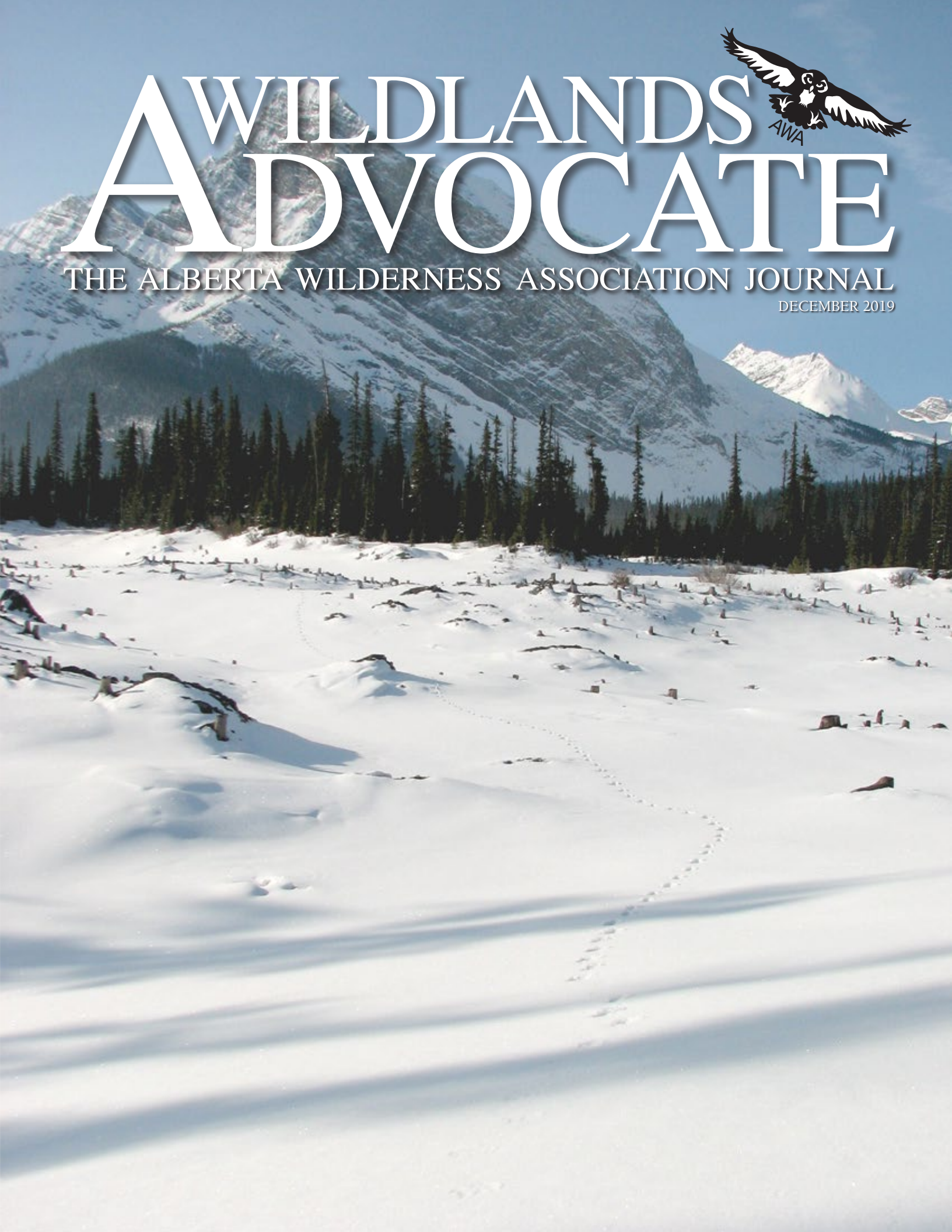

WILDLANDS ADVOCATE

THE ALBERTA WILDERNESS ASSOCIATION JOURNAL

DECEMBER 2019

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Cover Photo

Nigel Douglas, a former colleague who we miss dearly, took this photo while on one of his many winter excursions. In this photo, Nigel is in the vicinity of the Kananaskis lakes. The wolf tracks in the snow make the setting and this image even more evocative. PHOTO: © N. DOUGLAS

Featured Art

AWA is in the awareness-raising business. Last year AWA started a caribou flags campaign to support our call for measures to protect woodland caribou, a species-at-risk. With Christmas on the immediate horizon we thought we would reprise what we did last year. Then, to follow the twelve days of Christmas, our featured art offered you 12 caribou flags from the hundreds we have received. So, like last December, 12 caribou flags grace this issue of the Advocate. We know you will appreciate the care and concern that went into these flags and hope you will join the support this vital conservation campaign.

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ALBERTA WILDERNESS ASSOCIATION

"Defending Wild Alberta through Awareness and Action"

Dedicated to the conservation of wilderness and the completion of a protected areas network, **Alberta Wilderness Association** is a voice for the environment. Since 1965, AWA has inspired communities to care for Alberta's wild spaces through awareness and action. With a provincial office and library in Calgary, AWA has active members, volunteers, and sponsors throughout Alberta and beyond. AWA is a non-profit, federally registered, charitable society. Donations and financial support are greatly appreciated, please call 403 283-2025 or contribute online at Alberta Wilderness.ca

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T'is the Season of Blitz, not Blitzen

"Don't blink." This was good advice if you followed the Alberta legislature after the May election of a United Conservative Party government. If you blinked, you likely missed the introduction and passage of a key government bill. By the end of November, the legislature had sat for 64 days. Twenty-nine government bills were introduced; twenty-two of those bills passed and received Royal Assent. On average, nearly every other day saw a new bill presented in the legislature during its spring and fall sitting.

Alberta hasn't seen such a torrid legislative pace set since Premier Ed Stelmach's first session in 2008. Then, after trouncing the Liberals and New Democrats in the 2008 election, the Stelmach government passed 52 bills in just 56 days. By contrast Premier Alison Redford passed just 10 pieces of legislation in the 29 days the legislature sat between her April 2012 electoral victory and Christmas 2012. Before the Notley government saw its first Christmas, it had passed nine bills over 35 days.

If you blinked, you likely missed any sustained debate or questioning of these bills. This is because this rapid fire approach to passing laws leaves little time to debate. "Brazen" was how Zain Velji, campaign manager for Calgary Mayor Naheed Nenshi in 2017, characterized the fall sitting of the legislature. Suggesting the government was creating "a crisis a day" he went on to say: "This doesn't allow citizens or the media to get a full dissection on what's going on because we have to cover the next thing."

I would add my suspicion that there's a stealthy, surreptitious air to some of what the government has delivered so far. Clearly there's nothing stealthy about: firing the Elections Commissioner investigating the UCP leadership campaign; promising to cut thousands of public sector jobs; transferring billions of dollars in teachers' retirement savings from an independent board to a Crown corporation.

But, it's arguably there in other key initiatives, ones aimed at the heart of AWA's mandate. Consider the budget for Alberta Environment and Parks which has received little, if any, media coverage. There you will find some very sharp reductions in longstanding Environment and Parks functions. Spending on parks, for example, is cut by eight percent in the 2019-20 fiscal year; it's the start of a series of cuts that will leave the operating expenses for parks 26 percent lower in 2022-23 than they were last year. Integrated planning - vital to managing landscapes well - is cut by 39 percent in 2019-20. Fish and Wildlife loses 12 percent of its budget.

The passage of Bill 16 also exemplifies this stealth. This bill "modernizes" the grazing fee framework in Alberta. It promises to increase grazing fees; it promises to devote some of that money to "rangeland sustainability initiatives."

What's my beef? First, the government only saw fit to consult with grazing associations about this public lands legislation. By defining this as agricultural legislation the Kenney government signaled to non-farm groups like AWA that these changes were none of their business. Our decades-long interest in the stewardship of public lands didn't matter.

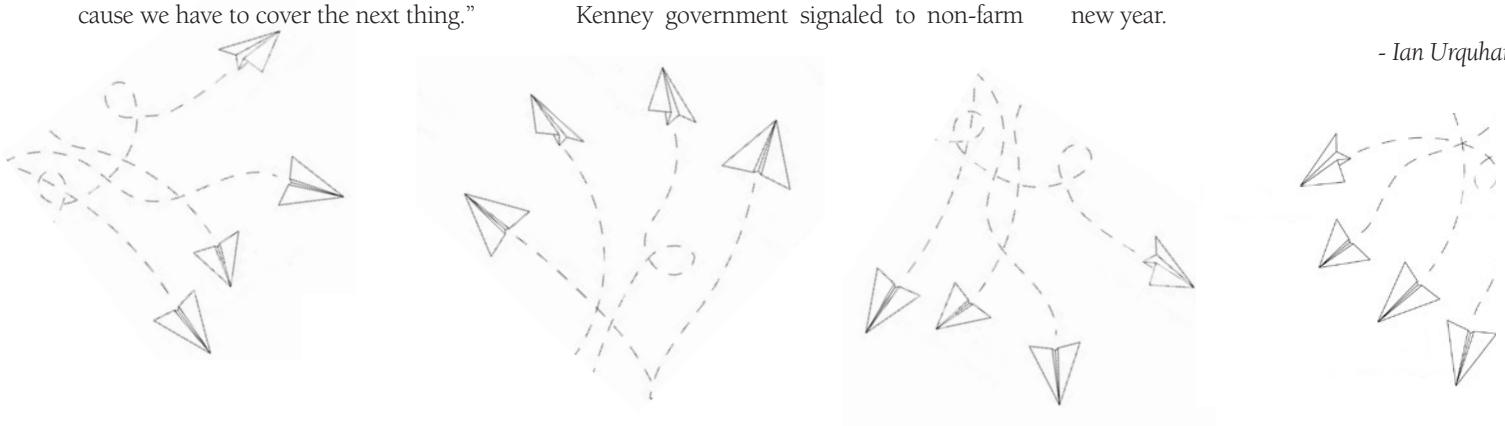
Second, without consulting a group like AWA there was no one at the table demanding government to collect more of the windfall that one percent of leaseholders pocket from oil and gas activity on public, leased lands (see the Oct.-Dec. 2016 WLA for more on this).

Third, to listen to the Minister talk about this bill you would think it outlines clearly what changes are coming. It doesn't. It's barren. It doesn't offer one word about the substance of the grazing fee changes.

Finally, the NDP opposition was missing in action. They didn't do their job of looking for ways to improve the bill. They didn't call for Environment and Parks to accept finally the Auditor General's 2015 recommendation. Then the Auditor General recommended the department clarify "the environmental, social and economic objectives it expects grazing leases should provide all Albertans…" (my emphasis). Perhaps that was due to the fact the NDP failed to follow the Auditor General's recommendation when they were in government.

The legislative blitz we've seen from the United Conservatives, much of it without consultation with all Albertans, is worrisome. As an organization, and as individual citizens and conservationists, we should be preparing our responses if it continues in the new year.

- Ian Urquhart



A Load of Bull:

The Saga of Listing Alberta Native Fish under the Species at Risk Act

By Joanna Skrajny, *AWA Conservation Specialist*

On August 21st, two prominent native fish species in Alberta were finally listed under the Species at Risk Act (SARA): bull trout were listed as threatened with extinction and Athabasca rainbow trout were listed as endangered. Both listings underline their dire circumstances; indeed, both species potentially face extinction unless we take action.

Bull trout, Alberta's 'provincial fish,' are found across Alberta's Rockies and foothills. A member of the char family, they rely on cold, clean, complex and connected habitats in order to survive. Most of Alberta's bull trout migrate large distances throughout their life, spawning in small tributary streams at higher elevations and then living downstream. Bull trout are often compared to grizzly bears, because they are also top predators in their aquatic habitats and their presence indicates a healthy ecosystem.

Unfortunately, Alberta's anglers did not always view bull trout in a favourable light. They were considered a "junk fish", as anglers wrongly believed these predators were negatively affecting other fish species. If caught, anglers would throw them out to rot. This behaviour collapsed Alberta's bull trout populations in major waterways such as the Bow River. Since that time, human development in bull trout habitat has continued the decline, with clearcuts, roads, and industrial activity creating hotter streams, dirtier waters. Culverts hanging out above the water have disconnected migratory routes, stranding populations. Heavy angling pressures and climate change are compounding these problems. As a result, populations have declined between 30 and 50 percent over the past 25 years.

Alberta's Athabasca rainbow trout are found throughout the headwaters of the Athabasca River system and its major tributaries in western Alberta. Having survived the last ice age, they are the only rainbow trout species that is native to Alberta (more southerly populations were stocked decades ago). The COSEWIC (Committee on the Status of Endangered Wildlife in Canada) assessment rates the threats to the species as "severe due to habitat degradation associated with resource extraction and agricultural practices." They also point to introduced rainbow trout and fishing as contributing threats, threats compounded by climate change. The collapse of Athabasca rainbow trout is stunning, precipitous. Their numbers have fallen by an estimated 90 percent over just the past 15 years.

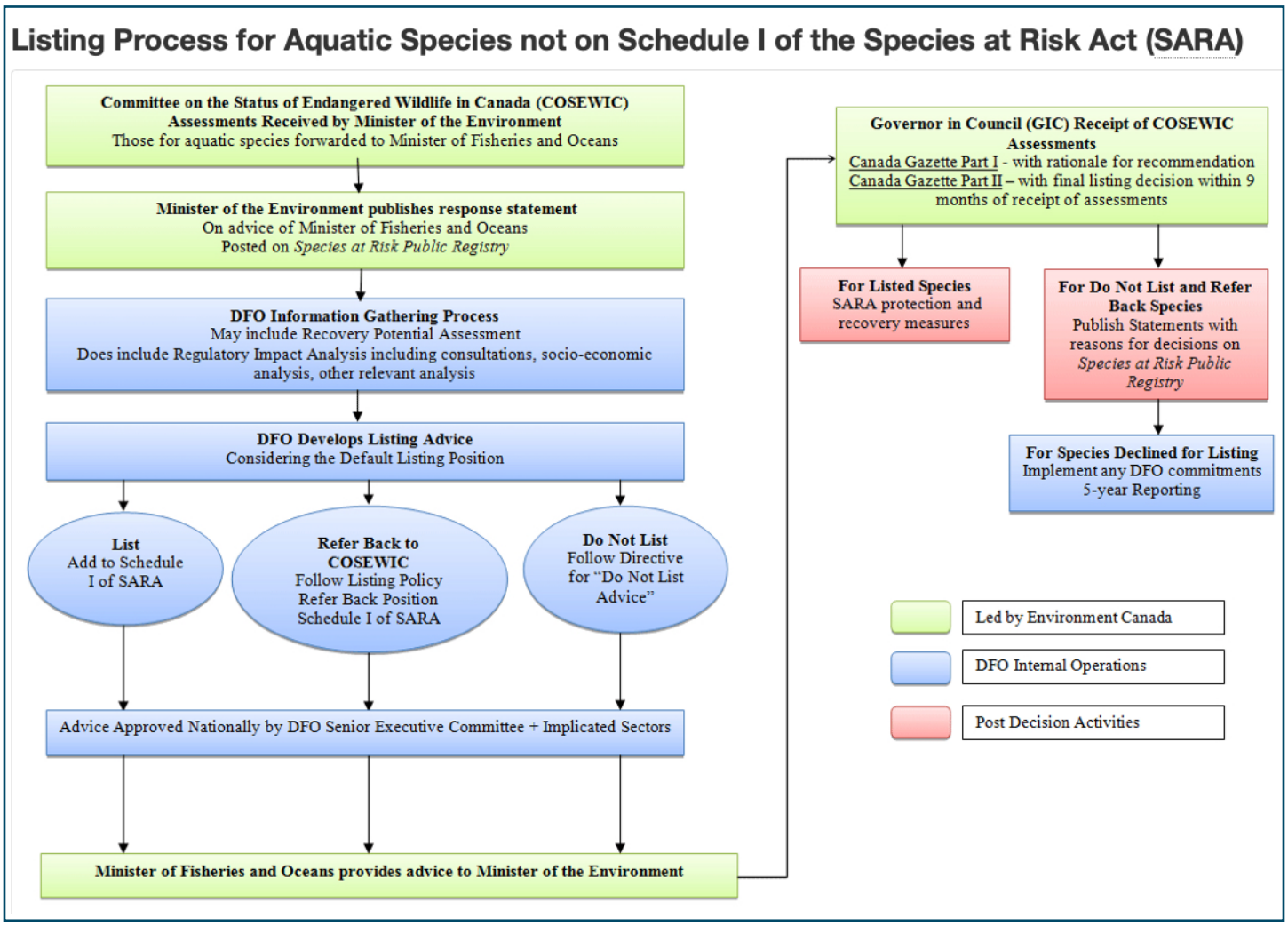
However, this urgency didn't impress the federal government. It took Ottawa far too long to list these species. COSEWIC assessed bull trout as threatened in 2012 – seven years ago. Similarly, Athabasca rainbow trout received the endangered designation from COSEWIC in 2014; they waited five years to be listed under SARA.

AWA believes these delays are against the *Species at Risk Act*, which states that:

> the Governor in Council, within nine months after receiving an assessment of the status of a species by COSEWIC, may review that assessment and may, on the recommendation of the Minister,
>
> (a) accept the assessment and add the species to the List;
>
> (b) decide not to add the species to the List; or
>
> c) refer the matter back to COSEWIC for further information or consideration.

Why has the government chosen to interpret language such as "may review" in such a species-unfriendly way? The reasons are twofold. The first is that DFO has created an ungainly bureaucratic process that stands between COSEWIC's designation and the legal listing. DFO takes the COSEWIC designation and then does a number of its own analyses, including a public consultation, an analysis of the potential for the species to recover, and a socio-economic impact analysis. This approach politicizes what was designed to be a scientific based assessment of species' status in Canada. As a result, a number of species have not been listed due to the anticipated "significant socio-economic impacts" of a listing: (in)famous examples of this include endangered Atlantic cod in Newfoundland and endangered bluefin tuna. Surely the socio-economic impacts, in the medium to long term, would be greater if Atlantic cod and bluefin tuna ceased to exist. The process institutionalizes long delays, during which species continue to decline while they wait to receive protections – as is the case here for Alberta's bull and Athabasca rainbow trout. DFO took three years to start its public consultation on bull trout listing and two years for Athabasca rainbows.

How is this delay allowed to drag on for years, when the deadline is supposed to be nine months? Permissive language such as "may review" or "may acccept" doesn't account for how government has flouted, openly disregarded, the Act's intent. Nine months becomes seven years or five years because the government claims it can define



A flowchart developed by DFO to outline their approach to listing Species at Risk. SOURCE: FISHERIES AND OCEANS CANADA.

when the Governor Council has "received" the COSEWIC designation. In the instance of bull trout and Athabasca rainbow trout, this "Order Acknowledging Receipt" wasn't issued until February of this year. AWA argues this is totally against the intent of the *Species at Risk Act*.

Now that these species are listed, should we heave a sigh of relief? Have they been placed on a solid path to recovery? Not necessarily. Unfortunately, listing a species only makes it illegal to "kill, harm, harass, capture, or take an individual of a species," or "possess, collect, buy, sell or trade an individual of a listed species." And even then, DFO has passed an exemption to allow catch-and-release angling on bull trout to continue. Dr. John R. Post, who chairs the COSEWIC Freshwater Fishes Committee, explains that when populations are incredibly low, the stress placed on fish from catch-and-release angling can have an impact. In an interview with the *Star Calgary,* he commented that "Anglers who fish for them have to decide, in fact, whether they want to go and catch 30 or 40 fish in a day and release them, realizing that maybe four or five or six of them might not survive." Dr. Michael Sullivan made a very similar point in his 2018 Martha Kostuch Annual Lecture.

> *I don't think we need to stop catch-and-release angling everywhere; but we need to accept the very poor health of these species and set aside some havens to allow for trout recovery. Currently, as it stands, even the most basic protections that are afforded to at-risk species are not provided to threatened fish.*

Of course, as Dr. Post also pointed out in a joint news release with AWA, "placing these fish on a species-at-risk list is not enough. The future for Athabasca rainbow trout and bull trout is uncertain unless we enact strong measures to protect the habitats on which they depend."

How then do we move forward and protect habitat?

One approach is outlined under the *Species at Risk Act*. Once a species is listed, the federal government is legally obligated to produce a Recovery Strategy. The Recovery Strategy must describe the species and current threats to its survival, along with the habitat that is critical to its survival and recovery ("critical habitat"). The deadline to complete a Recovery Strategy is typically one year for endangered species and two years for threatened species. After a Recovery Strategy is published, that species' critical habitat must be protected within 180 days. In theory, a critical habitat order prohibits the destruction of "any part of the critical habitat of a listed endangered species

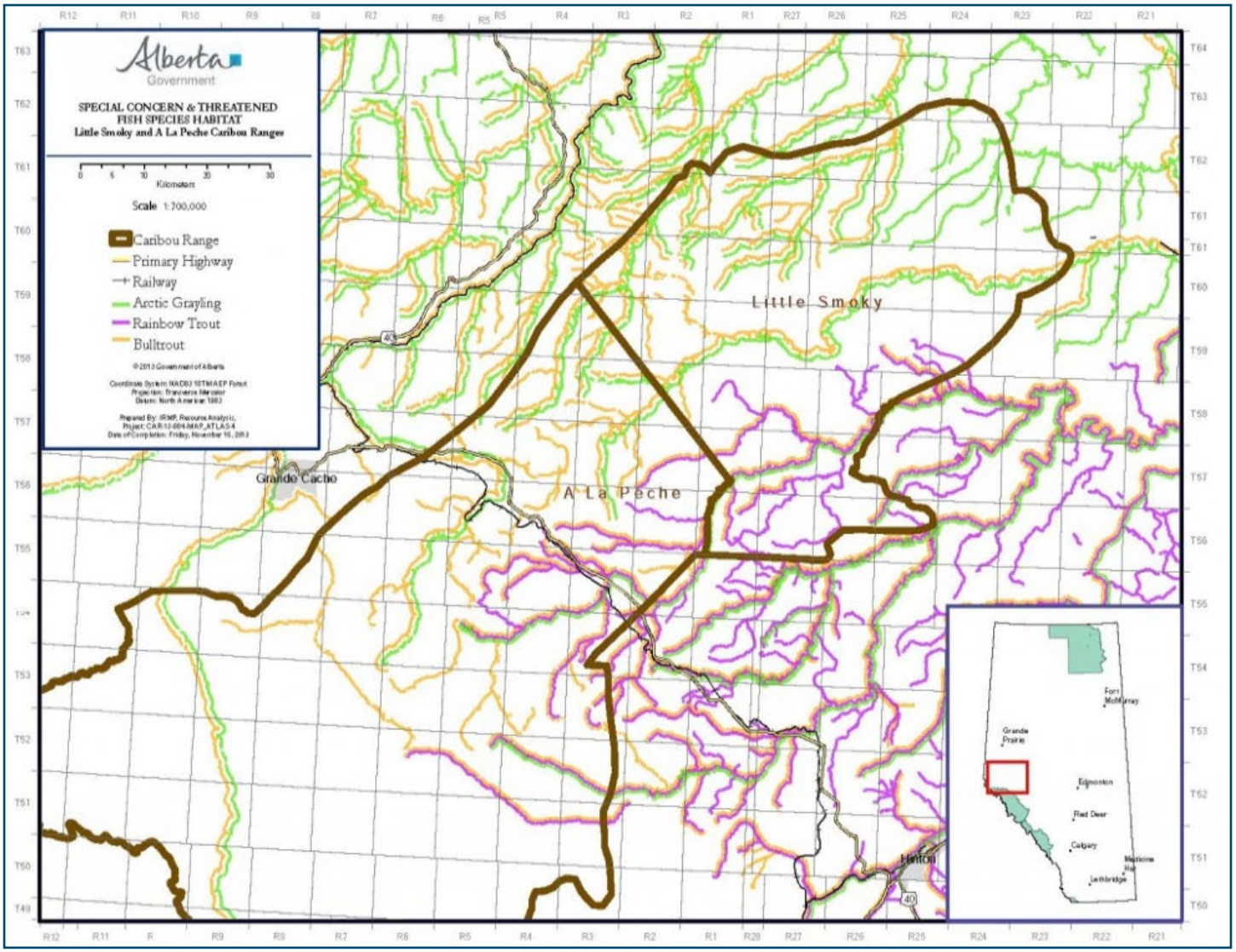
or a listed threatened species." The process is relatively straightforward for aquatic species and for these and other species found on federal lands. This is because they fall clearly within federal jurisdiction. If you've followed my colleague Carolyn Campbell's work on caribou, you'll see what a fight it has been to try and get caribou critical habitat protected on provincial lands.

Once a critical habitat order is issued, you would think that the habitat is, well, protected. But again, ensuring that this is the case is an uphill battle. Westslope cutthroat trout have had a critical habitat order since late 2015 and yet destruction of critical habitat continues: clearcut logging, motorized recreation, industrial activity, and road building are all culprits here. Another relevant example is Grassy Mountain, a coal mine proposed right in the middle of westslope cutthroat trout critical habitat. We have yet to see whether DFO will put its foot down and demand the project be rejected.

So not only are our species at risk laws particularly lenient, but our governments are also negligent when it comes to upholding the spirit of the lenient or bad laws that are in place. The situation with westslope cutthroat trout also exemplifies why "multi-use" landscapes, touted as the solution to integrating wildlife habitat alongside industrial activity, are so likely to undervalue wildlife habitat. When push comes to shove, human interests – "socio-economic impacts" – always win.

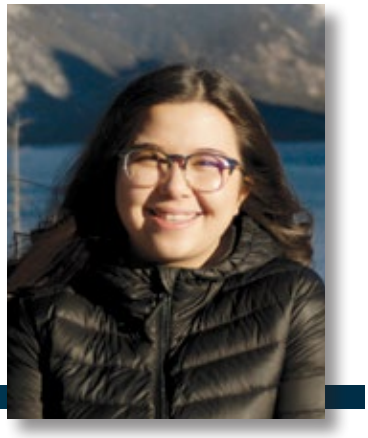
This is why we must demand that governments embrace protected areas as an effective method of species protection, because they force us to set aside areas for wildlife. Protecting our river corridors and critical watersheds would have immense benefits not only for our native fish species, but for a host of other species as well. For example, Athabasca rainbow trout, bull trout, and arctic grayling are located within the ranges of both the Little Smoky and A La Peche caribou herds. Protecting the habitat of one species would undoubtedly provide benefits for others.

In conclusion, it's welcome that bull trout and Athabasca rainbow trout have finally been listed under SARA but we have to accelerate recovery actions, immediately. Government must be pressured to act expeditiously. Without expeditious action, it is likely these listings will be filed under "too little, too late."



Map of Athabasca Rainbow Trout Habitat (and other native trout) overlapping with Caribou in the Little Smoky and A La Peche Ranges.
SOURCE: GOVERNMENT OF ALBERTA.

Celebrating the 45th Anniversary of Project: Great Divide Trail



By Grace Wark, *AWA Conservation Specialist*

The following article is based on the stories found in the collection 'Tales from the Great Divide' (2019) as well as Dr. Jenny Feick's presentation at the 2019 Great Divide Trail Association annual general meeting (AGM). Thank you to Jenny, the Original Six, and the many others who have worked tirelessly for the Great Divide Trail and Great Divide Trail Association, for sharing your stories.

There's something delightfully paradoxical about hiking with close friends in the backcountry. There's a balance of good company and isolation, and a stillness that may be broken in a moment's notice by the vibrant life around you.

My most recent trip was filled with those distinctive backcountry moments. I enjoyed a gruelling, winding switchback, saw my first pikas and westslope cutthroat trout, dipped my toes in a frigid tarn, and enjoyed the distinct satisfaction of dropping my pack at the end of the day. That backcountry trail offered a taste of our remaining wilderness; a trail that while winding through untamed country, offered me the reassurance that comes from regular trail markers.

This September, I attended the AGM of the Great Divide Trail Association (GDTA), a group well-known for maintaining, protecting, and promoting over 1,100 kilometres of trails along the Continental Divide on the Alberta-British Columbia border. The AGM featured a presentation by Dr. Jenny Feick, one of the "Original Six" from *Project: Great Divide Trail*. Jenny spent a summer as a young adult surveying potential trail routes between Waterton and Banff as a southern extension to the Great Divide Trail. I admired Jenny and her account of that summer. She was one of six undergraduate students, all under the age of 21, who risked limb if not life, to spend a summer outdoors. They hiked, identified routes, and survived on what she called "Protein-ette."

This year is a milestone one for *Project: Great Divide Trail*; 2019 marks 45 years since the Original Six conducted their feasibility study. While they weren't the first to trailblaze the Great Divide, their work helped pave, or rather map, the way for today's well-established and internationally known long-distance trail.

In the 1960s, the Great Divide Trail (GDT) was only an idea. First proposed by the Girl Scouts of Canada in 1966, it was brought to life in 1968 in the mountain national parks by Jim Thorsell, Lake Louise's first Park Naturalist. After a season of assessing Waterton Lakes National Park's trail system for his master's degree, Jim proposed to his director at Parks Canada that similar surveys be conducted for the remaining mountain national parks. Jim's inspiration for the Great Divide Trail came from the American academics that started the Appalachian Trail. He thought that Alberta and BC's longitudinal geography gave rise to an excellent north-south hiking opportunity. With Parks Canada's support, Jim spent two years surveying trails along the Great Divide in Banff, Jasper, Yoho, and Kootenay National Parks. To Jim's surprise, Jean Chrétien was

Have you ever looked down at a backcountry trail and wondered how it got there? Today, the Great Divide Trail (GDT) is a world renowned long-distance trail along the Alberta-British Columbia Border. In 1974, six students were doing their part to make this possible. PHOTO © AWA FILES.

enthusiastic about his trail plans. Chrétien then was the Minister of Indian Affairs and Northern Development. But, Parks Canada scrapped the proposal over concerns that trail shelters would cause overcrowding in Banff's understaffed backcountry.

However, this wasn't the last word on establishing the Great Divide Trail through the national parks. While Jim Thorsell's trail plans weren't approved, Jim's route became popularized after being published in the *Canadian Rockies Trail Guide* by Brian Patton and Bart Robinson in 1971.

It wasn't until 1973 that a young Cliff White was inspired by Jim Thorsell to extend the Great Divide Trail south of Banff towards Waterton. Armed with enthusiasm, Cliff enlisted the help of his fellow University of Calgary Geography students, Jenny Feick and Mary Jane Kreisel (neé Cox). They applied for an Opportunities for Youth (OFY) grant from the federal government. Their ambitious goal, "survey every trail, seismic line and road" within their 2,000 square mile (5,180 km^2) study area, reaching to either side of the Great Divide. Their plan was to document historic trails, inventory cultural and historic features, and map, by hand, a potential route for the Great Divide Trail. With the grant's approval in 1974, *Project: Great Divide Trail* could officially begin.

It didn't take long for Cliff, Jenny, and Mary Jane to convince others to spend a summer getting paid, in part, to hike in the Rockies. In the words of Dave Zevick, who could turn down "$90 a week; all the bologna you can eat ." The final crew consisted of six: Cliff White, Jenny Feick, Mary Jane Kreisel, Dave Higgins, Chris Hart, and Dave Zevick – on the condition he would provide a car. Another student, Peter Kinnear, had initially planned to join the team, but was drawn away to a job that would better support his next year's tuition. However, through Peter the team found an incredibly important home base at Peter's parent's home in Coleman. That would be their recharge station, research base, and home sweet home for the southern extension of their work.

The team had been conservative in their proposed budget for the OFY grant. They did this to better their chance of receiving it. The $400 budget for three months of food afforded them very little in the way of luxuries. At the time, Cliff's father was the manager of Sunshine Ski Area and had an account with a local grocer. While the students weren't able to afford the nicer products sold to the ski chalet, they were able to acquire items like Hamburger Helper, canned mackerel, and peanut butter, not to forget the "Protein-Ette" textured soya. It came in the glamorous flavours chicken, beef, or ham. Much of their summer revolved around food, its limited supply and how to make the most of your last remaining package of Protein-Ette, dried gravy, dehydrated mashed potatoes, pepper, and a sulphur water spring (a dish lovingly named the *Cliff White Special* or Midnight Gruel).

With backpacks of dried goods, maps and equipment, the team was now equipped to start their long trek. They divided into three groups of two. Each group was assigned an area for the week to carry out their work. They would work five days a week, travel 15 miles a day (24 km), and got little rest on their weekends in the Kinnear's backyard. There they spent most of their time replenishing packs and planning the next week's hikes. In the end, each person had covered roughly 500 miles (805 km) resulting in 3,000 miles (4,828 km) hiked in total. Just thinking about that distance made my legs ache.

Where *Project: Great Divide Trail* converged with AWA's work in the 1970s was in the project's astute observations and ground-truthing of industrial activity on the Eastern Slopes; conservation just happened to be an unintended outcome of *Project: GDT*. The group had never set out to be outspoken wilderness advocates, but once they began to witness what they called "The Devastation", there was no way to separate the project from the overdevelopment that flanked their trails. Oil drums turned over in the riverbed, massive clearcuts, strip mining, and indiscriminate extraction were rampant on the Eastern Slopes at the time. All of this was inflicted on the land despite the area's designation within the Rocky Mountains Forest Reserve. Protection for these lands had been recommended as early as 1896 in order to safeguard Alberta's water supply, and was officially legislated for its management as a Forest Reserve under the *Forest Reserves Act* of 1964. It wouldn't be until later in the 1970s that management measures such as *A Policy for Resource Management on the Eastern Slopes* (1977) and Kananaskis Country (1979) would start to promote conservation in provincial lands amidst the Rockies.

Project: Great Divide Trail concluded with the submission of the group's final report in 1974. But, the work didn't end there. Cliff White continued to assess the data and information they had collected that summer; he used it for his thesis at the University of Montana. Jenny, Dave Higgins, and Mary Jane would go on to present their findings to various groups in 1974 and 1975. They raised awareness about the project and the need for further action, including establishing the GDT as a protected corridor. In 1976, the torch was passed to the Great Divide Trail Association. Incorporated in April 1976, the GDTA sought to bring the trail design to life.

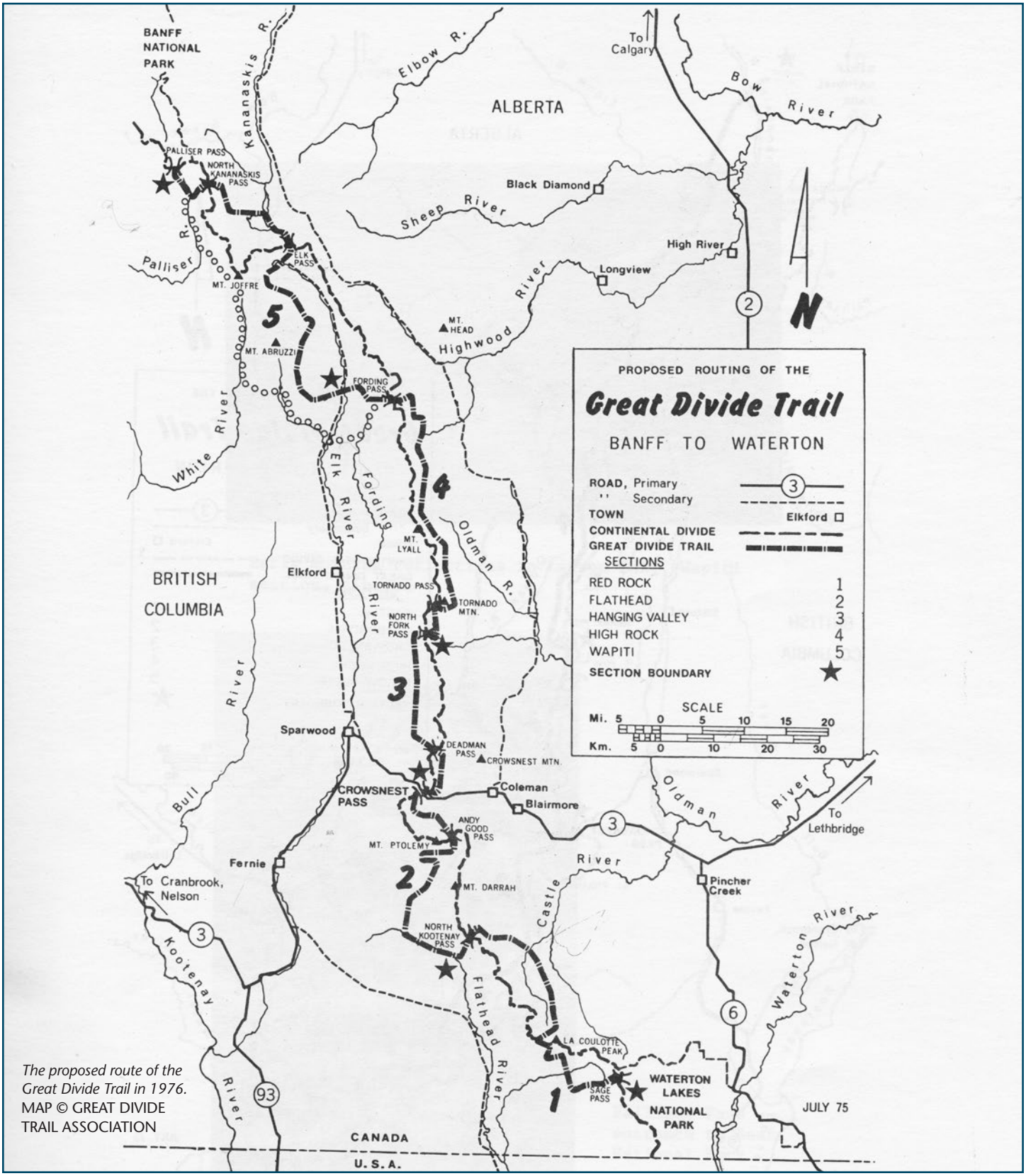
One of the early members of the GDTA was Dianne Pachal, AWA's first Executive Director. For three seasons, Dianne was part of the initial trail crews that laid the groundwork for the actual establishment of the Great Divide Trail. In less than ten years, dedicated volunteers established 150 km of the trail network. Their work included bright orange trail blazes to mark the way and registration boxes. They even built bridges.

The GDTA has experienced its own challenges in keeping the trail maintained. In the 1980s the trail suffered collateral damage from industrial logging. Parts of it have been taken over by motorized trail users. Financial support has waxed and waned. And, there never seems to be enough hours for even the most dedicated to accomplish as much as they hope to. However, the GDT's resurgence in the late-1990s and early 2000s has helped ensure the GDTA remained an active force on the landscape!

So the next time you find yourself on the trails, whether in the front country, backcountry, or somewhere in between, take a

moment to think about how the trail came to be. The trail under your feet may well have been created by a dedicated group of people, whose love for the great outdoors led them to devote many hours of care and physical labour to open a doorway into the wilderness.

This has been just a piece of the Great Divide Trail's story. If you're interested in reading the history of the Great Divide Trail and GDTA, and finding out how Dave Zevick's blue Volkswagen was skewered on a lodgepole pine, I encourage you to pick up a copy of *Tales from the Great Divide: Vignettes on the Origins and Early History of Canada's Great Divide Trail and Great Divide Trail Association.* To obtain a copy of one of the few remaining full-colour Collector's Editions and high-resolution PDF, contact the editor, Jenny Feick, at 250-882-5740 or *jenny.feick@gmail.com*



The proposed route of the Great Divide Trail in 1976.
MAP © GREAT DIVIDE TRAIL ASSOCIATION

Eco-Citizens On Patrol and Other Ways to Save Alberta from the Threat of Wild Pigs

By Mai-Linh Huynh

Ever had a close encounter with a wild pig? If it was anything like my experience, it can be rather terrifying. The sudden sound of creatures crashing though undergrowth caused this seasoned naturalist to turn tail and run. I was hiking in Costa Rica when this ambush occurred. And in my panicked state, my immediate thought was that it was a herd of wild elephants even though I *knew* elephants don't inhabit that part of the world. It turned out they were peccaries, little 30 kilogram wild pigs native to Costa Rica and quite adorable when I stopped to realize what I was running away from.

Wild pigs in Alberta, however, aren't so adorable. Wild pigs are an invasive species in Canada and are classed as a "pest" under the Alberta *Agricultural Pest Act* when they are not raised as livestock on farms. Most wild pigs in Canada are a hybrid of Eurasian wild boar and domestic pig that have resulted in a bigger and stronger specimen, a "super-pig."

These tusked creatures can weigh up to 90 kilos and are described as "ecological train wrecks" since their destructive rototilling and wallowing behaviours are liable to leave farm fields and sensitive riparian areas unrecognizable.

According to a 2019 study in the *Journal of Ecology and Evolution* by Ivey, Colvin, Strickland, and Lashley, invasive wild pigs can adversely affect native vertebrate diversity through their competition for food sources and predation. Their generalist diet, though mostly plant-based, includes ground-nesting birds and their eggs, invertebrates, small mammals, and amphibians.

Invasive wild pig caught on camera. PHOTO CREDIT: P. ABRAMENKO, ALBERTA AGRICULTURE AND FORESTRY

Wild pig invasions of crops and pasture can also cripple the agricultural industry. In the United States, invasive wild pigs are estimated to cost $1.5 billion US annually in damage and control costs, ranking third to rats and cats. Wild pigs also carry risk of disease transfer to domestic swine and other livestock. Such a transfer also causes devastating economic and production losses for the livestock industry.

World's worst invasive vertebrate species

Wild pigs lay claim to being the world's most invasive vertebrate species with the widest geographic range of any large mammal. Since their introduction to the Canadian livestock industry in the late 1980s, wild pigs have cleverly escaped their pens or been intentionally released that have resulted in established feral populations throughout Canada. Ryan Brook, Associate Professor at the University of Saskatchewan and lead researcher of the Canadian Wild Pig Project, estimates the rate of spread to be more than 80,000 square kilometres per year.

> **Like a virus, invasive #WildPigs in Canada are spreading very rapidly at more than 80,000 km^2 every single year. Very soon they will occupy ONE MILLION SQUARE KILOMETRES.**
>
> - Ryan Brook, University of Saskatchewan, lead researcher of the Canadian Wild Pig Project (2019 Oct 5, Twitter @RyanKBrook)

With the highest reproductive rate among ungulates, these feral pig populations are

Crop damage caused by wild pigs. PHOTO CREDIT: P. ABRAMENKO, ALBERTA AGRICULTURE AND FORESTRY

rapidly spreading across the country. Given the wide range of food resources and habitats across Canada, wild pigs can produce 4 to 10 piglets twice a year. They also reach early sexual maturity at just 6 to 8 months and have a short gestational period of just under four months.

Ruth Aschim and Ryan Brook's published research last May in *Scientific Reports* provides the first map of invasive wild pigs distribution in Canada (Figure 1). The majority of their spatial expansion occurred in Alberta, Saskatchewan, and Manitoba. The Aschim/Brook study expects that wild pig populations and range will continue to expand exponentially over the next decade in the absence of national and provincial management plans and control efforts.

Wild pig eradication in Alberta

According to Perry Abramenko, Assistant Provincial Pest Specialist with Alberta Agriculture and Forestry, 28 out of 74 Alberta Rural Municipalities have confirmed invasive wild pig presence. The majority of invasive wild pigs are concentrated in west-central Alberta, close to the forest fringe where they can easily raid crops and seek refuge in the forest.

In tackling the spread of this invasive species, the Alberta Government formally introduced a bounty program in 2008 where a hunter would receive $50 for a set of pig ears. Although the program has been ineffective in curbing wild pig population growth, it still operates and contributes to wild pig surveillance.

In 2017, an Alberta wild pig eradication pilot program was established with a focus on research and surveillance using a variety or combination of capture methods. Upon speaking with Abramenko about this pilot program, you can't help but appreciate the level of patience and skill required to capture these elusive wild pigs.

The road to capture begins with field surveillance using a combination of cellular technology, drones, and trail cameras to monitor feeding and movement patterns. These wild pigs are then baited and captured using a corral with a remotely deployable gate. Using cellular technology, the corral can be viewed and monitored on a cell phone. Then it's a simple action of "pushing the button on your phone," says Abramenko. The captured wild pigs are euthanized and carcasses are taken to veterinarians for inspection and further research.

Apart from the patience and time in surveillance, Abramenko believes the biggest challenge lies in successfully capturing the whole "sounder" – namely, the herd of wild pigs comprising of one or more adult sows and their offspring. They are intelligent, cautious animals and it requires some patience to

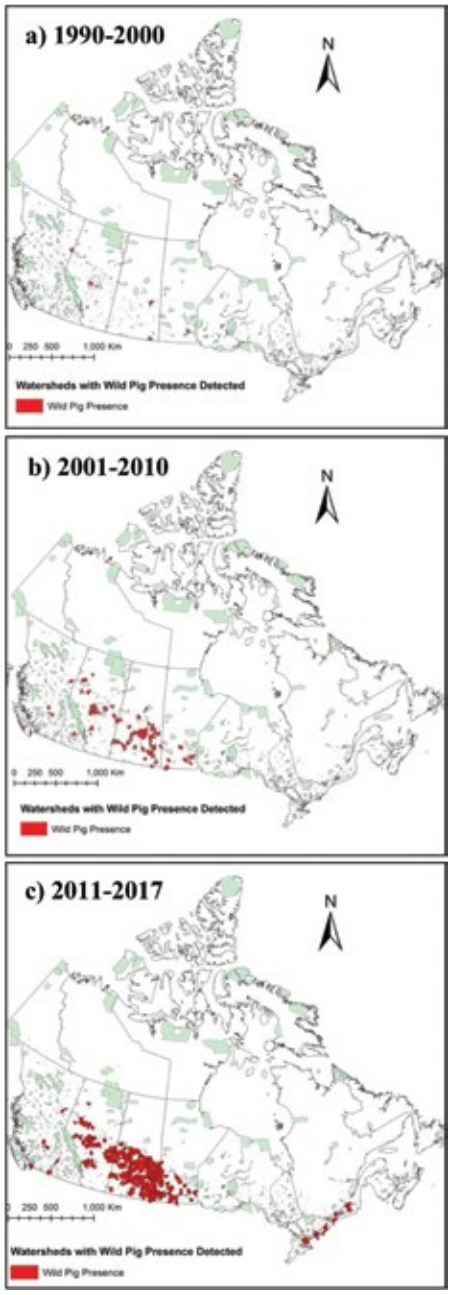


Figure 1. Canadian watersheds with invasive wild pig presence detected between 1990 to 2017. SOURCE: R. ASCHIM AND R. BROOK. 2019. EVALUATING COST-EFFECTIVE METHODS FOR RAPID AND REPEATABLE NATIONAL SCALE DETECTION AND MAPPING OF INVASIVE SPECIES SPREAD. SCI REP. 9: 7254.

get the whole sounder "acquainted" so they will all enter and feed in the corral. In the U.S., New York State managed to eliminate its wild pig populations, before they became large and widespread, by employing similar "whole sounder" management methods.

Should removal efforts fail in capturing the whole sounder, they will disperse and become nocturnal and trap-shy. This will decrease the chance of capturing them in

Corral trap and bait to capture wild pigs, Alberta's wild pig eradication pilot program. PHOTO CREDIT: P. ABRAMENKO, ALBERTA AGRICULTURE AND FORESTRY

the future. This is why recreational wild boar hunting, with its exacerbating effects of dispersing sounders and teaching human avoidance, has been discouraged by Alberta government officials organizing invasive wild pig control efforts.

Alberta's pilot program will run for another year before formal policies or regulatory decisions are made on wild pig eradication. Until then, Abramenko states they will be continuing to explore other innovative wild pig surveillance methods, such as using trained dogs to seek out wild pig scat, or using environmental DNA detection in water bodies where wild pigs may have wallowed.

Going hog-wild for citizen science

Alberta's wild pig eradication pilot program goals also involve public awareness on invasive wild pigs. Landowners and the public are asked to report wild pig sightings and conflicts. An Alberta toll-free number is available for this reporting: 310- FARM (3276).

Abramenko stresses that public reporting helps to reduce the knowledge gap in species occurrence given that wild pigs can occupy such a broad range of habitat types in Alberta. Wild pigs are easy to identify, making public reporting easy even for the most inexperienced naturalist.

Citizen science is recognized increasingly for its important role in early detection and mapping of invasive wild pigs. For example, citizen science formed a component of Ruth Aschim and Ryan Brook's 2019 invasive wild pig mapping study, referenced earlier in this article. When compared to other detection methods, they found citizen science photos to be "a low-cost, spatially accurate, and unbiased means of validating wild pig locations". New York State, wild boar-free since 2016, further supports the value of citizen science through the success of its public reporting system for invasive wild pigs. As stated by Mark Jackling in the 2016 Vertebrate Pest Conference proceedings, this reporting system forms a "critical and cost effective component of New York's long-term monitoring plan".

Alberta still allows wild boar-wild pigs to be raised as livestock. In 2015, Alberta toughened its minimum containment standards for these operations. Electric fencing is required, incorporating either a partially buried fence or a double fencing system. Other management actions, such as bylaws banning wild boar livestock operations, could also assist in moving Alberta's eradication efforts forward. Rural municipalities like Lac St. Anne County and Yellowhead County have recently taken a proactive approach and adopted such by-laws.

While Alberta continues its work to eradicate invasive wild pig populations, the spread of wild pigs in adjacent provinces still remains a threat. Along with the help of rapid identification of invasive wild pig distribution by fellow "eco-citizens on patrol", there still remains a need for a national coordinated approach in managing invasive wild pigs before populations reach even more damaging levels.

Mai-Linh is a volunteer researcher at AWA and has significant former regulatory experience in federal environmental assessment. She enjoys traveling near and afar to discover and experience Earth's natural wonders.

Look Both Ways:

Finding Paths to Reduce Wildlife-Vehicle Collisions

By Nissa Petterson, *AWA Conservation Specialist*

Image: © H. MIZERA

Question: What did the grizzly bear say after crossing the road? Answer: I bear-ly made it.

All kidding aside, this joke has taken on a serious meaning over the last few decades. Today, road fatalities are an important risk to our less-than plentiful grizzly population. Bears in the Bow River Valley likely don't see the humour in the joke.

The Bow Valley is a happening place. Its habitat is key to the prospects of many wildlife species; it's also been a magnet to a growing number of people who want to live in the shadow of the Rockies. Statistics Canada reported Canmore's population in 2016 to be just 8 residents shy of 14,000; this is more than double the town's population in 1991, which was just a generation ago. And then there are the tourists, those who come to see and otherwise enjoy the breathtaking low montane landscapes in and around Banff National Park. In each of the last three years, just over 4 million people visited Banff National Park, approximately one million more visitors than the park saw in 2010-11.

The Bow Valley then serves as an integral corridor between the Front and Central ranges of the Rocky Mountains for both animal and human traffic alike. In the past 18 years, accidental human-related deaths such as vehicle collisions have claimed the lives of 75 grizzlies. This number is very close to 89, the total number of confirmed provincial poaching incidents. While stopping the legal hunt of grizzly bears in 2006 eliminated one source of grizzly mortality, our cars and trains continue to exact a worrying toll on grizzlies. Motor vehicles threaten population recovery. As the trend of vehicle-caused grizzly bear mortality

continues to pose a threat, so too does the likelihood that Alberta could become, if it isn't already, a population sink for grizzlies. By population sink I mean a territory where grizzly death rates are greater than birth rates, with that difference not being elevated by the number of bears immigrating into the province.

Unfortunately, this past summer offered indications that we may be on this troubling path. Too often, the news told us about human-bear conflicts and mortalities. In June, two grizzly bears were killed near the Trans-Canada highway within 10 days of each other; a male grizzly was struck and killed by a semi-trailer, while an emaciated female grizzly was euthanized days after being struck by a vehicle. August saw the death of a 275 kilogram male grizzly bear near Jumpingpound Creek. That death marked the third male grizzly to be killed by highway traffic in that area in the past five years. It's not hard to understand why Sid Marty, the award-winning writer and former Parks Canada warden, calls the Trans-Canada Highway the "Meatmaker".

It's not the case that wildlife highway mortalities have been ignored by land managers. Banff National Park has installed over 90 kilometres of highway mitigation infrastructure, such as exclusion fencing or wildlife over/underpasses, to help reduce the risk of wildlife-vehicle collisions. Prior to the twinning of the Trans-Canada and the installation of mitigations, the highway was seeing an annual average of 100 elk-vehicle collisions.

While research shows that overpasses and fencing have reduced wildlife collisions on the Trans-Canada highway by 80 percent, this approach is not foolproof. Academic research illustrates that coyotes readily dig under fences or exploit maintenance-caused breaches while black bears are nimble enough to climb over exclusion fencing. Grizzly bears, on the other hand, have been known to test the integrity of the fencing by attempting to tear through the wires where they connect to fence posts.

Roads are not the only culprit impeding wildlife ranges and populations; railways also kill wildlife and pose a barrier to movement and effective habitat use within the Bow Valley. Wildlife are generally attracted to railways for foraging opportunities; ungulates move along the railways looking to feed on spilled grain or plant growth. Larger carnivores such as grizzly bears do this as well; they get the added bonus of feasting on the carcass of animals that were not fast enough to avoid getting struck by a train. Grizzly bears themselves are also potential victims of train strikes; in fact, the February 2019 issue of *Ecosphere* reports that, since 2000, trains have been the leading cause of grizzly bear mortality in Banff National Park. Jim Pissot reported that, between 2000 and 2007, seven adult grizzly bears were killed by trains in Banff National Park, leaving five orphaned cubs that did not survive the year without their parent. In a recent media interview, ecologist and biology professor Collen Cassady St. Clair of the University of Alberta, suggested that as many as of 21 grizzly bears have been struck and killed by trains in Banff since 2000, where the resident population of grizzlies is approximately 60 individuals. Aside from increasing wildlife mortality, railways also inhibit wildlife movement. As is the case for roads, railways limit the movement of animals through a landscape. This can translate into reduced or limited use of a particular habitat, restricted genetic flow, and ultimately, lower reproductive success of afflicted animals.

And while we know mitigations may reduce wildlife mortality rates, research has shown that the safety benefits of highway and railway mitigations are not equally distributed across the animal species that use the Bow Valley. They have different impacts on different populations. The evidence clearly shows that highway mitigation efforts are far more effective at keeping ungulate species such as elk and deer off the road, than they are for black bears and grizzly bears. The *Ecosphere* article by Gilhooly et al also suggests that mitigations in certain areas may funnel wildlife species towards adjacent railways, trails, or roads where access is easier. This increases their potential risk to be struck in an alternative location.

Installing mitigation structures along highways or railways also does not always deliver immediate population level benefits for all wildlife. This is particularly true for wide ranging, shy mammalian carnivores such as grizzly bears and black bears. Evidence suggests that bears generally take longer to adjust and use wildlife crossing structures because of their aversion to human activity. Avoiding higher volumes of traffic and people around wildlife crossings may even encourage or instill certain grizzly bear behaviours – such as occasionally crossing highways during the cover of night or choosing to travel and forage near secondary roads, trails, or even railways that are less busy. Banff National Park bears were observed to take up to five years to muster up the courage to cross a wildlife overpass, while elk and deer were utilizing these bridges while they were in the midst of construction. This aversion behaviour and adaptation period is an obvious impetus for implementing mitigation features sooner rather than later. Given the small regional population of grizzlies in the Bow Valley, "sooner rather than later" is especially important. The loss of a few individual grizzlies there is very significant for the future health of that population.

AWA and many other environmental groups have long advocated for measures, like wildlife overpasses and exclusion fencing, that will reduce the number of collisions between wildlife and vehicles. However, what the research tells us is that we need to be more selective with respect to where these measures are installed. Land managers are trying to improve the efficiency of infrastructures that are currently in place. Parks Canada has installed aprons at the base of fences, electric mats at the ends of fences, and floppy edges or outriggers on the top of fences to deter or slow animals attempting to breach them. Parks Canada has also lowered the overall speed limit of the Trans-Canada Highway (more enforcement of those lowered speed limits would be welcomed). They also have installed stationary and portable electric animal warn-

ing signs placed at hotspots along the road.

Colleen Cassady St. Clair's research team has taken the approach of increasing wildlife's ability to detect oncoming trains, rather than attempting to restrict their access to them entirely. Similar to the lights and bells train system used on urban and rural roads, the system is triggered and alerts wildlife of an approaching train. While this does not entirely solve the problem, preliminary results show that wildlife on the railway "leave the area a few seconds earlier than they otherwise would." This could make an important difference to individual survival and to the stability of a local population. These deterrents have also been complemented by management approaches to increase their efficiency; Canadian Pacific Railway has a vacuum truck in service to clear spilled grain on tracks. More than 10 years ago, they also implemented a training program for grain handlers at loading terminals that promotes decreasing the amount of spilled grain on hopper car tops and end plates and ensuring that grain discharge gates are fully closed and operational.

While it's encouraging to see these initiatives, it is important to remember that our responsibilities to the safety of people and wildlife alike is far from fulfilled. It is an ongoing commitment. In an ideal world, protecting wildlife connectivity, in addition to habitat integrity and intactness would be a deal breaker to a proposal to build a high speed arterial road such as the Trans-Canada and adjacent linear features through the Bow Valley. Obviously, that is not the case. The best we can do now is take a more integrated approach when attempting to implement or improve mitigation strategies. Plans for transportation mitigations would be strengthened if the trends in abundance for local wildlife population and the behavioural ecology of species were evaluated. There is also a need to prioritize species when developing mitigations; plans with a target keystone or vulnerable species such as threatened grizzly bears could have holistic benefits to local ecosystems. Targeted efforts could go a long way towards ensuring population viability and stability for a species that it is at risk of extirpation. Grizzly bears should be more concerned about finding a bush full of berries than in the possibility they could become a meal themselves in the ditch of the Meatmaker.

Caribou Flags

Louise Guy Poetry Corner

Beginning with this issue the WLA is going to explore previously published nature poetry that now is in the public domain. When works enter the public domain they are generally available to all and are not subject to copyright. Two poems are featured here. *Nature and Smoke in Winter* were written by Henry David Thoreau, who some of you will recognize as the author of *Walden*, a classic reading in environmental philosophy.

NATURE

By Henry David Thoreau

O Nature! I do not aspire
To be the highest in thy quire,—
To be a meteor in the sky,
Or comet that may range on high;
Only a zephyr that may blow
Among the reeds by the river low;
Give me thy most privy place
Where to run my airy race.

In some withdrawn, unpublic mead
Let me sigh upon a reed,
Or in the woods, with leafy din,
Whisper the still evening in:
Some still work give me to do,—
Only—be it near to you!

For I'd rather be thy child
And pupil, in the forest wild,
Than be the king of men elsewhere,
And most sovereign slave of care:
To have one moment of thy dawn,
Than share the city's year forlorn.

SMOKE IN WINTER

By Henry David Thoreau

The sluggish smoke curls up from some deep dell,
The stiffened air exploring in the dawn,
And making slow acquaintance with the day;
Delaying now upon its heavenward course,
In wreathed loiterings dallying with itself,
With as uncertain purpose and slow deed,
As its half-wakened master by the hearth,
Whose mind, still slumbering, and sluggish thoughts
Have not yet swept into the onward current
Of the new day;—and now it streams afar,
The while the chopper goes with step direct,
And mind intent to wield the early axe.

First in the dusky dawn he sends abroad
His early scout, his emissary, smoke,
The earliest, latest pilgrim from the roof,
To feel the frosty air, inform the day;
And while he crouches still beside the hearth,
Nor musters courage to unbar the door,
It has gone down the glen with the light wind,
And o'er the plain unfurled its venturous wreath,
Draped the tree-tops, loitered upon the hill,
And warmed the pinions of the early bird;
And now, perchance, high in the crispy air,
Has caught sight of the day o'er the earth's edge,
And greets its master's eye at his low door,
As some refulgent cloud in the upper sky.

Dr. Mark Boyce:

Wilderness Defender

By Ian Urquhart

I would wager that many men of my generation fell in love with conservation and wilderness through our interests in hunting and fishing. This was certainly the case for Dr. Mark Boyce, one of AWA's 2019 Wilderness Defenders award winners. Mark grew up in Iowa, in the U.S. Midwest, on one of the tens of thousands of farms that dot the state's landscape. "Every minute that I wasn't plowing a field…," he told me, "I was out hunting, fishing, trapping…I loved the outdoors and couldn't imagine doing anything else."

Mark left the family farm for Iowa State University where he received his B.Sc. The call to do graduate studies took him to the University of Alaska Fairbanks where he completed a Master's degree and then to Yale where he received his PhD. Immediately prior to coming to the University of Alberta in 1999, Mark spent six years at the University of Wisconsin - Stevens Point where he was a Wisconsin Distinguished Professor and held the Vallier Chair of Ecology. In 1999 Mark, along with his partner Dr. Evelyn Merrill, joined the Faculty of Science at the University of Alberta. There, Mark took up the Alberta Conservation Association Chair in Fisheries and Wildlife, an endowed Chair in fisheries and wildlife biology.

Mark's selection as a 2019 Wilderness Defender rested on two pillars: the excellence of his academic research and his commitment to use his research knowledge to try to promote wildlife conservation. If I had to try to identify one theme animating Mark's work it would be his interest in trying to identify the mechanisms responsible for fluctuations in the population sizes of large mammals and furbearers. Here in Alberta that has prompted Mark to consider how our fish and wildlife populations can be sustained given the activities of natural resource industries. By any metric, Mark's research is superb. For example, in 2017 Mark and his team of researchers published 20 peer-reviewed publications. Some of the other reports they produced in that year were on grizzly bear management and how ranchers and large carnivores can coexist. Part of Mark's academic contribution also may be measured by the healthy handful of graduate students and post-doctoral students who work in his research lab before moving on to new careers or further graduate studies. In this regard too, his contribution is exemplary.

Both our conversation and his record leaves no doubt Mark views the academic role as one where, when expertise warrants, academics should weigh in more publicly on wildlife issues. I had asked Mark for his views on what role academics should play when it comes to efforts to recover species who are at risk of extirpation from the land. Mark replied by sharing some of his experience as part of the efforts from roughly a decade ago to force the federal government to take stronger actions on behalf of greater sage-grouse through the *Species at Risk Act* (SARA). Ecojustice, acting for AWA, Federation of Alberta Naturalists, Grasslands Natural-

ists, Nature Saskatchewan, and Western Canada Wilderness Committee, asked Mark to be an expert witness in the legal action our coalition launched against the federal government. As some of you may recall, we argued that the federal Minister had an obligation under SARA to identify critical sage-grouse habitat in the recovery strategy. Minister Kent had failed to do that.

The Ecojustice request was one that Mark took to his department chair. His personal views aside, he had concerns that accepting the request might threaten federal funding to the university. To her credit, Mark's chair replied, in his words: "That's why we hired you; get after it." Mark knows very well that the peer-reviewed papers he may write may not influence conservation decision makers as they arguably should. "So, if we're going to see our work actually roll out," he said, "we have to be out there attending public meetings, talking to public officials, working with organizations like AWA."

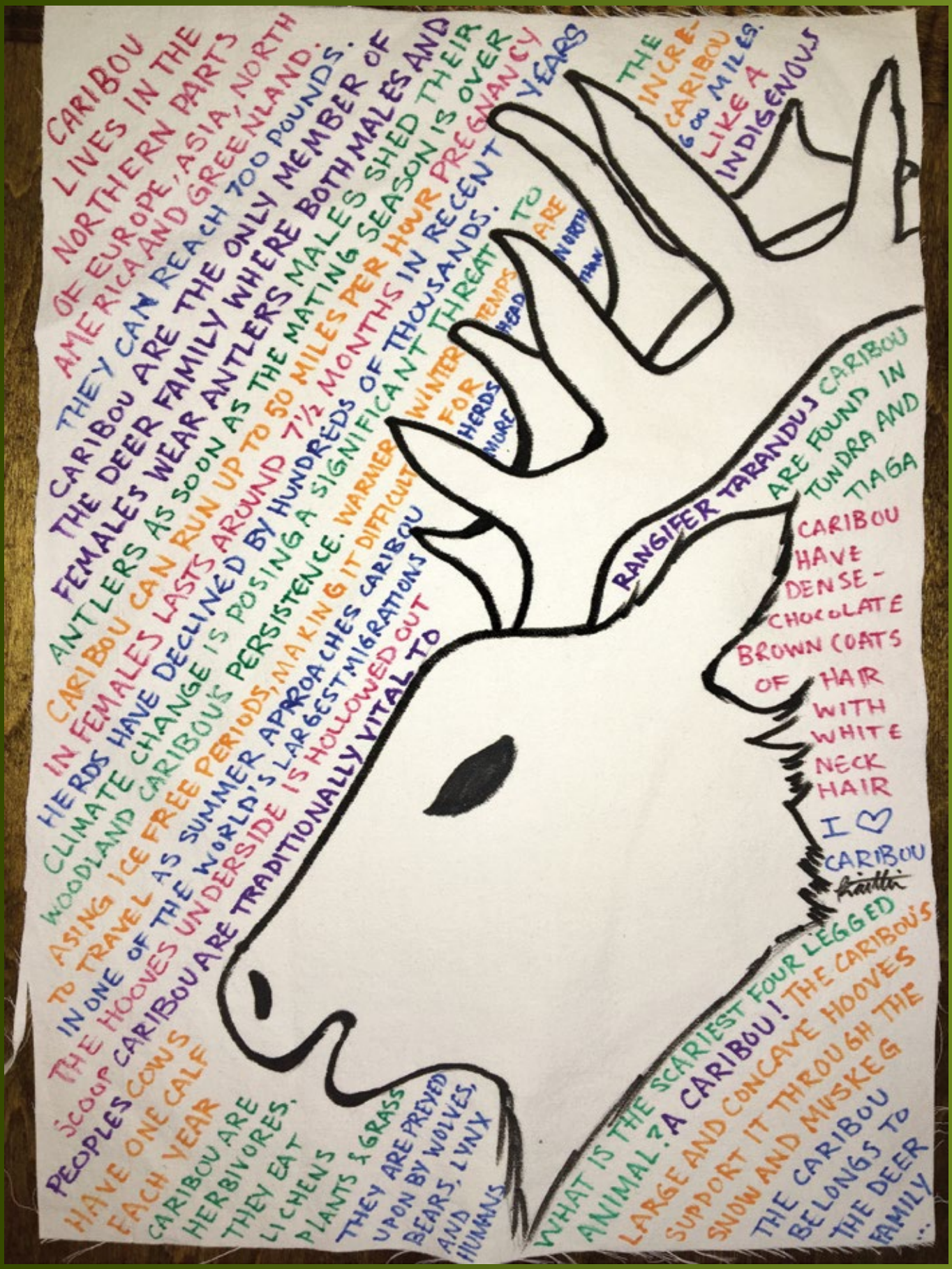
Risks, however, can accompany being "out there," of playing the public interest or public service role we were talking about. One of those risks comes from decision makers and/or interest groups who misinterpret or cherry pick your research in order to favour their preferred outcomes. I think Mark experienced this when he was at the University of Wisconsin - Stevens Point. In the late 1990s the U.S. Congress, at the urging of Republican senators from Montana and Idaho, commissioned Mark to study whether the habitat in the Selway-Bitterroot and Frank Church-River of No Return Wilderness Areas would support the re-introduction of grizzly bears. Mark's analysis concluded the area could support ultimately anywhere between 308 and 321 bears 90 years from now. This estimate supported an earlier U.S. Fish and Wildlife Service estimate that as many as 280 bears could be sustained in this habitat. For the Republican senators, this was not the conclusion they were hoping for. Instead, they had hoped the research would show there was no reason to support grizzly reintroduction to this region. They then misinterpreted one of the report's estimations and demanded the federal government de-list the grizzly as a threatened species under the *Endangered Species Act*.

Given Mark's extensive knowledge about threatened species, I asked him what we need to do in order to improve their prospects. Secure, healthy habitat for those species is vital. If that necessity guides us, he's optimistic that a species such as greater sage-grouse won't be extirpated from Alberta's landscape: "I think that we could probably recover sage-grouse if we really go after the habitat and do an aggressive job of protecting those landscapes, removing fences, managing the livestock in a way that's really responsible." Does this mean that we should take cows off of the landscape? Absolutely not. Mark emphasized: "We want cattle on those landscapes but we want light cattle grazing."

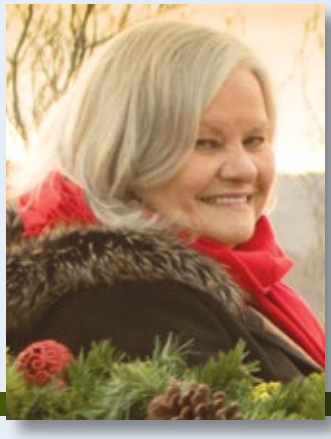
We also spent some time talking about the future of the conservation movement. There I think Mark had some valuable advice for AWA. He encourages us to imagine ourselves as bridge-builders, to reach out to groups such as Backcountry Hunters and Anglers, recognize the goals we share, and pursue them vigorously. Such advice is offered optimistically and is paired with his belief that universities such as the University of Alberta are poised to make important contributions to challenges such as climate change. "We've got so much research expertise across campus…that we could have a pretty powerful program…yes, I'm optimistic, I think that people are seeing the writing on the wall…and we can do amazing things." For the sake of my grandsons and the generations that come after them, I hope Mark's right.

Caribou Flags

Caribou Flags



How Many Bucks Does it Take?



By Christyann Olson, *AWA Executive Director*

One of December's pleasant tasks is to update our members in the December WLA about how we manage financially. Donors, especially individuals, make a tremendous contribution to our efforts. In our most recent fiscal year, individuals contributed 77 percent of AWA's total revenue. Whether your gift is a monthly donation, one-time donation, selling art cards, or the proceeds from a children's cupcake sale, it helps us make a difference in our conservation mission.

Margaret Mead is famous for her reminder: *"Never doubt that a small group of thoughtful, committed, citizens can change the world. Indeed, it is the only thing that ever has."* One could say her quote defines AWA. In today's challenging times where progress seems so very slow, our knowledge of how deeply our members care helps us more than you can imagine.

There are any number of stories we could tell you to highlight that our members/donors/supporters are our most valuable resource, to celebrate the difference people make. The following story began when a concerned member called AWA almost 16 years ago. The call was about motocross races in the Livingstone area on the southern eastern slopes of our Rockies. We walked the race course together, took photos and wrote to the government with our concerns. We knew native trout were in jeopardy. Together, we spread the word and created an awareness of the potential harm being done. More people like you our readers and supporters took an interest and began speaking up.

The racing continued. But, rules and restrictions were put in place. Fish and Wildlife officers and concerned conservationists took photos of a 2014 race that showed the race didn't follow the rules. You may remember hearing that late in 2018 the courts ruled that a motocross race which crossed North and South Racehorse Creeks several times seriously harmed and killed young bull trout and threatened westslope cutthroat trout. In June 2019, $70,000 in fines was laid under the *Species at Risk Act* and the *Fisheries Act*. People who care make a difference; we owe a debt to those who made a difference in this story of persistently pursuing good stewardship over the years.

The financial support people give makes it possible for us to be out there, to learn more, to research, to work with colleagues, to alert officials, to cooperate on initiatives and to help people learn more about their natural world and how caring for it will be a legacy for all.

AWA's excellent, dynamic Conservation Specialists – Carolyn, Joanna, Nissa and Grace – made a difference in every corner of our province this year. AWA's engagement and untiring work creating awareness, defending wild Alberta and our wildlife is recognized and appreciated. Ian, AWA's outstanding editor for more than 10 years now, ensures the *Wild Lands Advocate* delivers important news about conservation in Alberta and brings us stories of people, passion and hope.

At the office, we have reflected on the past year and written our comprehensive annual report. As we assembled statistics and photographs and reviewed our progress, we realized what an important and rewarding year it has been. One hundred and twenty-five volunteers donated more than 3,000 hours to AWA this year; staff presented the Wilderness Road Show 16 times and reached 576 individuals; another 3,154 individuals participated in 71 different meetings, hikes, events, and presentations where we increased awareness of wild Alberta. Our membership has grown and represents 208 communities in Alberta. We have members throughout Canada and around the world. Our complete annual report is available on our website; in it you can read about our work in every corner of Alberta.

I am particularly proud of the review of our operations we received this year from Charity Intelligence, a Canadian watchdog for charities. They gave AWA an ***A and a four-star rating.*** This vote of confidence means you can be assured your investment in the AWA team is well-used; you can be assured AWA's finances are well-managed. This is significant recognition for AWA; we are now included as one of the top 100 charities in Canada.

As I write this update the sky is clear, the stars are brilliant, and a fresh layer of snowflakes glistens. There is hope for tomorrow because of the strength of people like you who are inspired to care. Thank you for your help, for being part of the AWA Team, and for making our work meaningful and possible! Please call or write when you can. It is always good to hear from you.

Bequests

Individuals, members, and supporters making a bequest in their will naming a gift to AWA are helping make a difference to long-term security and AWA's ability to plan for the future.

Wilderness and Wildlife Bequests

Daphne M. Smith 1980
Dr. James Birkett Cragg 1997
Anna Nowick 1999
Myrtle Muriel Koch 2001
Ian Ross 2003
Dorothy Barry 2003
William Mayer 2004
Diane Hughes 2005
Harold deVries 2009
Ann Roberts 2009
Richard Collier 2013
Harriet Ruth Mowat 2016
Kim Bennett 2016
Carol A. Haines 2017
Wendy Williams 2017
Herbert G. Kariel 2017
Ted Davy 2018
Richard Pharis 2018
Del Lavallee 2019

Donations in Memoriam 2018 – 2019

Memorial tributes keep those who meant so much close in our hearts; a gift for wilderness and wildlife makes a difference

Ray Sloan 1941-1996
Dick Pharis 1937-2018
P.K. Anderson 1927-2014
Troy Hommy 1962-2018
Chris Havard 1945-2015
Del Lavallee 1924-2018
Joan (2009) & Mel (2008) Dunford
Laura McNaughton 1933-2018
Peter Winters 1929-2018
Jim Uffelmann 1959-2017
Marilyn McKinley 1955-2005
Gorham Hussey 1931-2018
Richard Secord Sr. 1933-2018
Jordan Moore 1984-2019
Janet Morgan de Bruyn 1954-2019
Eirlys John 1926-2019
Brendan O'Shea 1986-2006
Roy D. Bishop
Larry Cameron
Faris Evans 1934-2019
A.J. Adam Kolla 1985-2019
Ross St. John 1930-2019
Gord Nelson
Dan Lee 1955-2019
Cyrus Spaulding 1956-2017
Weslyn Mather 1945-2015
Charles A. Miller 1921-2009
Roy Weatherley 1937-2018
George Pumple 1928-2018
Ernie Drake 1946-2018
Leroy Church 1931-2019
Roger Creasey 1953-2012
Claire Falls 1952-2019
Paul Potapoff 1922-2019
R. David Petterson 1948 - 2014
Orval Pall 1951-1986
Dale McRae 1929-2019
John Glenn Robinson 1940-2019
Glen Warnke 1954-2019
Sally McLean 1954-2019

Recognition For Outstanding Individuals

AWA is honoured to receive throughout the year donations from friends and families made in honour of someone who was recognized for an outstanding achievement or a difference they made. This year we received donations as tributes to the following:

Gus Yaki
Margaret Main
Emily Andras
Grandma Sweet
Lance Hommy
Leo McGoldrick
Cleve Wershler
Ina Spaulding and John Bargman
Winnifred Lehman

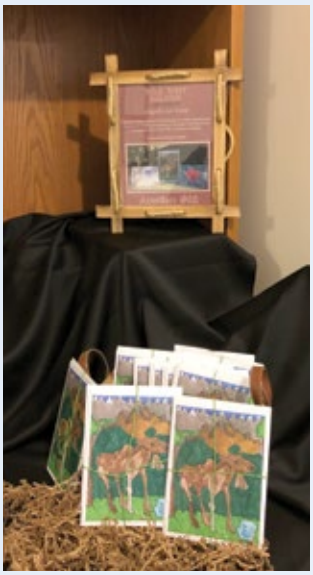
Recognizing Youth Supporters

Throughout the years, generous children have favoured AWA with a variety of gifts. We have received everything from birthday money to lemonade stand proceeds. During this past year the following youth helped AWA and we recognize them with our sincere thanks.

Almadina School - Grade 7 Fundraising Carnival
Will Cunningham – Birthday Money
Owen Duke - Lemonade Stand Sales (see the Sept. issue of the WLA)
Abigail Hadden - Original Art Cards Sales
Kensington Clean Up Club
Justin Konoff - Birthday Money
Isabel Lau - Birthday Money
Avani Sidhu and Isabella Hu - Cupcake Sales
Winnifred Lehman

Will Cunningham (L), Isabel Lau (C), and Justin Konoff (R) all donated the money they received for their birthdays to AWA.

Grade 7 students at the Almadina Language Charter Academy organized bake sales, pizza sales, and other activities as part of the school's Fundraising Carnival, to raise money for AWA and other charitable organizations. Fifteen students organized five different stalls in support of AWA, citing reasons including concern for wilderness spaces, species habitat conservation, and climate change. Many students at the fair came from immigrant families, and recounted how their countries of origin did not have the kinds of large wilderness areas we take for granted in Canada, expressing how important it was to keep them for future generations to enjoy.



Two years ago, I painted a moose in an art class and everyone loved it - so much so that I thought about making cards with that image. After I took a wilderness photography course this summer, I captured many neat shots but the wildflower images made me so happy inside! I want to protect the spaces where these flowers grow and wild animals live. I know that is one of the missions of the AWA. I thought I could share these photos and my art and help the AWA at the same time! My mom helped me and we made the photos into art cards. We packaged them up into bundles of three cards, sold them, and gave all the funds to the AWA. Hopefully these photo cards inspire people to help the AWA with its mission, too!
Love, Abigail

The Kensington CleanUp Club is a group of 10 and 11 year olds who work hard in our local community to advance environmental initiatives. Among many activities, they have created and sold reusable food bags, created a poster for plastic reduction at the Mayor's Environmental Expo, raised food security awareness at our local farmers' market, and travelled to Edmonton to see Greta Thunberg speak in September. They made a gift of their proceeds to AWA.

Avani Sidhu (L) and Isabella Hu (R)
Our charity bake sale started as a school math project on estimation (we only had to make a plan, not have a real sale). We then decided to execute our plan and have a real bake sale even though the school project didn't require us to. We baked and sold cupcakes to raise money for Alberta Wilderness Association. We did it to raise money to support endangered animals in Alberta.

Gus Yaki: Multiple Award Winner

Gus Yaki should be a name familiar to many AWA members. Gus has dedicated his time and knowledge to AWA in many ways over the years. Kids' summer camps, hikes in Nose Hill Park, giving presentations to AWA members are some of the ways that Gus has volunteered his talents to our Association.

A handful of other associations – perhaps especially Nature Calgary and the Friends of Fish Creek Provincial Park Society – also have benefited from Gus's generosity. This year the generosity Gus has shown to our organization and others was recognized by the Government of Canada. In June, Gus was awarded the Sovereign's Medal for Volunteers. The Government of Canada describes the medal with these words: "The medal recognizes the exceptional volunteer achievements of Canadians from across the country in a wide range of fields and pays tribute to the dedication and commitment of volunteers. They embody the caring country we aspire to build."

Lieutenant Governor Lois Mitchell presented the Sovereign's Medal for Volunteers to Gustave Yaki on October 31, 2019. PHOTO: © GOVERNMENT OF ALBERTA

Lieutenant Governor Lois Mitchell presented this award to Gus and 20 other recipients at the end of October. In awarding this medal to Gus the government highlighted the fact that for more than 50 years Gus has been volunteering on behalf of habitat conservation and biodiversity "inspiring generations of Canadians to learn about natural history."

Two weeks before the Lieutenant Governor's presentation Gus joined six others in receiving a Top 7 Over 70 Award. Started by Calgary oilpatch veteran Jim Gray, these awards are presented biennially to the vital contributions people make, once they turn 70, to life in Calgary and area.

Gus, congratulations from all of us at AWA, for the exemplary contributions you make to the conservation mission.

Updates

October 2019 Provincial Budget

At the end of October, the United Conservative Party introduced its first budget. Labelled "A Plan for Jobs and the Economy," the government said its budget "honours the promise of a credible balanced budget plan over four years." Furthermore, its content ostensibly represented "a measured approach to address overspending." What are the budget's implications for the government's environmental protection responsibilities?

First, there will be fewer personnel in the Environment and Parks department in 2019-20 than in 2018-19. The budget plans to reduce overall full time equivalent positions in government departments by three percent. This cut is not distributed equally over all departments. Three departments bear the brunt of cuts to the public service: Community and Social Services, Justice and Solicitor General, and Environment and Parks. Together these three departments account for 64 percent of the overall full-time staff reduction. The government's fiscal plan calls for Community and Social Services to lose 27 percent of its full-time workforce from the staff complement outlined in the previous year's budget. Justice and Solicitor General will lose 24 percent of its full-time staff. Environment and Parks will lose 13 percent of its full-time positions.

Second, spending on some of the core functions in Environment and Parks will be cut significantly this year and over the next four years. Overall, the Ministry of Environment and Park's operating expenses in 2022-23 are targeted to be $550 million. This is an overall cut of four percent from 2018-19. While this might not sound draconian, if we look more closely we see how severely affected some individual functions/programs will be. Integrated planning - crucial to rational, evidence-based land-use decision-making - will be cut by 39 percent in the current budget year. None of those cuts are planned to be reversed over the following three years. Fish and Wildlife operating expenses will be cut by 12 percent this year. Expenses on protecting the air we breathe will be trimmed by nine percent. Over the course of the next four years, Parks' operating expenses will be slashed by 26 percent, a staggering percentage in my view.

Together with the Ministry's business plan, these cuts to parks deliver a troubling message about the government's diminished commitment to see parks as an important, if not key, tool to realize protected areas objectives. The last NDP Environment and Parks business plan committed to enhancing the Alberta parks system. An enhanced system was linked firmly to Alberta's commitment to conserve 17 percent of Alberta's lands and waters. This commitment to use parks as a protected areas tool is missing from Minister Nixon's business plan. Instead, his plan seems to privilege private sector tools, such as Land Trusts, as a means to conserve ecologically significant landscapes.

Parks' fall from grace also was suggested by the Minister's remarks when the Main Estimates of his department were presented to the Standing Committee on Resource Stewardship. With respect to reaching the UCP government's commitment to meeting provincial protected areas targets, the NDP's Marlin Schmidt asked the Minister where he intended to establish protected parks in order to meet the province's 17 percent target. While Minister Nixon said that parks could be one tool he began his answer by distancing his preferences from those of the New Democrats. With respect to reaching protected areas targets, the Minister said: "one of the fundamental differences between our government and the former government around this issue comes out in exactly how the hon. member framed the question, which is that parks are not needed to meet all of our objectives of protecting landscapes."

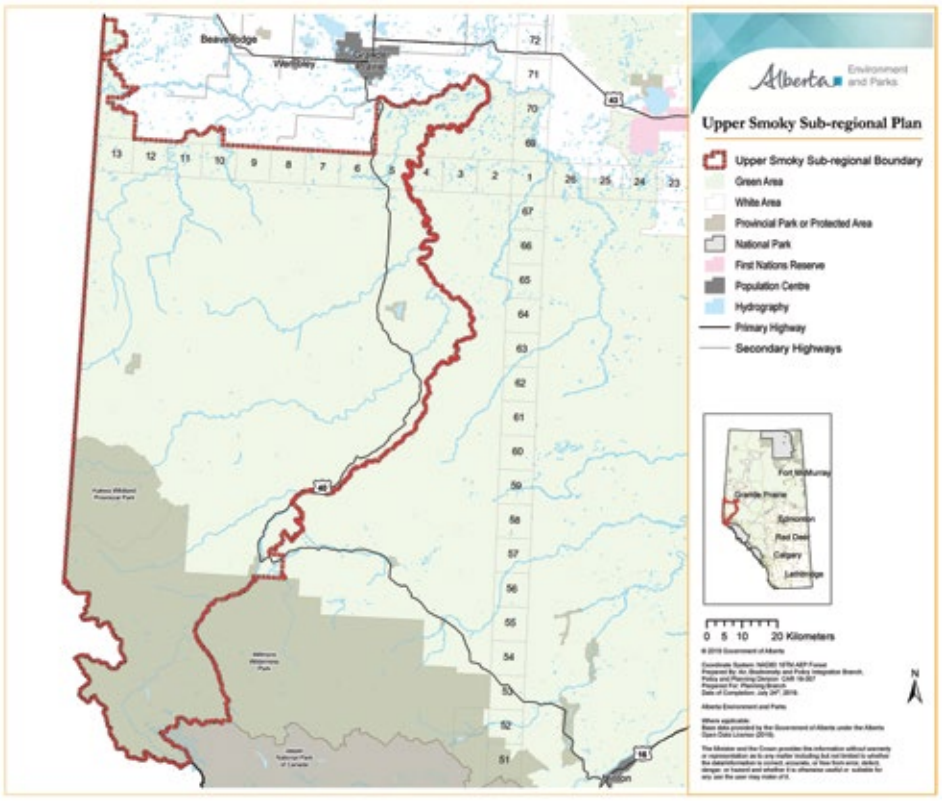
In its first budget, the UCP government tried to reconcile "a measured approach to overspending" with double digit cuts to key environmental programs and functions. AWA hopes the public will join the association in working to convince the government to rethink those cuts in the final three years of its mandate.

- Ian Urquhart

Alberta Caribou Task Forces Launch

Under the federal government's 2012 woodland caribou recovery strategy, Alberta should have completed habitat-focused caribou range plans more than two years ago, by October 2017. These plans should have outlined how cumulative human-caused land disturbances in caribou home ranges will be reduced to levels that can support self-sustaining caribou populations. Today, habitat conditions continue to deteriorate and not a single Alberta caribou range plan has yet been finalized.

However, AWA is working hard for the success of the Alberta government's three caribou sub-regional task forces that started meeting in early November. The sub-regions are Cold Lake, Bistcho Lake, and the so-called 'Upper Smoky' region of west central Alberta (see accompanying map). According to the Alberta government's November 4th news release, the task forces will discuss "a uniquely Albertan solution that will support both a working landscape and caribou recovery." The task forces' goals are to: "Advise government regarding the sub-regional planning process to ensure local input is considered in the development of the draft plans; Ensure that sub-regional plans, including caribou range plans, are subject to a comprehensive social, environmental and economic impact assessment; and Review



The Upper Smoky sub-region is the focus of one of the three new provincial task forces working to support "both a working landscape and caribou recovery." AWA is participating on each task force.

and consider the Draft Provincial Woodland Caribou Range Plan (Dec. 2017) in the context of more holistic sub-regional planning." Another notable comment in this news release was Alberta Environment and Parks' Minister Nixon's statement that he will "work toward solutions that are practical, balanced and grounded in socio-economic analysis and respect for our land and biodiversity".

MLAs from each sub-region are chairing these task forces. The ENGO sector is represented by AWA and CPAWS, which each have one representative per task force. Including the Chairs, the three task forces have 45 members in total, including representatives from Indigenous communities, trappers, municipal governments, industry, and motorized recreation. Per the November 4th government news release, the Cold Lake task force recommendations are due March 2020, Bistcho's are due in summer 2020, and Upper Smoky's in autumn 2020.

AWA also learned recently that the court hearing for our caribou lawsuit will be December 17th in Edmonton. In January 2019, Ecojustice lawyers, acting on behalf of AWA, Athabasca Chipewyan First Nation, Mikisew Cree First Nation and David Suzuki Foundation, filed a lawsuit against the federal minister of Environment and Climate Change Canada for her failure to recommend protection of the critical habitat of five boreal woodland caribou herds in northeastern Alberta. The hearing is open to the public.

- Carolyn Campbell

Fortress Ski Hill Approved to Truck Mountain Water to Calgary for Sale

AWA learned in mid-November that the Alberta government has approved Fortress Mountain ski business' request to remove 50 million litres per year of water from Kananaskis country and truck that water to a Calgary water bottling facility to sell. Fortress' 1968 water license was granted to provide drinkable water for its ski hill patrons. This license now has an authorized purpose of "Commercial (Truck Fill Station)" for half its allocation, up to 50 million litres per year. AWA strongly opposes this decision and believes the water that Fortress clearly doesn't need for its ski business should be left in the mountain stream where it belongs.

As I noted in my September 2019 WLA article describing this proposal, Fortress ski hill is now permitted to withdraw water from a stream that flows into Galatea Creek in Spray Valley Provincial Park; Galatea Creek in turn flows into Kananaskis River and the Bow River. With this new approval, thousands of truckloads of mountain water may instead be driven from Kananaskis to Calgary, where it already naturally flows. The crucial difference? Now, that water will no longer provide multiple ecological benefits along its route.

Fortress confirmed in a July 2019 public letter that the trucked bottled water will be marketed for its 'purity.' Calgary's municipal water supplies are of very high quality, whereas this so-called 'pure' bottled water will actually be worse for the environment. Its higher impacts include:

- removing water from a small mountain stream flowing into a protected area in the Bow River basin headwaters;
- greenhouse gas emissions to pump and transport thousands of truckloads per year of water that already flows naturally to Calgary; and
- helping to promote bottled/canned water as 'purer' than high quality municipal drinking water, when we need to greatly reduce our overall packaging and waste.

The Alberta government confirmed it received roughly 200 statements of concern from the public during the 30-day public feedback period. A government spokesperson told reporters that none of these were considered 'valid' statements of concern. That's because none of the citizens were 'directly affected', which in Alberta basically means having nearby property rights. AWA and many of our members and supporters were among those whose statements of concern were disqualified on these grounds. Unlike some Canadian federal laws and American laws, the nar-

row rules of Alberta's Water Act and other provincial laws do not recognize any 'genuine public interest' right to have legal standing in public lands and public waters decisions.

AWA believes that Alberta's approval of Fortress' water trucking idea sets a very poor precedent for the water-constrained Bow and Oldman River basins. Other water license holders upstream of Calgary and Lethbridge may now also apply for 'truck fill stations' to withdraw and sell their unused headwaters stream allocations. Re-allocating and commercializing our headwaters stream flows this way could limit our options in responding to future drought conditions, which are anticipated to intensify with climate change impacts.

In its decision, the Alberta government required Fortress to stop diverting water when flows are below 45 percent of the natural flow of the mountain stream. This is a weak limit for two reasons: first, 45 percent applied to headwaters generally is far too low to avoid ecological damage. Second, a more intensively allocated headwaters stream cannot offset to the same extent low flows in another part of the Bow headwaters. Mountain 'headwaters' lands receive snow, rain, and melting glacier water that provide most of the flows of the Bow and other major Alberta rivers. This water benefits mountain ecosystems, absorbs into the ground and provides essential year-round 'base flows' to our rivers.

AWA believes Fortress ski hill should have the highest water conservation practices possible given its privileged position surrounded by Alberta mountain parks. Trucking and selling bottled mountain water definitely doesn't meet that standard. We ask concerned Albertans to oppose this water use by respectfully writing Fortress ski hill (thomas.heath@skifortress.com), the Alberta Minister of Environment and Parks (*AEP.Minister@gov.ab.ca*), and their MLA (*https://www.assembly.ab.ca/net/index.aspx?p=mla_home*).

- Carolyn Campbell

Bill 16: The Public Lands Modernization (Grazing Lease and Obsolete Provisions) Amendment Act

Receiving scant attention in the Legislature, the provincial government introduced and passed legislation advertised to increase the fees grazing lease holders pay to government for the privilege of grazing cattle on public lands. The legislation is intended to address a complaint a U.S. Department of Commerce investigation made 20 years ago - that Canadian grazing rental rates subsidized the cattle industry. The new system will be based on the market price of cattle and input costs. The changes will be phased in over the next five years.

On the one hand, this change is welcome. Grazing lease fees in Alberta have been frozen for 25 years. It's long past time for those fees to be increased. Inflation alone would be reason enough to increase these fees. Since the fees were last changed in 1994, inflation has eroded the value of every dollar collected in rentals by approximately 40 percent. Also, phasing in the changes over five years will ease whatever financial impact the changes will have on industry. As Minister Nixon said in *The Western Producer* the new system "won't cripple the industry."

On the other hand, the legislation is disappointing and concerning. Disappointment rests in the fact the government chose not to consider how to address the flaws the Auditor General identified in the grazing lease system in July 2015. Then the Auditor General noted that some leaseholders were deriving excessive personal financial rewards from compensation payments they received for industrial use of those lands. He wrote:

> *Personal financial benefits are being derived from public assets. Current legislation allows an unquantified amount of personal financial benefit to some leaseholders over and above the benefits of grazing livestock on public land.*

The government was flouting the general principle that "no Albertan should derive personal benefits from Alberta public assets beyond uses the assets are intended to provide." (see the Oct./Dec. 2016 WLA for more details).

Concern joins disappointment in reflecting on how Alberta Environment and Parks assessed who would be interested in and affected by these changes. In second reading debate, the Minister seemed to define his bill as "agriculture legislation," not public lands legislation. This, along with his news release, suggests his consultation on the bill was limited to the ranching community. As an organization with a decades-long interest in public lands management, AWA didn't even receive a heads-up that the new government was considering this issue. As the Auditor-General pointed out in 2015, stakeholders involved in grazing leases include: current and future Albertans, First Nations, government, leaseholders, resource extraction companies, hunters, recreational users, and environmental groups. These interests should have been considered more seriously.

The lack of consultation is especially concerning because the legislation is barren of ANY details about the specific changes that will be made. It's a remarkable bill for its total absence of details. Those who the Minister consulted must have seen those details. But, the details that will come presumably through regulations weren't even released as background information to the bill. As this issue of the Advocate goes to press, I'm still waiting for a substantive response to my question to Environment and Parks asking for those details.

Wider consultations would have been especially relevant since the Minister spoke of how 30 percent of the grazing fee rental receipts government will collect above a threshold of $2.9 million will be spent on "rangeland sustainability initiatives." Leaving aside the question of whether the 30 percent dedication is sufficient, hunters, recreational users, and environmental groups all have important, legitimate interests in what those sustain-

ability initiatives will look like. Will, for example, government adopt measures that make rangelands in southeastern Alberta friendlier to greater sage-grouse?

This update began by noting the scant attention Bill 16 received in the Legislature. Opposition parties are supposed to look closely at legislation and offer suggestions on how it may be improved. The New Democrats dropped the ball, and abdicated that responsibility, with respect to Bill 16. The New Democrats had nothing to offer by way of constructive criticism of the legislation. Despite the shortcomings noted above, Lorne Dach, the NDP member who spoke to the legislation could have been mistaken for a government backbencher in the unqualified support he offered for Bill 16. The legislative process, as illustrated by Bill 16, is one where both government and opposition need to improve their performance.

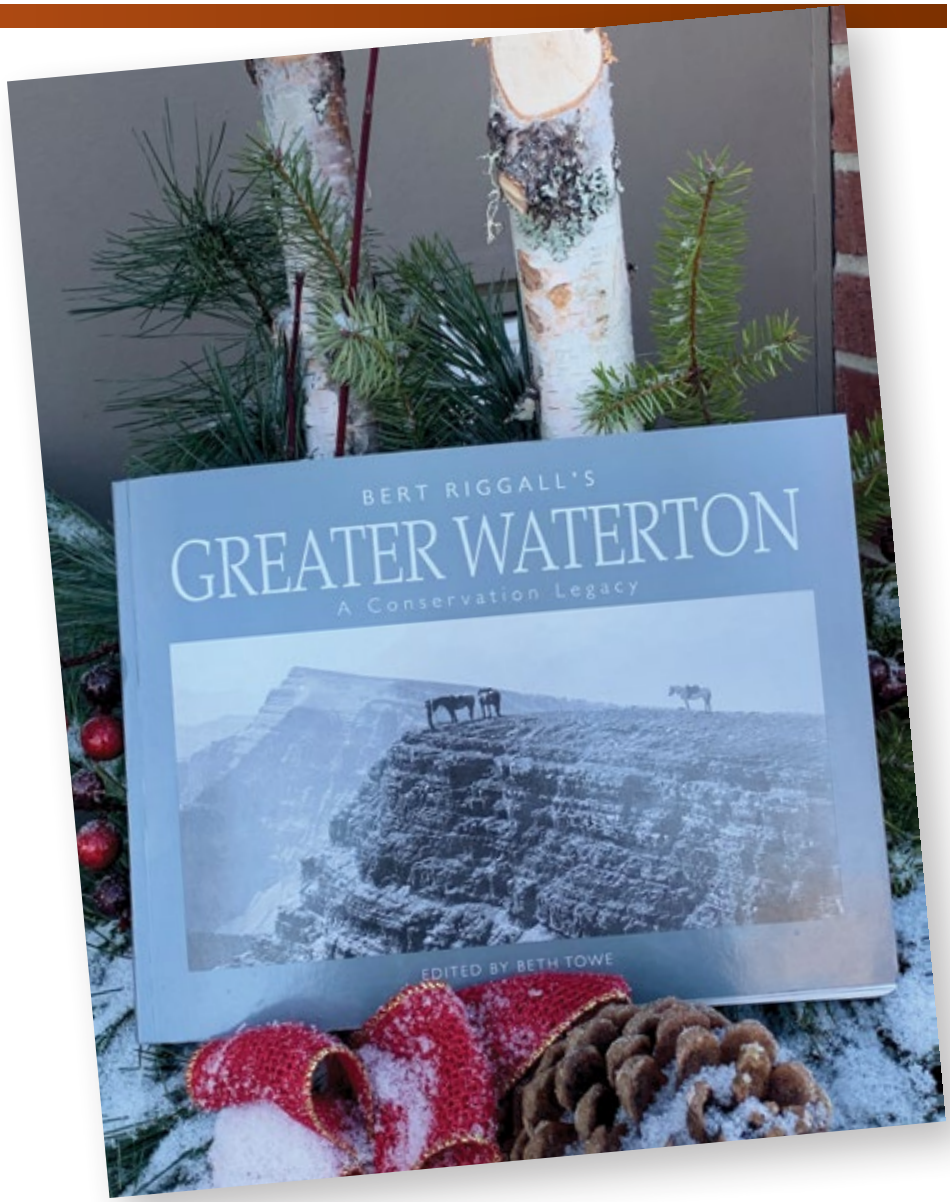
- Ian Urquhart

Caribou Flags

Reader's Corner

Beth Towe (ed.), Bert Riggall's Greater Waterton: A Conservation Legacy, *(Markham: Fifth House Publishers, 2018).*

Reviewed by Ian Urquhart



Some books are tonics. They reinvigorate us, inspire us, improve our sense of well-being. Beth Towe's edited collection, *Bert Riggall's Greater Waterton: A Conservation Legacy*, is such a tonic. Towe assembled an impressive cast of 14 writers to tell readers about the important contributions Bert Rigall made to conservation in Greater Waterton, the region in southwestern Alberta/southeastern B.C. with Waterton Lakes National Park as its epicentre. Riggall came to Canada from England in early 1904 and had established himself as a leading guide in Greater Waterton by the time the national park was created in 1911. Over the book's more than 300 pages, there doesn't appear to be an important aspect of Riggall's life that isn't discussed. His passion for conserving its landscapes and wildlife is underlined throughout.

If you want to focus on Riggall's life and the rigors of homesteading and outfitting in the early 20th Century pay special attention to the offerings of Fred Stenson, Chris Morrison, and Charlie Russell. Fred Stenson's biography of Riggall conjures senses of admiration and wonder. Born into a well-off agricultural family, Riggall decided that the Alberta Rockies was where he wanted to spend time before he went into business. First, he applied and adapted his skills with horses on the Craighurst Fam near Calgary. Later, as part of a surveying team in southwestern Alberta he set his eyes on Waterton Lakes and the mountains erupting from their shores. He wrote: "This is the place." He had found a new home. If there's one thing I hope I always remember from Stenson's biography it's that Riggall was a self-made man through his passion for learning. The knowledge and expertise he developed - of the flora and fauna of the Waterton area, of photography, of firearms - came from his experiences on the land and from his voracious appetite for reading.

Sid Marty and Chris Morrison provide important historical and cultural contexts for Bert Riggall's story. In "Mistakis: The Backbone of the Earth," Marty writes primarily about the longstanding significance of the Greater Waterton region to Indigenous peoples. The routes that Riggall would rely on in his outfitting business first were etched into the Rockies by the Ktunaxa and Piikani peoples. The work of archaeologists and anthropologists, perhaps most notably that of Brian Reeves, has shown that many sites within the Greater Waterton area were vital to the health and prosperity of Indigenous peoples. Whether the object of Indigenous interest was bison and other ungulates, fish, or dozens of plant species, Waterton was a larder for the region's first human settlers. Two hundred archaeological sites in Waterton Lakes National Park, another 307 in Glacier National Park to the south, testify to well-established Indigenous patterns of use. The discovery high in the mountains of dozen of sites that may have been used for vision quests points to the spiritual significance of the area. This

spiritual connection between the Piikani and Ktunaxa and Mistaskis is one Marty believes Riggall would have understood.

Chris Morrison's historical account focuses instead on European settlement in the region. The search for oil in Alberta started decades before Alberta became a province in 1905. Kootenai Brown, Waterton's first white settler, was asked to search for oil seeps in the mountains around Waterton in the 1870s/1880s. Others joined that search and there were hopes an oil industry could arise in the shadows of the Rockies. These hopes never materialized and, by 1908, a fledgling tourism industry started to take root. Riggall was part of that industry and, with several partners, delivered boating and fishing services in the summer and backcountry activities, primarily guided hunting trips, in the fall. Morrison details the creation of a small, 35 square kilometre, Waterton Lakes Dominion Park in 1911 and the subsequent debate about whether the Park should be enlarged. Then, as now, the debate revolved largely around the competition between protection and economic interests. At the time, businesses like Riggall's were the key interests threatened by a larger national park.

As some of you will know, the legendary Andy Russell was Bert Riggall's son-in-law, marrying Bert's daughter Kay in 1938. Bruce Morrison's chapter focuses on the Russell family, the centerpiece of the human legacy Bert and Dora Riggall bequeathed us. Like his future father-in-law, Andy Russell loved to be in the wilderness. But, Bert's tutelage and encouragement was key to transforming the wrangler Andy Russell into the accomplished writer and photographer who so many of us admired.

My favourite chapter on Bert Riggall's life is the late Charlie Russell's "A Grandson's Perspective." In crediting his grandfather for Waterton's current intact and healthy character, Charlie highlights the intrinsic, non-material, connection his grandfather had to the land. I would call it spiritual. This grandson's tribute is very touching. Its conservation message aside, his account is an important reminder to all of us blessed with grandchildren about the important role we can play in their upbringing. After Bert Riggall suffered a heart attack, Andy Russell, wife Kay, and their children moved into the Riggall house to help Bert recuperate. Five-year old Charlie was enthralled by his grandfather's metalworking, gunsmithing, and photo processing skills. As Charlie wrote, Bert's skill and creativity in the darkroom was magical; the introduction to the art of photography he gave his grandson shaped Charlie's life. The lessons he learned in that darkroom propelled Charlie to study filmmaking; the metalworking lessons he learned from his grandfather gave him the faith to build two airplanes. Together, those skills helped produce the documentary films and books he is famous for. "Thanks to Bert," Charlie wrote, "I learned how to figure out the right questions and to pursue the things that I felt important even if I had to travel to the other side of the world." High praise indeed.

The photographic skills Charlie described as magical are displayed in the book through nearly 200 photos (Riggall left a very valuable photographic legacy of 14,000 photos that may be found in several museums and archives.). The compendium of photos alone is more than worth the price of this collection. Some of the more impressive photos grace Brittany Watson's chapter "A Sense of Place: Bert Riggall's Photography." Some of his most powerful images are the products of his choice to use a panorama format, a format that depicted the magnificence of his subjects in ways traditional formats couldn't capture. She quite rightly notes how important Riggall's photos are to fueling today's conservation movement. His photographs continue "to connect many to the incredible landscape and ecosystem that is the Southern Rockies."

Chapters by Beth Towe, Larry Simpson, the Board of the Waterton Biosphere Reserve, Dave Sheppard, and Harvey Locke detail Riggall's conservation legacy. Beth Towe uses the Hawk's Nest, the cabin Riggall's perennial guests built, as a metaphor for Riggall's passion for conservation. The discussions that took place there, the works that came from the pens of Andy and Charlie Russell, were animated by the knowledge and understanding that infused Riggall's passion for Waterton. Those days and nights of talk, work, and camaraderie at the Hawk's Nest have advanced conservation in the region and across the country.

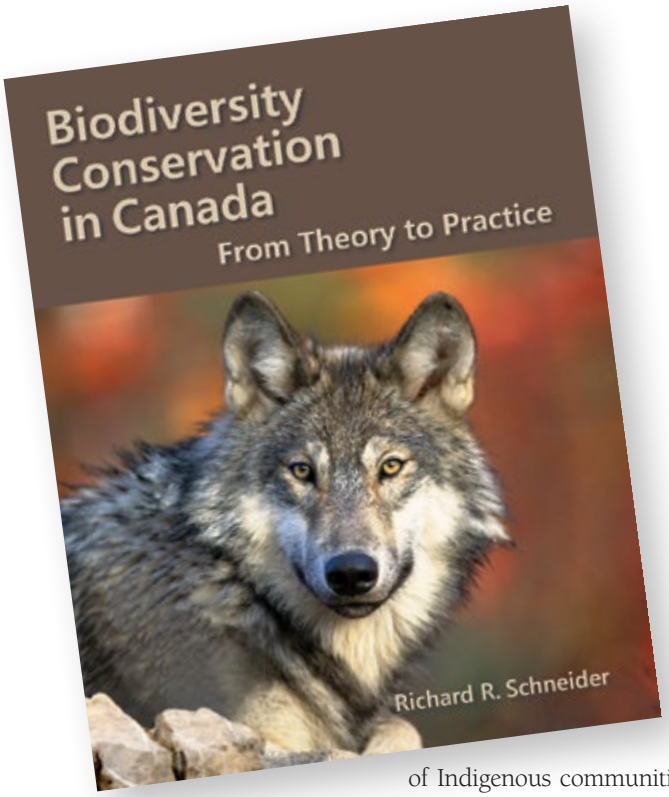
The Nature Conservancy of Canada's Waterton Park Front project, the initiative Larry Simpson writes about, may well have been the subject of some of those discussions in the Hawk's Nest. At more than 100 square kilometres in size, the Waterton Park Front is one of the largest private conservation achievements ever seen in Canada. The NCC's Simpson attributes part of the drive to protect the lands east/northeast of the National Park to Bert Rigall and the love of the land he instilled in his children and grandchildren. Those generations were instrumental in encouraging the NCC to partner with local ranchers and generous donors such as the W. Garfield Weston Foundation and John and Barbara Poole in order to realize this impressive victory.

Dave Sheppard invites the reader to appreciate the biodiversity importance of and the conservation struggle over the lands the New Democratic Party government set aside in the Castle Provincial and Wildland Parks. Much of the territory receiving these park designations had been part of Waterton Lakes National Park between 1914 and 1921. Again, the ethic Riggall practiced, an ethic embraced by the Russells, is seen as key to the persistence of the drive to protect these lands.

All of the contributors to this collection should be congratulated for bringing the story of Bert Riggall and his passion for Greater Waterton to new sets of eyes and ears. I'm sorry that there isn't space to discuss all their thoughts here. May those who read this book feel inspired by its words and Riggall's photographs and join organizations and support initiatives designed to enhance the conservation objectives Riggall cared so deeply about.

Richard R. Schneider, Biodiversity Conservation in Canada: From Theory to Practice. *(Edmonton: Canadian Centre for Translational Ecology, 2019.)*

Reviewed by Carolyn Campbell



Know a young person who dreams of applying knowledge and passion to help save wildlife from the many threats facing them? Know an angler, scrambler, hunter, skier, or birder who wants to help champion 'protection' for a special place? Know someone in mid-career or retirement who wants to apply their skills to make a difference in the conservation world? If you do, give them this book.

At first glance, *Biodiversity Conservation in Canada* looks like a course textbook, which could discourage you from opening it if you're looking for a good read in your free time. Yes, it can be used as a textbook, but I see it as an accessible primer for conservation-minded Canadians, especially Albertans, to appreciate and apply. There are clear, useful summaries of current ecological and conservation science, from species to landscape. Even better are the insights on the complex stew of social and political realities in which our conservation decisions have occurred and will continue to occur. Alberta issues are often the examples.

Author Richard Schneider's career has been about bridging the worlds of conservation science, policy and action. As a research associate with University of Alberta's Biological Sciences department, Rick's recent research has focused on adapting conservation decisions for the anticipated impacts and uncertainties of climate change. He also is a seasoned environmental advocate, having worked as Executive Director for CPAWS Northern Alberta; in that role he was deeply engaged in land use planning and protected areas advocacy. Early in his career, he worked as a consultant on various wildlife conservation projects across Canada for industry and governments. The voice he gives this book is that of a fair-minded and pragmatic mentor.

I was hooked from the second chapter, History of Conservation. "Ohhhh, that's how come" I found myself saying many times, as Schneider describes how North American game management and forest management evolved, the tipping points of the 1960s and 1990s, and the political struggles behind major American and Canadian environmental laws.

Later chapters dig further into the evolving roles of industries, indigenous communities, and environmental groups in conservation decisions. Schneider's portrayal of the dynamics within government is particularly useful for those seeking to become more effective activists. He describes the 'aspirations' of laws and analyzes why it is so difficult to break free of the strong 'gravitational pull' of policy inertia. He provides some clear perspectives on the conditions under which historic conservation gains have occurred, and what to look for to make further gains, though there are no hard rules.

Another aspect I really enjoyed was a guide to current debates in the conservation biology field, and good references to follow up on. There's also a chapter on the critically important issue of adapting conservation decisions to climate change. My one regret about the book is that it doesn't give enough space, in my opinion, to the emerging role of Indigenous communities and Aboriginal rights in conservation decisions.

The Alberta-based case studies take us deeper into big conservation challenges. For broad land-use planning, we learn of Al-Pac's notable forestry management approaches over its huge northern tenure area and of attempts in the Lower Athabasca Regional Plan processes to deal with oil sands and other cumulative industrial impacts. Wildlife habitat conservation cases include swift fox re-establishment, the collapse and recovery of walleye in Alberta lakes, and up-to-date insights on the ongoing saga of Alberta woodland caribou management challenges.

Above all, this book conveys how and why conservation is fundamentally a "trade-off" land-use process, not a matter of ecological evidence. So I was pleased to see a good overview about some best practices for considering such trade-offs, including a whole chapter on 'structured decision making' to involve diverse stakeholder groups.

The exceptional value of Schneider's book is spotlighting the practical challenges and messiness of Canadian conservation, here and now. For Albertans interested in improving wildlife and wilderness outcomes, this is a great guide.

For more information, visit *www.ccte.ca*

Speaker's Corner

A Speaker's Corner, made famous by the northeast corner of Hyde Park in London, is a place of open debate and discussion. Members of AWA are welcome to use this space to comment on environmental issues they are concerned about. The opinions you will see here should not be interpreted as AWA policy statements. If you would like to submit a comment for Speaker's Corner, please email your submission to me at *iurquhart@abwild.ca*. Submissions should be no more than approximately 500 words, be connected to environmental/wilderness issues in Alberta, and are subject to editorial approval.

Humans are the problem, or "This Earth ain't big enough for all of us"

Much is written about environmental degradation and its causes. A few Albertan examples are:

- Ongoing loss of forests due to industrial scale of tree cutting. It is occurring at a faster rate than in Brazil.
- Pollution from more frequent forest fires and micro-particulates in city air are growing health problems.
- Continuing reduction of farmland as more agricultural land becomes roads, malls, factories and suburbs.
- Biodiversity decline. Numbers of woodland caribou decline because of resource extraction and new roads. In the 70s I often observed burrowing owls on Calgary-Lethbridge trips. I have not seen one for four decades. Reasons for less biodiversity are habitat loss (disappearing forests, prairie grassland, wet lands), pollution, and human activities. Insect decline is often reported. Reduced insect populations means fewer insect-eating birds and poorer pollination. Habitat loss, climate change and insecticides are factors here.
- Albertan soil quality declines with less carbon sequestration in soil, poorer soil structure, mineral depletion, resulting from intensive agriculture. Food quality (vitamin, mineral, protein content) is dropping. Irrigation often leads to soil salinity, rendering soils useless.
- Disease. Over half a billion dollars were spent on fighting the pine beetles that are devastating our forests. The battle continues. Warmer winters allow beetle survival. Climate warming also increase Lyme disease, Dengue fever and malaria, carried by warm loving ticks and mosquitos.
- Oil sands operations continue with a vast area of denuded/polluted land. Levels of toxic chemicals are higher than guidelines allow. Reclamation efforts are pathetically inadequate. Now a 290 square kilometre mine is proposed near Wood Buffalo National Park, with a loss of 3,000 hectares of old growth forest and 14,000 hectares of wetlands.

Each negative environmental effect has a clear cause(s). But there is one simple underlying cause. There are too many humans on this small planet - each contributing to an increasingly impoverished, damaged, ecology and reduced biodiversity. More humans mean city growth, more pollution, roads, industry, deforestation, and faster conversion of wild land to agriculture. Calgary's population grew from 350,000 to 1.5 million in 50 years. At that rate it could be 10 million by 2100.

The primary cause of global warming is too many humans. Industry and transportation burn fossil fuels and produce greenhouse gases. Deforestation and marine pollution increase the problem by reducing carbon dioxide sequestration. More rice fields, livestock operations, city landfills, oil/gas extraction produce more methane. The root cause of global warming is the wasteful, polluting, destructive and rapidly growing human population.

There are too many people on the Earth NOW. At 7.5 billion (perhaps 10 billion by 2100) we have greatly exceeded the Earth's carrying capacity. Earth's finite resources cannot sustain this population. Even if population stays at 7.5 billion, with current levels of industrial activity, pollution, and utilization of scarce resources we are still digging ourselves a deep hole, from which escape will be difficult. The longer we postpone dealing with the problem, the more painful and expensive it will be. As population increases so will food shortages, political unrest, terrorism and wars.

The driver of Albertan and global environmental degradation is human population growth.

The idea that there are too many humans on Earth seems to be a taboo subject. One few are willing to discuss. The notion that some yet unborn genius will dream up a way to save us all is naive and delusional.

There are many paths to attack these problems, but the simplest and most effective is to drastically reduce the number of children we produce.

- David Mayne Reid, Calgary

Return Undeliverable Canadian Addresses to:

PM 40065626

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