017 that combined multi-stage hydraulic fracturing and horizontal drilling techniques. The Alberta Energy Regulator reported that 99 percent of the water used in fracking operations was fresh water, with one percent being "alternative" water (saline groundwater, 'produced' water from within drilled wells, or wastewater). This fresh water is removed from the hydrological cycle. In 2016 these operations reported using seven million cubic metres of fresh water and recycling about six percent of their water.

Water intensity in fracking operations has risen on average. The amount of fracking water to produce a barrel-of-oil equivalent (BOE) has increased by about 35 percent from 2013 to 2016. In 2016, hydraulic fracturing used 0.38 barrels of fresh water to produce one barrel of oil equivalent. That compares to 2.51 barrels of fresh water per BOE for oil sands mines and .42 barrels of water (of which half is fresh and half is 'alternative' water) per BOE for oil sands drilled/steamed 'in situ' operations.

In late January 2018, AWA commented on proposed regulatory changes for hydraulic fracking water authorizations. Alberta Environment and Parks is proposing a preference for term water licences instead of temporary diversion licences (TDLs), which AWA views as a step forward in improving management of fracking water withdrawals. Temporary water diversion licenses have been used for most of these operations. AWA was concerned with weak verification and oversight of approved TDLs, so that actual locations and volumes of diversion might vary significantly from what was authorized. AWA also believes that TDLs provided an unjustified loophole to take fresh water in basins closed to new water licenses, including the Bow and Oldman watersheds. Term licenses, unlike TDLs, also require a public comment period and consideration of any approved Water Management Plan in that watershed.

While supporting this step, AWA also took the opportunity to outline our many remaining concerns with fracking impacts. These include: continued low enforcement capacity and penalties; inadequate management of impacts to small lakes and tributaries; and unsustainable cumulative surface disturbance and carbon emission concerns.

- Carolyn Campbell

Withdrawing water from the Red Deer River for use by the oil and gas industry. PHOTO: © AWA

Good News for Orphaned Black Bears

On April 18, 2018 orphaned black bears got some good news from the Government of Alberta in the form of new Alberta Environment and Parks policy. Under the new policy, Alberta Fish and Wildlife staff now may "work with (wildlife) rehabilitation facilities to ensure orphan black bear cubs are safely returned to the wild whenever possible." The new policy, one AWA is glad to support, allows rehabilitation facilities to care for orphaned cubs and work with government staff to ensure the orphaned bears will not become habituated to humans.

Lisa Dahlseide is the Education Director of the Cochrane Ecological Institute and was a key figure in the efforts to enhance the survival prospects of "Russell." Many of you likely remember that Russell was the injured black bear in the Springbank area west of Calgary that became the catalyst for the public pressure that produced this change in policy.

Dahlseide was "thrilled" by the government's policy change and enthusiastic about several aspects of the new protocol. She was

happy to hear the government will monitor the black bears after they are released. She described this provision as "wonderful news and important so AEP can collect their own data to reflect the success of bear rehab as supported by other jurisdictions." She also thought the requirement to have a water feature such as a pond in a facility's bear enclosure was a good idea. One bear enclosure at the Cochrane Ecological Institute already has a pond and they will be trying to raise money to add ponds to their other enclosures.

While pleased with the government's policy change, Dahlseide also expressed some concerns. The policy calls for orphans deemed suitable for a return to the wild to be released by no later than October 15th of the year they were accepted for rehabilitation. Since this timing would see the orphans released during the fall black bear hunting season she believes this will reduce a bear's chance of survival. However, that concern is tempered by her understanding that Fish and Wildlife staff will interpret this release date flexibly.

Dahlseide hopes this policy change is just the first step in the direction of broader wildlife rehabilitation policy reform. While orphaned black bear cubs now may be rehabilitated the province continues to prohibit a facility from trying to rehabilitate a black bear older than 12 months. Furthermore, anyone who holds a wildlife rehabilitation permit cannot rehabilitate bighorn sheep, mountain goats, wolves, coyotes, grizzly bears, black bear adults, or cougars. Ultimately, Dahlseide wants to see the rehabilitation ban lifted for all these species.

Liberal MLA David Swann shares this view of the need for additional rehabilitation policy reform. After acknowledging how important the people in the animal rehabilitation community and the 17,000-name petition was to getting government action Dr. Swann told me that, at the very least, this policy should be extended to other large mammals. (AWA invited NDP MLA Cameron Westhead and UCP MLA Leela Aheer to comment on this policy change. They chose not to.)

AWA agrees with the need to introduce additional wildlife rehabilitation policy reforms. In a February 8, 2018 letter to Minister Phillips AWA urged her to introduce protocols for the rehabilitation of the species identified by Dahlseide and Swann. If the Minister ever responds to our letter we hope she will indicate a willingness to do just that.

- Ian Urquhart

Oil Sands Lease Continuations

In January 2018, AWA and other environmental groups met with Alberta Energy to discuss oil sands lease continuation rules. This was a part of the department's review of the *Oil Sands Tenure Regulation*, 2010, which expires in 2019.

Under existing rules, oil sands leases are auctioned by Alberta Energy for an initial term of 15 years. After paying the auction price, which varies according to what auction participants are prepared to pay, leaseholders pay an annual rental fee of $3.50 per hectare. To 'continue' a lease beyond 15 years, lease holders must either go through an approvals process to begin production, or must perform a minimum level of evaluation (MLE). The MLE describes the bitumen resource on their lease by providing the government with drilling and seismic data.

If leaseholders meet MLE requirements, under current practice the leases continue indefinitely with a small rental fee if they remain non-producing. That fee, called 'Escalating Rent', ranges between $3 and $224 per hectare, depending on the location, the number of years the lease is non-producing, and the deductible expenses that can offset the fees. We believe this system is too permissive. For a very low cost, this arrangement enables leaseholders to sit on their land holdings and speculate on oil prices indefinitely.

About 5,000 oil sands leases have been sold at auction to date. Oil sands leasing activity was highest from about 2005 to 2009, so deadlines for satisfying the initial 15-year term conditions will peak between now and 2024. If the leases expire or if companies return leases early, they 'revert' back to the government and can generally be re-auctioned upon industry request. To its credit, the Alberta government has not sold any new oil, gas, or oil sands leases in the overly industrialized home ranges of threatened caribou since summer 2015, and AWA believes that this restriction should continue.

In our submission on the lease review, AWA requested that Alberta Energy retain the ground rules for MLE on existing oil sands leases, rather than remove them. Alberta Energy should also use its existing regulatory powers to set a clear deadline for continued leases to expire if they are not producing. For any new oil sands leases that may be sold, we believe that, from the outset, the government should set a 10-year deadline for production.

The benefit of retaining MLE on existing leases and establishing clear production deadlines is that leases with lower bitumen values, and likely a high carbon footprint for extraction, would tend to revert back to the government. This would help Alberta choose much more sustainable activities for public lands in northern Alberta in a carbon-constrained world. This also would give significantly more opportunity to restore forests and wetlands to achieve minimum habitat requirements in caribou ranges. Don't forget that successive Alberta governments have committed, and so far failed, to do this. Fulfilling this commitment is required by the federal *Species at Risk Act*.

If oil sands leases revert to the government, companies can still apply to have the lands re-nominated for auction. AWA believes that the interdepartmental tenure committee should only allow re-listing for bidding if consistent with biodiversity and carbon emission commitments, indigenous rights, water security, landscape management plans, and caribou and other at-risk species' recovery plans.

- Carolyn Campbell

The WildResearch Nightjar Survey Atlas

I enjoyed Niki Wilson's December 2017 article "How to Hunt for Nighthawks" so I would like to draw her attention and that of AWA members to the WildResearch Nightjar Survey Atlas. It is an ongoing initiative that aims to "contribute to the conservation of nightjars in Canada through education and the collection of citizen science baseline data." If you are concerned about the decline of insectivores like the common nighthawk, you can take action and contribute to scientific data collection.

In the summer of 2017, I registered with some colleagues to survey a route near Wardlow, Alberta – it's just north of Dinosaur Provincial Park, where I work as a seasonal park interpreter. After seeing them regularly at sunset flit around to collect insects, and hearing their distinctive 'peet' cries and the 'shroom' of their dives, nighthawks have become one of my favourite birds.

The survey follows the National Nightjar Survey Protocol. Each route consists of 12 stops and the route needs to be surveyed once per year between June 15 and July 15. The survey starts 30 minutes before sunset, and each stop is visited for 6 minutes – any sounds or sights of nighthawks are recorded by hand and mailed into the Atlas.

Common nighthawk PHOTO: © C. OLSON

It was a quiet evening, save for the regular hum of distant compressor stations. We saw a small herd of deer in a field, what we thought might be a muskrat in a dugout, and some butterflies in the ditch, but not a single nighthawk. I oscillated between boredom, hope, and disappointment – why were there no nighthawks here? Was it the fault of surrounding land uses of oil and gas and farming? Did our suspicions that there were less common nighthawks at the park that year hold any truth?

We won't know those answers unless citizen scientists like ourselves help contribute to data year after year. In Alberta, only 27 routes last year were surveyed but there are countless more. Sign up to survey a route this summer at nightjar.ca.

- Andrea Johancsik

The 2026 Winter Olympics – Should History Repeat Itself?

Will the City of Calgary? Won't the City of Calgary? Undoubtedly asked often by municipal taxpayers and others, the 2026 Olympics is the object of these questions here. For the time being, the City of Calgary's Olympics bid process – described recently in the *Calgary Herald* as "tortuous" – is going ahead. For AWA, there is one, non-negotiable, condition that must be incorporated into any bid to host the Olympics. Under no circumstances should sites in Banff National Park be used as Olympic venues. None… under any circumstances.

AWA's position regards Calgary's successful 1988 Olympics bid as a precedent that must be followed now. In 1988 Banff National Park was excluded as a venue for Olympic events. Reviewing the history of those Olympics makes it very clear that the promised opposition of AWA, the Sierra Club, and what is now the Canadian Parks and Wilderness Society played a key role in the decision of the Calgary bid committee to exclude the National Park's ski hills as Olympic sites. Nordic skiing and biathlon events were staged in Canmore; downhill skiing events took place on Mount Allan.

But, unlike in the case of the 1988 games, the commitment to exclude Banff National Park must be underlined now and be irrevocable. Organizers of the 1988 games vacillated over where the 1988 downhill events would be held. Originally, Mount Sparrowhawk, just north of Canmore, was the preferred site for those events. Then, Mount Allan was selected. Mount Allan's selection raised a number of objections. From the racing standpoint, the mountain was regarded as too tame for the Crazy Canucks and their peers. From the conservation standpoint, concerns focused on the health and impact ski hill development on the area's mountain sheep population. Subsequently, the International Ski Federation suggested Lake Louise would be the best site for Olympic skiing. This suggestion was endorsed happily by the ski hill's owners. For a time, the federal and Alberta governments along with the Olympic Organizing Committee warmed to that suggestion.

> *"When Parliament creates national parks, it speaks for the soul of Canada, and not for its pocket-book."*
>
> - Parks Canada, 1956-57 Annual Report

On this question, then Calgary mayor Ralph Klein joined conservation groups in opposing any thought of holding ski events in Banff National Park. The *New York Times* reported in September 1983 that Mayor Klein "has threatened to withdraw his support if any attempts are made to move within the Banff boundaries." Ultimately, these opposition voices and provincial financial support for developing Mount Allan confirmed its selection for the 1988 Winter Games.

AWA has reiterated now the position it took previously with respect to all of Calgary's Winter Olympics bids; Olympic events must be held outside of Banff National Park. This is one key point made in our April 14th letter to Mayor Nenshi, Premier Notley, and Environment and Climate Change Minister McKenna (here is the link to AWA's letter to

the City of Calgary *https://albertawilderness.ca/olympic-bid-exploration-by-the-city-of-calgary/*). The scale of the Winter Olympics has increased tremendously over the last 30 years and, in AWA's view, the threats posed by the Games to the Park's ecological values have magnified accordingly.

If you read Banff's management plan I think you'll agree with AWA that common sense demands keeping Olympic events out of our national parks. "In implementing its core mandate that integrates heritage resource conservation, visitor experience and public appreciation and understanding," the 2010 plan says, "the Parks Canada Agency gives **first priority to maintenance or restoration of ecological integrity.**" (my emphasis)

AWA expects Mayor Nenshi, Environment and Climate Change Minister McKenna, and Premier Notley to follow the precedents set by their predecessors more than 30 years ago. Common sense and respect for Parks Canada's mandate demands nothing less.

- Ian Urquhart

Dismal Record for Alberta Grizzly Bear Deaths

Grizzly bears deaths in 2016 marked the highest number of human-caused grizzly deaths since the grizzly hunt was stopped in 2006. In late April, the Alberta Government released the number of recorded grizzly bear deaths over the last two years. That record shows that the threatened species is dying at a troubling rate. Alberta Wilderness Association (AWA) believes immediate action, including placing stringent limits on the amount of motorized access into grizzly bear habitat, must be taken to address the top reasons for grizzly bear deaths.

Three of the past five years have seen significant spikes in the number of grizzly bears killed annually, with 29 bears killed in 2016. We are worried these increases will become 'the new normal' unless we do something immediately to address the issue.

When the Alberta Grizzly Bear Recovery Plan was written in 2008, it was estimated that there were fewer than 700 grizzlies remaining in the province. Since that time, a total of 224 bear deaths has been documented, with an average of 19 deaths a year; all but 17 have been caused by humans.

The number of grizzly bears that have died over the past decade is significant, especially when you consider that these are only the known mortalities. Some researchers estimate that the true number may be twice as high. We fear that grizzly bear deaths will continue to increase unless we get serious about protecting their habitat and properly managing our public lands.

Over half of grizzly bear deaths since 2008 have been due to illegal kills (i.e. poaching) as well as accidental deaths (i.e. motorized use).

In addition, while the province has recently announced that rehabilitation of orphaned black bear cubs will be permitted once again, AWA is concerned that the rehabilitation of grizzly bears, a threatened species, continues to be banned. This is especially concerning given that Alberta's grizzly bears have some of the lowest reproduction rates in the world.

- Joanna Skrajny

Corrections: "Nose Hill Park: AWA Offers A First Look At An Old Grassland," December 2017 WLA.

We would like to make four corrections to our December 2017 article about introducing new Canadians to Nose Hill Park and we would like to correct them here.

First, we owe an apology to Karel Bergmann, whose name was misspelled in the original article.

Second, we made two mistakes in naming the species encountered during that hike. Gus Yaki noted that what we called "northern pocket squirrels" should have been called northern pocket gophers. The description of yucca plants also was somewhat misleading. Described there as a shrub, Gus pointed out that the yucca are actually classified as a monocotyledon – plants with only one embryonic leaf. This means that the plant has a singular, central flowering stem whereas a shrub usually has multiple permanent stems.

Finally, we inaccurately attributed to Gus the questions about what might have caused the smooth rock we came upon during our hike. We also may have given the false impression that livestock were responsible for the rock's smoothness. While livestock were grazed in Nose Hill Park at least as early as 1882, this glacial erratic is thought to have been smoothed by bison "scratching an itch" over tens of thousands of years.

In the coming field season we will be planning more opportunities to learn about Nose Hill Park and look forward to the generous efforts of volunteers such as Gus and Karel to share with us the knowledge they have gained from their explorations in our natural world. We hope you will join us on one of our trips exploring all the nature this wonderful City of Calgary park has to offer.

- Ian Urquhart

Featured Artist Colleen Campbell

Prayer Flags for Grizzly Bears
495cm x 26cm

Photographed in Banff National Park these prayer flags were the prototype for an installation of more than 30 strings at the Whyte Museum during the first Bow Biennial that opened in October 2015. The project took six years - image making, researching words for bear in as many languages as possible, learning some computer skills to cobble the parts together, and then finding somewhere that would print them to Colleen's satisfaction. They are printed digitally on silk and arrive as yardage. Colleen then cuts them apart and sews the flags together.
PHOTO: © C. CAMPBELL

Our Public Lands

A Treasure to Protect

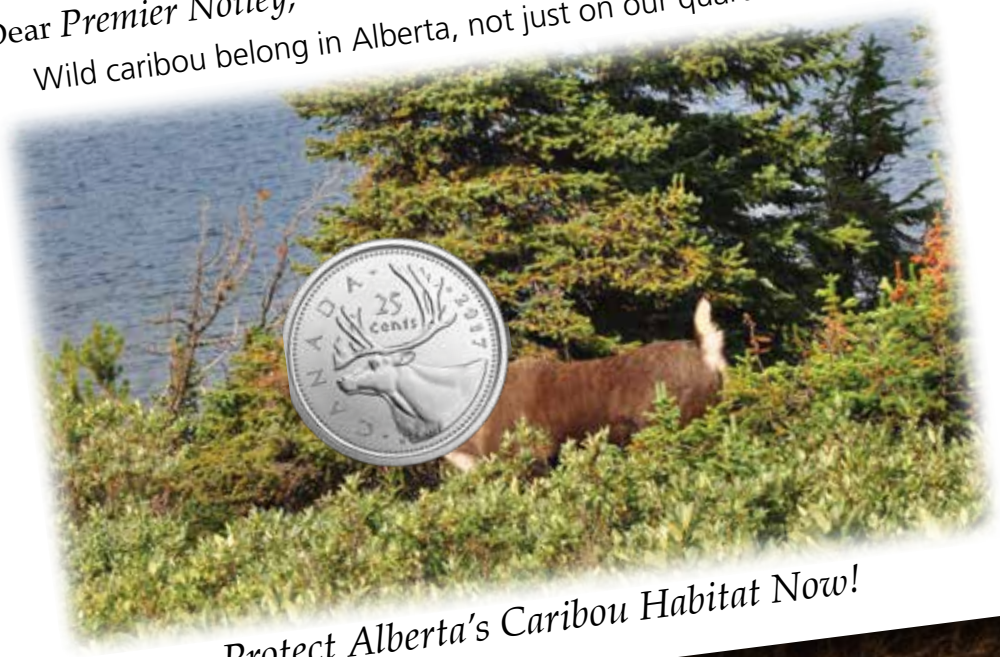
A video series by Alberta Wilderness Association

AWA is proud to present *Our Public Lands: A Treasure to Protect*; a video series about the public lands we have the privilege to call our own. For more than five decades, AWA has consistently sought a publicly developed public lands policy to deal with all aspects of public land, including development, access, sales, management, and conservation. No such policy exists. Help us inject more "public" in public lands!

View our video series on YouTube: **youtube.com/user/AlbertaWilderness**
Learn more about Alberta's public lands at our website: **albertawilderness.ca/Public-Land**

Dear *Premier Notley,*

Wild caribou belong in Alberta, not just on our quarters.



Protect Alberta's Caribou Habitat Now!

To learn more about the perilous state of caribou in Alberta and what you can do please visit *caribou4ever.ca*

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AWA
Alberta Wilderness Association
455-12 ST NW
Calgary, Alberta T2N 1Y9
awa@abwild.ca

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