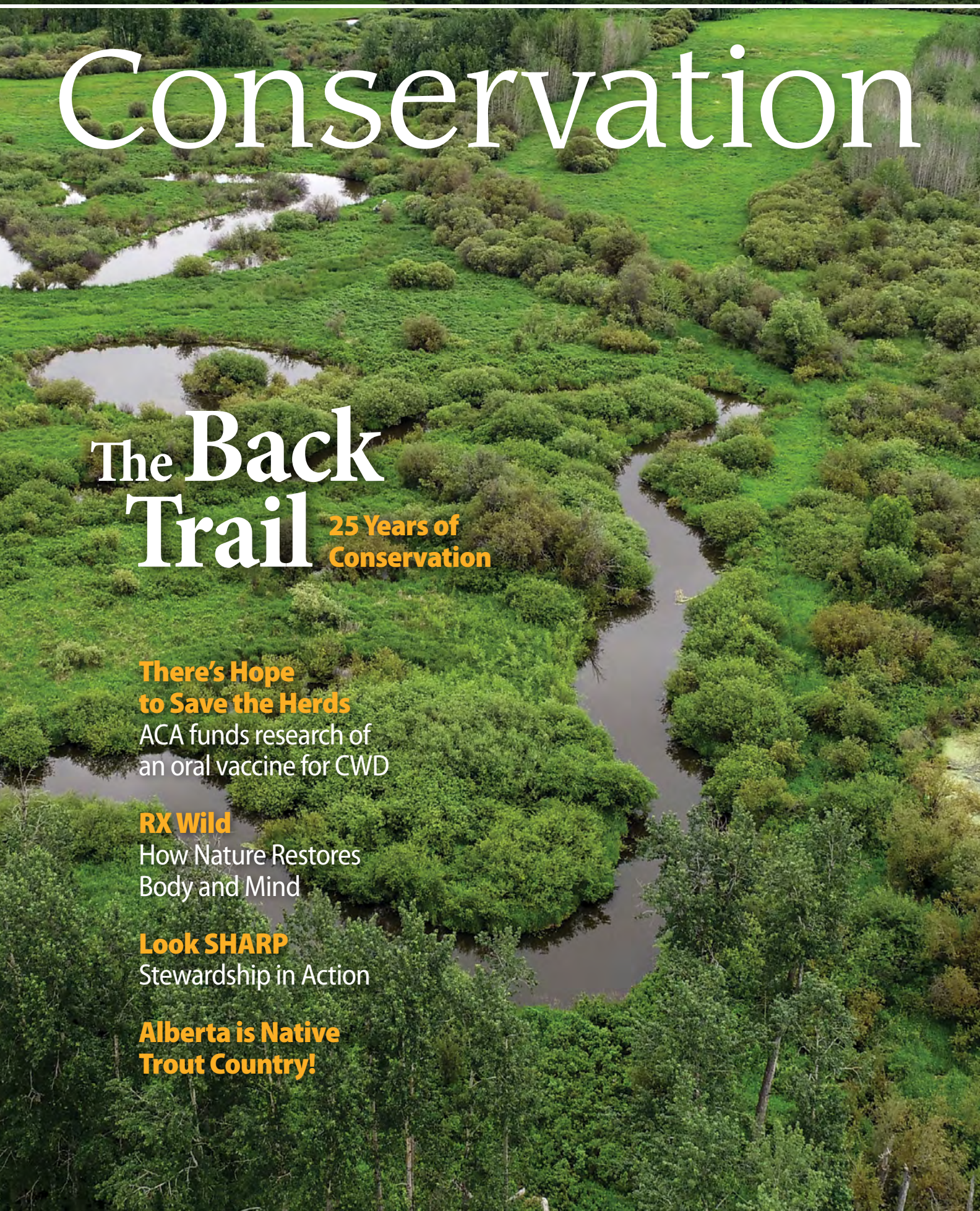
A publication of Alberta Conservation Association

Spring/Summer 2022

Conservation



The Back Trail

25 Years of Conservation

There's Hope to Save the Herds
ACA funds research of an oral vaccine for CWD

RX Wild
How Nature Restores Body and Mind

Look SHARP
Stewardship in Action

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Colin Starkevich

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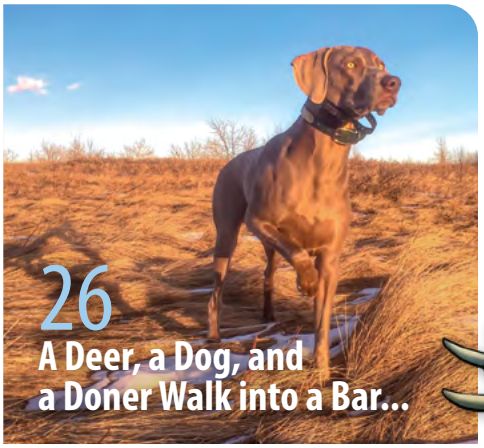
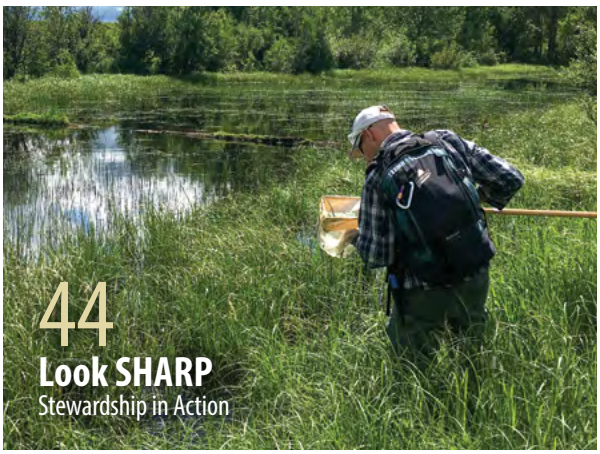
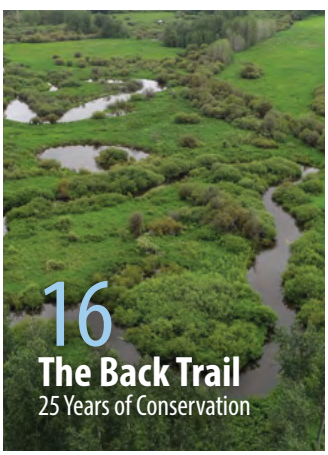
May 7 - June 24, 2022

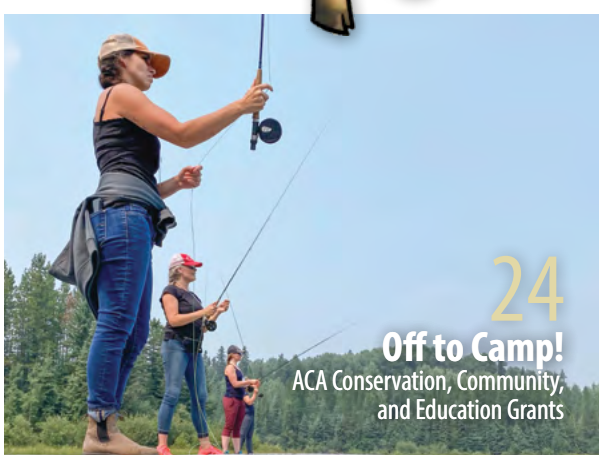
An exhibition portraying the Canadian natural Grasslands region and its wildlife. Exhibiting select work within this series dating back to its conception. Colin has been painting the Canadian Grasslands region for over 10 years now and has been exhibiting this work in solo and group exhibitions in efforts to raise the awareness of this fragile ecosystem while sharing its beauty with the world in his artwork.

www.colinandthegrasslandseries.com









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Alberta Conservation Association

Follow our work on:

Our Vision

An Alberta with an abundance and diversity of wildlife, fish, and their habitats; where future generations continue to use, enjoy, and value our rich outdoor heritage.

Our Mission

ACA conserves, protects, and enhances fish and wildlife populations and their habitats for Albertans to enjoy, value, and use.

Photo Description: Ram River Bull Trout Assessment
photo: ACA, Chad Judd

From the President

Spring is always a time of renewal and excitement. Winter's icy grip is disappearing, and people are starting to emerge from their homes and enjoy the fresh air again. For those of us that hunt snow geese, the skies begin to fill with opportunity; and for those of us that like to fish, we know we are now only weeks away from catching that first walleye of the season. This year, however, is a little different. This year, the "World's Greatest Walleye Angler" will not be at his favorite lake, sharing the excitement of the season's first walleye with his friends and family, because unfortunately Mr. Ken Ambrock passed away in January 2022.

Ken was an avid outdoorsman, dedicated conservationist, and longtime member of ACA's Board of Directors. Ken was a very productive member of the Board, providing thoughtful, balanced opinions, based on his many years of experience dealing with fish and wildlife management in Alberta. What I will always remember most about Ken was his sense of humour. Ken was never shy to tell entertaining stories, and anyone who knew him well knew that he was indeed the "World's Greatest Walleye Angler," because he worked that claim into every second story he told. To be fair, in all the years I heard Ken stake claim to this title, I never once heard anyone say different—so it must be true!

ACA has lost a tremendous friend, Albertan's have lost a great conservationist, and the world has lost a wonderful human who had passion for the outdoors, love for his family, and zeal for life.

Ken you will be missed, but not forgotten.

Sincerely,

Todd Zimmerling
President and CEO
Alberta Conservation Association

Conservation Magazine

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Cover Photo: Colin Eyo (Salt Creek Conservation Site)

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Talking Turkey

In the winter months, turkeys rely on food they find around cattle operations because snowpack often limits their access to other sources such as fruits and berries from shrubs, or waste grain left in the fields. While ranchers are often fond of turkeys sharing the landscape with their cattle, when birds congregate in high numbers the significant loss of feed reduces the tolerance of the hosts.

We identified one location where turkeys congregated too densely this winter, with daily use by 150 birds or more. We captured and relocated a couple dozen of the wild turkey to another ranch in the region where the rancher was keen to have birds on his ranch.

Turkeys commonly move well away from their winter sites during the April breeding season, often onto public land. The migration from the host ranches helps disperse birds over a much broader landscape.

photos: Turkey Branding
ACA, Doug Manzer (top); ACA, Mike Jokinen (middle and bottom)

Boots on the Ground

Each year, ACA hires seasonal workers for the Conservation Site Management (CSM) Project to upkeep conservation sites and conduct focused, in-depth inspections. This year, two nature-loving workers were hired to arrange fencing repairs and sign replacements, maintain trail cameras, and survey birds, amphibians, and plants.

Seasonal workers are chosen based on their outdoor skills and ability to get along with nature and co-workers. "They have to be really passionate about being outside and put up with mosquitoes, and slogging through willow wetlands," said Meagan Butler, ACA junior biologist, who started as a seasonal worker in 2019. Butler, along with Dan Sturgess, ACA intermediate biologist, helps with hiring, training, and operations.

In the winter, CSM staff set up trail cameras using stinky fishy lures to capture images of carnivores like fishers. The project also recently added an owl survey. "Owls are rare to see even if they aren't rare on the landscape," Sturgess says. Different owls require different habitat, and the survey informs the team which areas to protect. For example, barred owls require old growth forest and short-eared owls need grassland for nesting.

ABHuntLog Hunting for Data


photo: ACA

Developed in partnership with ACA, the University of Alberta and iHunter, ABHuntLog allows hunters to contribute to science by capturing information about ungulates, carnivores, and game birds they observe and harvest. In just the first year—September 1 to December 31, 2021—a total of 720 surveys were completed in 106 different Wildlife Management Units (WMU) by 142 voluntary participants.

Sue Peters, ACA senior biologist, anticipates that number will grow as people become familiar with the value and confidentiality of ABHuntLog. Since it uses aggregate data, you won't be giving up your personal information or your favourite hunting spots.

ABHuntLog is a feature on iHunter that collects harvestable wildlife data and summarizes it in a user dashboard that will provide each hunter with valuable information for submitting their mandatory harvest reporting record to the government. Data summaries in the form of heat maps will be posted for hunters to view at ABHuntLog.ca. Heat maps for each WMU will be available at ABHuntLog.ca.

Traditionally, the Government of Alberta conducts aerial surveys to determine population sizes of ungulates. But aerial surveys are expensive and cannot be completed in every WMU each year. ABHuntLog offers an efficient and economical method to complement aerial surveys and provides valuable data for hunting licence allocations.

Aeration Partnerships are Bubbling Up

photo: Beaver Lake Conservation Site
ACA, Andrew Clough

Aeration on 22 stocked Alberta lakes is providing angling opportunities that wouldn't naturally exist. "You can't just go and aerate any waterbody," says Brad Hurkett, ACA senior biologist. "It requires certain characteristics in terms of size and depth, and overall water quality. There's a lot more to aeration than meets the eye."

In partnership with the County of Barrhead, ACA's newest aeration project is to increase oxygen levels at Peanut Lake to rectify several years of fish-kill events. Working together, ACA provides training and support, while the County operates equipment and ensures safety measures are in place. Both organizations split the cost of power and public information campaigns.

Collaborations like this allow ACA to spread resources to new projects and maintain existing ones. Winter aeration from mid-October through April requires fencing, signage, and local news and website messaging to alert people about unstable or thin ice conditions and open water. Summer aeration occurs on some lakes to de-stratify the water and make the environment more suitable to fish.

Check online for lake aeration locations: www.ab-conservation.com/programs/fish/aca-aerated-lakes

Hiding in the Grass

One of Brad Downey's favourite jobs as a senior biologist for ACA is native grass restoration. Turning a blank slate of stubble and dirt into a grassland creates additional habitat for threatened species and supports a variety of birds, insects, ungulates, and amphibians.

ACA has found that bird communities on restored grassland areas resembles populations on adjacent native grasslands—Sprague's pipit, a federally listed threatened species, has returned to restored areas. ACA has restored 1,700 acres since 2008, providing habitat for a larger variety of grassland obligate species including sage grouse. Biologists return regularly to seeded areas to assess species making their return. Two years ago, they also started a study of insect populations on native grass restoration sites to see how those evolve over time.

photo: Native Grassland Restoration
ACA, Brad Downey

photos: ACA Wildlife Cameras

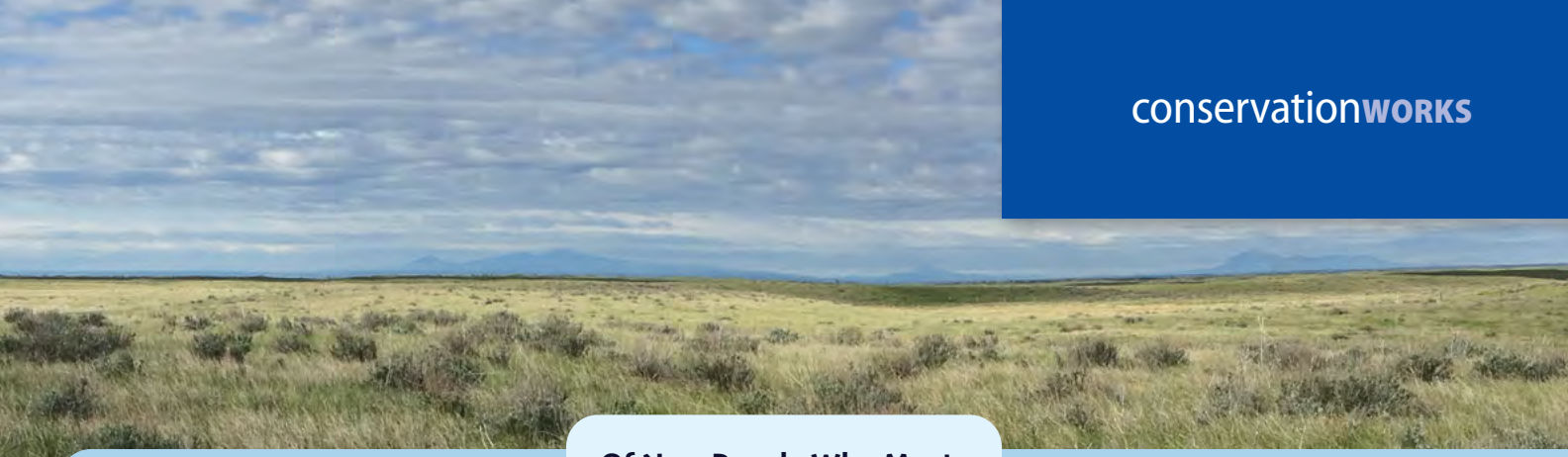
Starring... Peregrine Falcons and Ferruginous Hawks!

ACA livestreams 24-7 video, with night vision, from several peregrine falcon nesting sites throughout Edmonton and area—letting you watch as breeding pairs build nests in early April, lay eggs in late-April to early-May, and hatch their young late-May to mid-June. Peregrine falcons neared extinction after the Second World War but have been coming back thanks to conservation efforts.

"It unfolds right before your eyes," says Tara Holmwood, ACA communications coordinator. "Even when they're settling into their nests, it doesn't always go smoothly. It can be quite dramatic, and it's different every year."

In southern Alberta, Adam Moltzahn, ACA intermediate biologist, installs trail cameras on private land to show what happens in the ferruginous hawk nests. Last year, six young hawks fledged from three nests, despite a terrible windstorm that destroyed two of the nests. "What was really cool to see was how quickly they rebuilt their nests again," Moltzahn says.

Tune in to this season's wildlife cameras: www.ab-conservation.com/wildlife-cameras



Building Trust
Between Landowners and Hunters

The landowner hunting access survey results are in! Last year, ACA asked landowners to complete a survey about providing access to privately owned land for hunting. Over 2,000 people from 60 municipalities and counties showed that landowners are more likely to grant hunting access to people they know. While most landowners don't view hunting negatively, some are concerned about trespassing and damage to their land or livestock.

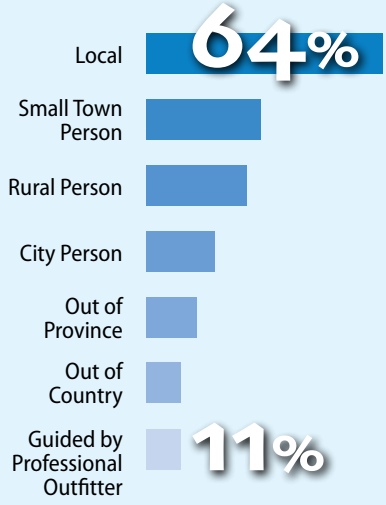
"The survey can paint a picture of what's happening in Alberta and identify some of the landowners' concerns," says Phillip Rose, ACA biologist. "Maybe there are ways to find solutions to stem the problem."

The study was created with input from the University of Alberta, University of Waterloo, Alberta Beef Producers, Alberta Wheat and Barley Commissions, Western Stock Growers' Association, Alberta Crop Sector Working Group, and Alberta Professional Outfitters Society.

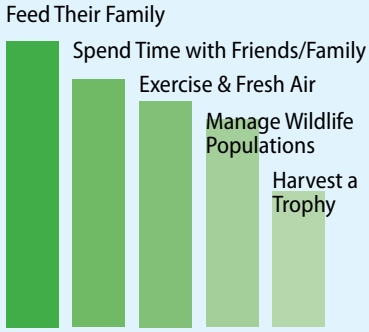
Results for both the landowner and hunter surveys are coming soon.

Preferred Method of Access:

Of New People Who Meet Criteria, the Following are More Likely to Get Access:



Top Ranked Reasons Why a Landowner Would Consider Allowing Hunters to Access Their Land:



Landowners are Most Willing to Give Access to:

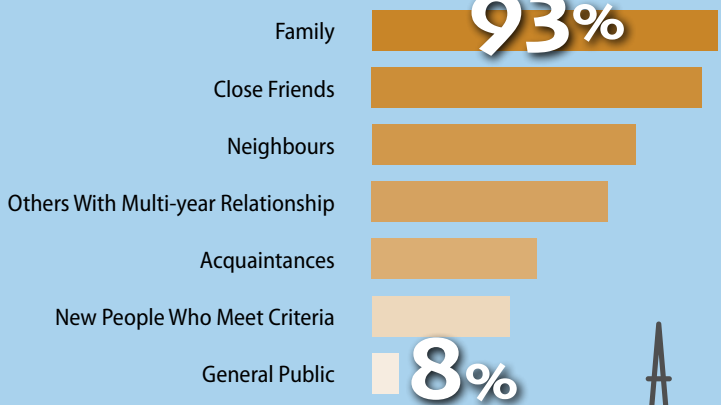
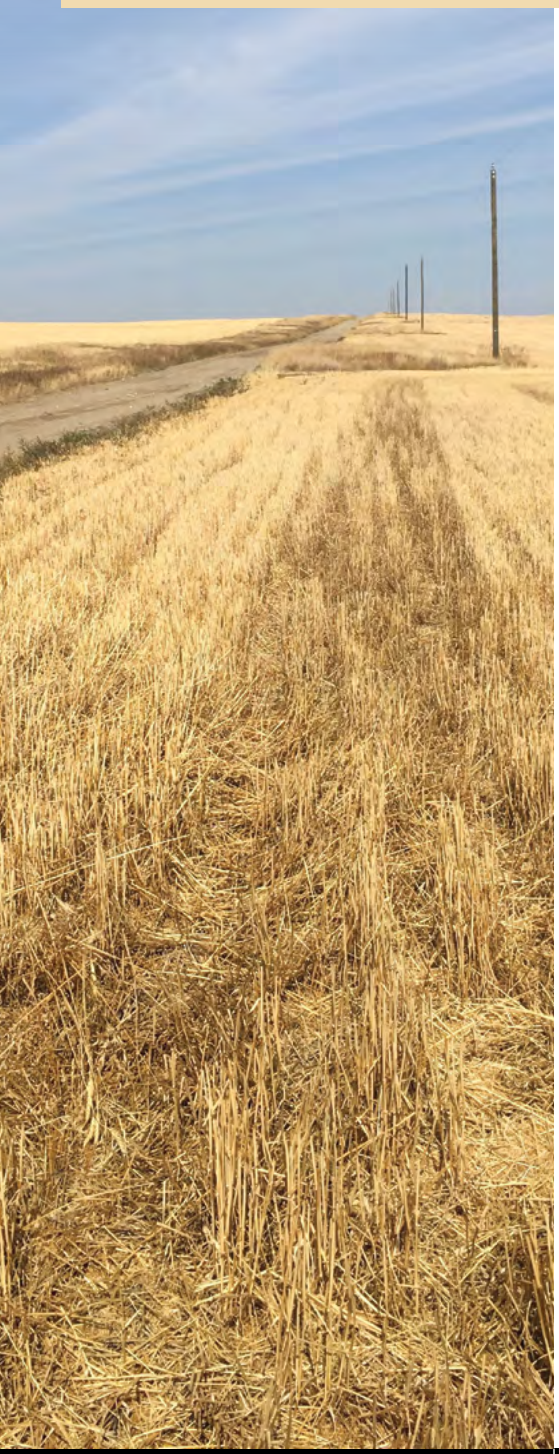


illustration: Jane Bailey

Pheasants Forever Raising Awareness of the Value of Roadside Ditches and Undeveloped Rights-of-Way

► *by Ken Bailey*

Roadside ditches and undeveloped county rights-of-way may provide the only sanctuary for a broad array of insects, birds, reptiles, and mammals, but an agricultural practice known as trespass farming is threatening these last vestiges of intact wildlife habitat.



That's why Pheasants Forever Canada (PFC) is launching a campaign to bring awareness to the issues of trespass farming and the associated value of intact roadside ditches and undeveloped public rights-of-way. Bolstered by a grant of $256,000 from Alberta Environment and Parks (AEP), the upland bird habitat conservation organization advocates that while it's no secret that edge habitat is critical for wildlife in all landscapes, seldom is it more so than across the vast tracts of cultivated land that dominate parts of southern Alberta.

Fortunately, AEP has recognized the issue and has turned to PFC to inform, educate, and spark change in the attitude towards these critical edge habitats, noting that the benefits accrued to society when these strips remain intact goes well beyond their wildlife habitat value.

Roadside ditches and rights-of-way are public land in Alberta, typically owned by the province and managed by local municipalities. In the tough economic climate that producers face, cultivating through these ditches and undeveloped rights-of-way is both easy and practical. To many producers, it makes sense to put those linear acres under production, often unaware that the societal benefits they provide far outweigh the farm revenue they potentially generate. That's where PFC comes in.

"Ditches and rights-of-way have been broken and farmed at an elevated rate in recent years," says Perry McCormick, president of PFC. "It's not uncommon to see ditches farmed to within inches of the road grade. Further, corporate farming has led to larger fields, and many rights-of-way that at one time supported critical edge habitat on each side of the trail have disappeared. When left undisturbed, these strips of land provide a wide range of benefits to all Albertans," says McCormick. "With 85 percent of the natural wetlands lost across the Prairies, we recognize that ditches play a critical role in flood attenuation, water filtration and purification through the absorption of excess nutrients, carbon sequestration, and biodiversity protection and enhancement. Roadside ditches and rights-of-way also provide critical habitat for grassland-dependant birds, including pheasants and grey partridge, as well as for a broad suite of mammals and insects, including at-risk pollinators. Our job now is to help make the public, including the agricultural community, aware of these societal benefits."

While advocating for the elimination of trespass cultivation, PFC acknowledges that vegetation management of roadside ditches is necessary.

"We understand that periodic grazing or haying of roadside ditches is important for vegetation management and in times of extreme drought," says McCormick. "We simply ask that when this management is necessary, producers wait until July 15, thus ensuring that nesting birds will have completed this important aspect of their life cycle."

PFC's two-year awareness campaign will include news releases, advertising on radio and in newspapers, billboards, and placement on key websites. Two field tours are planned for mainstream media members to provide them with a first-hand look at the issue. PFC also has plans to meet with individual municipal authorities to discuss issues and opportunities moving forward. The PFC volunteer-led chapter in Calgary will play a vital role in supporting the delivery of this awareness campaign.

PFC was formed in 1992 and is dedicated to the conservation of pheasants and other wildlife populations in southern Alberta, primarily through enhancing the quantity and quality of habitat. Their programs include planting trees, shrubs, and grasses to create safe corridors for wildlife travel and protective cover, planting nesting cover for ground-nesting birds, and developing riparian buffer zones. An education campaign highlighting the threat to roadside ditches and undeveloped rights-of-way is a natural extension of their mission, says McCormick.

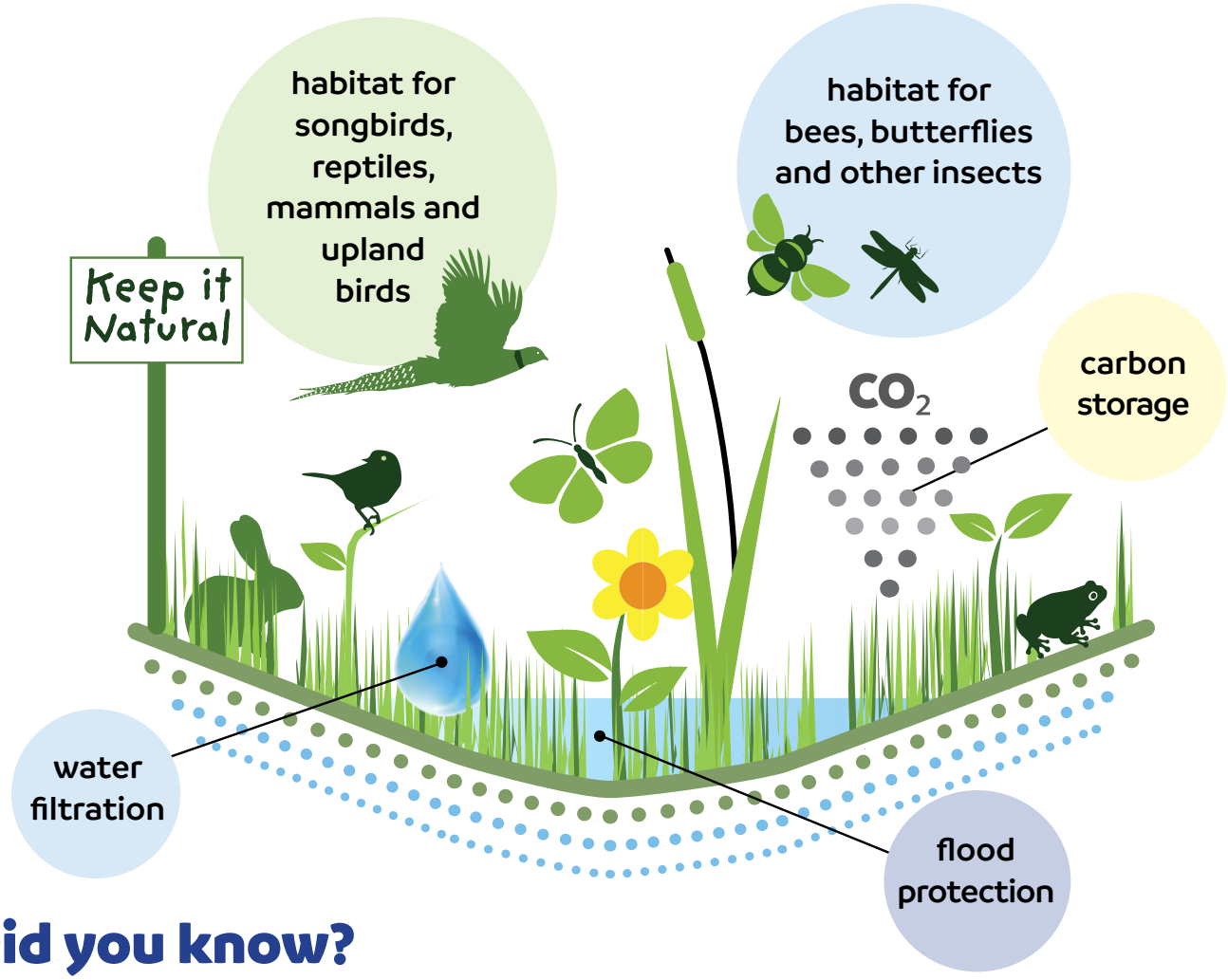
"We want to make people, including producers, municipalities and the general public, aware of the importance of retaining these critical strips of natural cover," McCormick says, adding that their public messaging will begin this spring. "As we all know, recognition that there is a problem is the first step in solving it, and we're proud to be leading this government-sponsored initiative to bring awareness to the threat of trespass farming."

Those interested in learning more about PFC and their conservation programs are encouraged to check out their website at www.pheasantsforever.ca or contact PFC's president at perry@pfcalgary.ca

photo: Pheasants Forever Canada

Save the Edges!

The natural benefits of leaving public roadside ditches and right-of-ways intact.



Did you know?

Naturally-vegetated public roadside ditches and right-of-ways:

- Filter excess nutrients including phosphorous and nitrogen, preventing them from entering our rivers, lakes and groundwater systems.
- Minimize overland flooding by storing, slowing and absorbing excess water, helping to protect roads, culverts and agricultural fields.
- Store thousands of tons of carbon, preventing it from entering the atmosphere.
- Provide homes for pollinators like bees, butterflies, moths and beetles.
- Sustain species that prey on agricultural pests.
- Provide thousands of acres of habitat for grassland-dependent mammals and birds, including pheasants and grey partridge.

PHEASANTS forever

Keep public roadside ditches and right-of-ways natural.

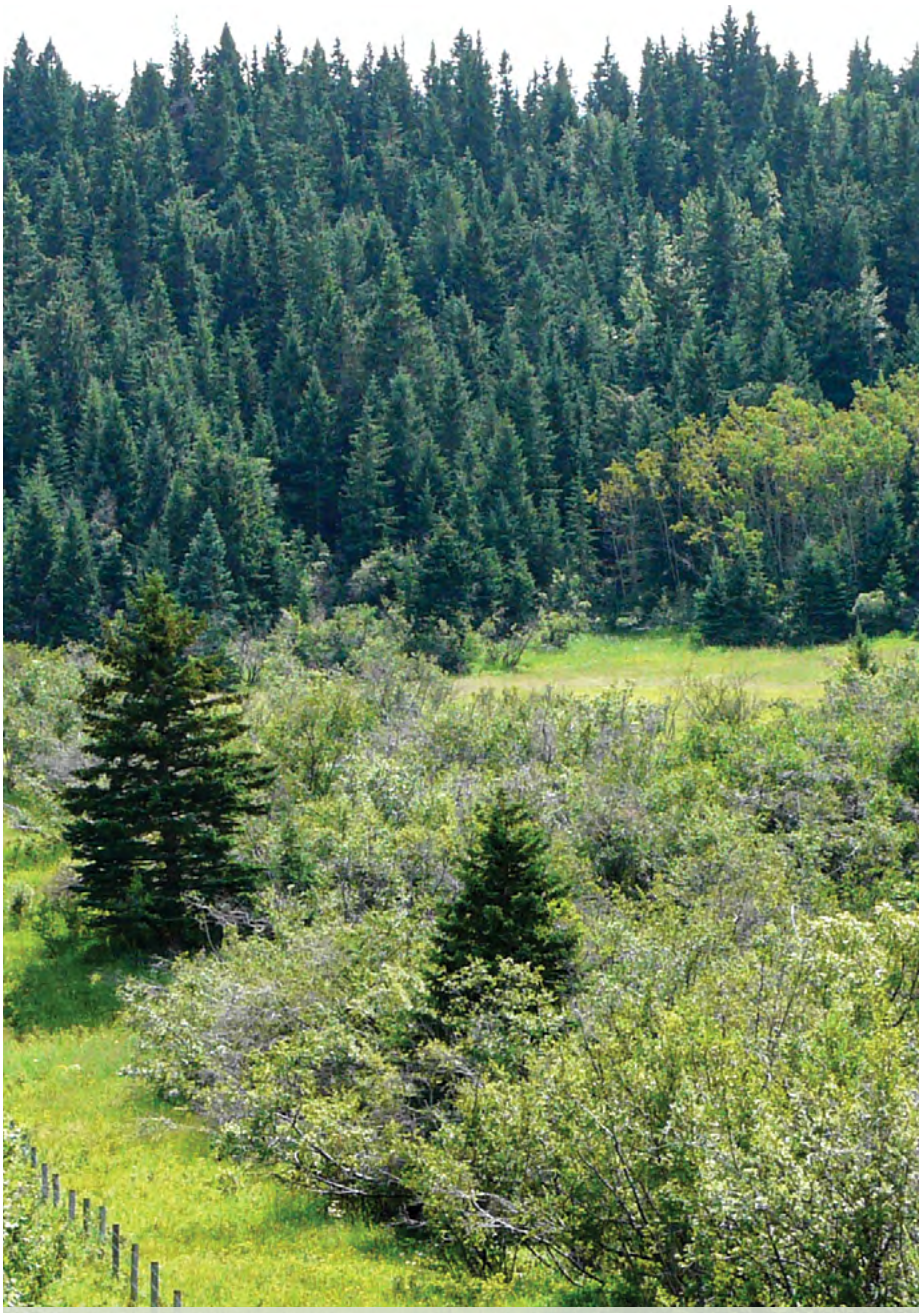
pheasantsforever.ca/save-the-edges

Funding for Save the Edges provided by Alberta Environment and Parks.

Rx Wild

How Nature Restores Body and Mind

► *by Susan Hagan*



"I took a walk in the woods and came out taller than the trees."

- Henry David Thoreau, *Walden;* or, *Life in the Woods* (1854)

Turning to nature in crisis

A former soldier with the Canadian military credits hunting—and the time he spends in nature—for restoring peace in his life. After 22 years of broken service and deployments to Bosnia, Kosovo, and Russia, Todd Hisey was diagnosed with post-traumatic stress disorder (PTSD) and forced to retire. He received therapy for six years, but it was archery that helped him overcome.

"I found that coupling the two (hunting and archery) really gave me meaning," said Hisey, who lives on an acreage near Cochrane because he finds urban environments stressful.

Urgent Biophilia is the term for the innate instinct for humans to seek out nature in times of crisis. Since the pandemic began, many have sought solace in places where they can hear birds, watch fish jump on a still lake, and simply breathe in fresh air. Countless studies show a strong link between spending time in nature and improvements to mental and physical health.

Hunting on sprawling prairie and taking in the mountain views helped Hisey so much that he started a volunteer-run organization, The Veteran Hunters, in 2019 to help other soldiers, as well as first responders including police, firefighters, and fish and wildlife officers.

"The outdoors, that's the real world," said Hisey. "It can be as calm or violent as it wants to be. But it's also very special when it shows you all its splendour and glory. There's nothing like bugling with a bull elk for 30 minutes and standing there and it's staring at you."

"Nature has a profound impact on our well-being," said Dr. Holli-Anne Passmore, assistant professor of psychology at Concordia University of Edmonton, who has conducted numerous studies through her Nature—Meaning in Life Research Lab, which she directs. She's demonstrated that taking heed of nature—even if it's paying attention to dandelions growing through a sidewalk crack—stirs positive emotions. Many of her participants reported feeling elevated.

"It's about feeling deeply moved, profoundly touched, beyond ordinary feelings of gratitude, feeling that you're connected to something bigger," Passmore said.

Bill Abercrombie, President of the Alberta Trappers Association and Chair of the Board of Directors for Alberta Conservation Association (ACA), proposed to his wife on a mountaintop in the middle of a snowstorm while hunting sheep. He partners with his sons in his bush skills business, has homesteaded in Alaska, and solves wildlife conflicts in urban environments.

"It's feeling like you belong in a natural landscape and you're not a stranger there," said Abercrombie. "Trappers feel that way all the time; it's one of the rewards of leading that kind of life."

When Abercrombie teaches bush skills to urban people, sometimes they become overwhelmed as they sit by the campfire. He asks them what's wrong, if they are cold, or hurt. And they tell him that they have never heard silence.

"You realize what the clamour of the human experience is… and then to be set free from that and it's just you, your own thoughts, your own emotions, and just allow that to percolate through you," said Abercrombie. "The subtle influences of the natural world, the beauty of it; there are a lot of people in this world who have never had that experience."

Easier to prevent than fix

The modern world has exacerbated mental and physical problems such as depression, anxiety, diabetes, obesity, and hypertension. Dr. Dallas Seitz, associate professor of psychiatry at the University of Calgary, tells us that he sometimes writes prescriptions for patients to spend time outside because it's a proven natural remedy for reducing stress and improving cognition. Working with the Alzheimer's Association, he will examine nature's effects on people with early dementia, measuring mood and quality of life, as well as blood tests to look at inflammation and stress hormone levels to determine actual mental health and cognitive benefits that might be associated with getting outside.

"Nature restores our attention so it allows our brains to relax and rejuvenate and give our brains a rest," said Seitz, who is also a medical doctor and health services researcher who bikes, walks, hikes, and fishes. "We're on our devices a lot and multitasking and that's hard on the brain. Evolutionarily, when we're in beautiful environments, it historically reduces our stress because these are areas where there's food and things around for us."

photos: Todd Hisey (this page); ACA, Darren Dorge (opposite)

We were all hunters and gatherers

Tracey Klettl, along with her husband, founded Painted Warriors northwest of Calgary a decade ago to reconnect people with the wilderness and Indigenous experiences. They teach clients bush skills, archery, hunting traditions, horseback riding, and plant identification. "People don't use their senses like they used to," Klettl said, adding that before technology, people knew where we were and what was around us like the animals do.

In the wild, she asks her clients to think about what they smell, hear, see, taste, and feel. She feels that people are blocked—physically, mentally, emotionally, and spiritually because they have been living such fast-paced lives and going along with their minds in the future or in the past.

"Being in nature and using our senses puts us in the moment." Klettl said. "Somewhere in our past, we were all archers, we could all light a fire, we all slept under the stars. I believe a lot of people really miss this."

The wilder the better

"Society often looks for a pill they can take for tranquility, when nature is what they need," Seitz said. "Wilder spaces that prompt learning about plants and animals, and being physically active offer a greater experience." He recalled feeling a flow state while hiking in the mountains and arriving at awe-inspiring vestiges.

"It's very powerful for people," he said. "For me, that was an eye opener because there have been a few vacations—where I spent a lot of time outdoors and it was such a dramatic difference, such a unique feeling that drove home the connection for me."

Nature can even bring us to a state of awe, where we feel small beneath tall pines, the stars, and northern lights, humbled but whole somehow. In the wilderness, you respond to the fish on the hook, to the sound of raven's wings whooshing high above, to low dark clouds threatening snow or rain. You respond to the wolf's howl, with the hair on your neck standing on end.

Abercrombie says he feels rested and sleeps well when he's tracking for days, matching instincts with animals, sleeping beneath the sky, feeling the adrenaline of the hunt, understanding nature's cycle of life and death, "That's when I really feel alive."

Alberta Conservation Association (ACA) conservation sites span more than 210,000 acres across Alberta, providing opportunities to hunt, fish, forage, hike, or view wildlife.

Despite all the benefits, many have lost nature in their daily lives. A 2017 Berkley study looked at the language of popular books, songs, movies, and documentaries and found that even our language changed after the 1950s. We wrote of clouds, rainbows, moonlight, and hummingbirds less frequently as our culture urbanized and moved indoors.

In a U.S. National Library of Medicine National Institutes of Health study (2012), participants exhibited, "significant increases in memory span after the nature walk relative to the urban walk."

75 percent of Canadians used trails to exercise or for leisure in June 2020. Trail usage was up 50 percent in November 2020, according to a Leger survey on trail use.

"People who spend at least two hours in nature each week report significantly better health and wellbeing" – www.parkprescriptions.ca

The Back Trail

by Dr. Lee Foote

Wintering bull bison easily plow through deep snow swinging their massive heads, clearing drifts with their black horns and short strong necks. They are the depiction of relentless forward movement. In summer, the same beast crushes forward, snapping aspens and rattling shrubs to reach a favourite sedge meadow. Forward, onward, unstoppable, pressing into the wind, water, snow, and brush. But there, delicately traipsing behind him flashes the thin throat patch of a white-tailed doe. Sometimes the petite deer share the bison's trampled trail, sometimes they seek cover. In winter, the deer might access bits of forage in the bison-created snow craters. But she always maintains a 360-degree vigilance that is ignored by the bison. Her ears scooping forward and back, flexing her neck as if on a gimbal, checking her back trail and plotting the best path to the next destination. Maybe these traits explain why Alberta bison became functionally extinct and white-tailed deer expanded to occupy almost every woodland, prairie, wetland, and agricultural landscape. There is a lesson here.

For a quarter of a century, Alberta Conservation Association (ACA) has been charging forward, plowing an impressive trail through thickets of name recognition and tangled shrubbery of political tides. ACA has constructed public services and outreach through times as economically flush as a spring green-up and as sparce as a winter blizzard. The ACA herd of conservationists and biologists have expanded into every provincial habitat type to provide access information; management; landowner advice; fishing, hunting, and trapping programs; research; and land and water where Canadians can recreate. However, like the wily white-tailed deer, ACA's leaders learned that keen observation, planning, and course selection are also essential tools for thriving. One component of knowing where we come from is in the deliberate act of looking down our back trail.

I used the words "…we come from…" in that last line without presumption, because "we" is the inclusive aspect that ACA was built around, but also because ACA has seeped into my personal conservation path too. For 22 of the past 25 years, I have been attached to ACA in a variety of ways. As a nature lover, an outdoorsperson, and an Albertan—how could I not be? My licence fees have helped support ACA—I walked their properties only to be outfoxed by the vigilant white-tailed deer, the ACA publications cover my coffee table, and I was welcomed to the ACA Board of Directors for 17 years as a Public Member and later as an Academic Representative. "We" indeed! Like other outdoorsy folk, I have supported the Alberta Fish & Game Association, and taught field courses for Nature Alberta, Alberta Trappers Association, and the Alberta Hunter Education Instructors' Association. I have also bid up fundraising auctions at the Wild Sheep Foundation Alberta banquets. As a University of Alberta professor, I had the privilege of supervising the graduate education of five students who became ACA or Alberta Environment and Parks employees. Many of my students successfully competed for ACA grant funds. Each of these organizations, as well as a few more, send directors to the ACA board where they bring concerns from the field, suggestions, volunteerism, and a willingness to advance ACA. Since 2017, the organization has even hived off *Conservationist* column inches for this *Footenote* column.

Given all this, it is no surprise that ACA became my conservation home. It was an honour to be part of one of those organizations convening to help unite a conservation path forward. And, oh the discussions that poured out around that board table! Stories, worries, joys, debates, humour, successes, directions, and a fair bit of "What if we were to…" The employees, the board, and the supporters of ACA now have both the forward momentum of a charging bison and a white-tailed deer's awareness of a past rich with experiences. Today, ACA is moving forward with millions of dollars of research support for wildlife, fisheries, habitat, and public education and continues to reach new audiences. Particularly gratifying is the problem-solving role of examining chronic wasting disease (CWD), whirling disease, climate extremes, non-game species, human dimensions, threatened species, hunter experiences, land use, and much more.

Last year, the Board of Directors created the need for a public reflection of ACA's 25-year history—a 1997 – 2022 retrospective of where we came from to better understand our present conditions.

Name recognition Doubled in the second 10 years.

Regional offices In all four quadrants of the province.

Employee satisfaction Always high and now exceptional.

Land holdings Bumping 60,000 acres of fully accessible hunting, angling, and naturalizing sites.

Growing pains Yep, some dented trucks, missed land deals, divisive debates, and lean years.

Public opportunities Recruitment, training, education, research, grants, and celebrations!

New Alberta offerings Taber Pheasant Festival, *Alberta Discover Guide*, Lake Aeration, *Conservation Magazine,* Kids Can Catch.

So how do we celebrate and share this snowballing history? An ACA book of stories (and a few graphs and statistics, but just a few) with voices from the past two-and a-half decades to capture the origins, images, opportunities, and feel of the times. Not a strict historical or promotional book, but rather a celebratory meander through ACA's 25 years of activities. I am pleased to work with ACA's communications manager, Don Myhre, and editorial assistant, Laura Volkman, along with many ACA staff and board members to pull together the text, images, and numbers to capture some of ACA's progress. This will be a 2022 release, yet, like a newborn hunting dog, this book does not even have a name!

If it takes a village to raise this child, the credit goes to those passionate about Alberta's outdoors—a village of organizations, government, and an ever-expanding umbrella of citizens—that help ACA thrive. This book is the story of the times in a province erupting like a flushing grouse and pulling forward like a well-hooked bull trout. A time when our provincial population skyrocketed, jobs blossomed, environmental appreciation flourished, and wildlife populations sometimes surged and other times dwindled.

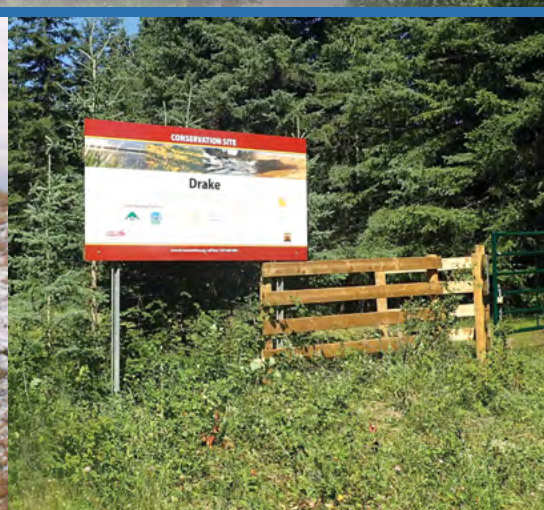
So, we channel our inner white-tailed deer and look back to learn, appreciate, and help with future planning. Don't get me wrong, there are some very admirable traits to being a bison—powerful, herd-protective, maintainers of prairie ecosystems, spiritual symbol, and as a pantry of delicious and useful items—not a bad metaphor for ACA's conservation movement. Yet, we now inspect out back trail to gather in the gratitude for progress as well as to choose the wisest path forward. It's been a quarter century of wild exploration and learning, so there is little reason to think the future will be any less exciting.

photos: ACA

25

Alberta Conservation Association

1997 - 2022



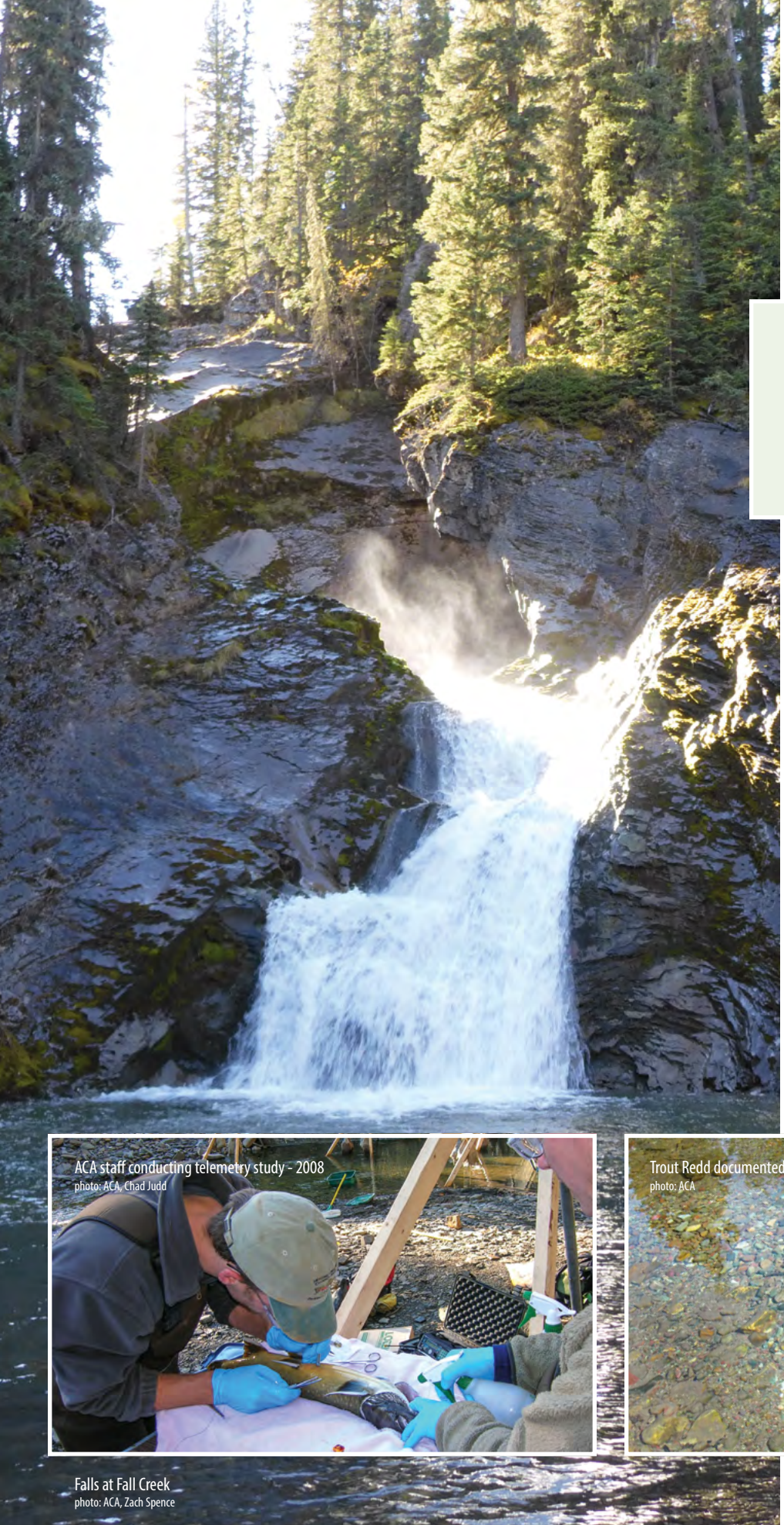
The Rise of **Fall Creek**

► *by Mike Rodtka*

In the early days of my career, friends and acquaintances would try to categorize the many complexities of my position as a fisheries biologist with Alberta Conservation Association (ACA) as a job "counting fish." This is like describing an accountant's job as merely "counting beans."

Just as there is more to an accountant's job than counting money, I do a lot more than just count fish. But, there is no denying that counting fish has been a big part of my 20 plus years with ACA. And while counting fish may not be glamorous, it is challenging and rewarding work. A case in point is my many years of working in Fall Creek.

Fall Creek, a tributary to the Ram River, flows through the rugged terrain of the central Alberta foothills. A large set of falls 7.5 kilometres upstream of the mouth gives the creek its name and blocks upstream passage of fish from the Ram River. Based on the short length of stream accessible to fish, one would never guess that Fall Creek is critical to persistence of bull trout in the Ram River and beyond. Although the majority of the watershed was fishless historically, it was suspected bull trout were using the stream as the area below the falls contained a rare mix of clean gravels and groundwater upwelling bull trout require to reproduce.



Falls at Fall Creek
photo: ACA, Zach Spence

ACA staff conducting telemetry study - 2008
photo: ACA, Chad Judd

Trout Redd documented during Redd survey
photo: ACA

ACA Staff constructing underwater video monitoring system
photo: ACA, Mike Rodtka

In the 2000s, ACA's biologists began the long process of counting bull trout in Fall Creek to better understand this watershed's significance for the species. Because of work like ours on Fall Creek, we had more information on the current state of bull trout populations in Alberta, which eventually led to their being classified as a *Threatened* species under Alberta's *Wildlife Act* and *Canada's Species At Risk Act.*

Based on trapping and radiotelemetry work we completed in the 2000s, we determined that between 40 and 80 large (up to 3.7 kg or 8 lb) migratory bull trout spawn in Fall Creek annually. We documented fish returning to overwintering areas in the Ram, North Saskatchewan, and Clearwater rivers, up to 74 river kilometres away, after spawning in the creek. In 2008, we estimated some 4,000 juvenile bull trout were rearing in the stream. At the time, it was one of the only whole-stream estimates of bull trout production in Alberta.

In 2007, we conducted our first annual redd survey—a combination of counting fish and redds. Redds are the gravel nests created by spawning trout depositing their eggs. Counting these nests gives us insight into the number of spawning fish using the stream each year. Redd surveys are advantageous when monitoring trout populations because they can be completed for a fraction of the cost of conventional approaches like electrofishing or trapping, and are less invasive than counting fish. However, counting redds has its limitations. Logic suggests one female trout per redd, but the ratio often varies between populations. For redd counts to be informative, the relationship between fish and redd numbers needed to be examined and understood.

In 2018, we designed an underwater camera system to count the migratory bull trout using Fall Creek. This system allows us to estimate the ratio of spawning adults to redds in the creek. The information it provides, in addition to backpack electrofishing counts of fish at several sites in the lower Ram River watershed, is being used by fisheries managers to evaluate the response of the watershed's bull trout population to various conservation measures.

Just like an accountant can help manage your finances by counting "beans," ACA's biologists have important roles in the conservation of Alberta's natural resources through counting fish and more. Through our work, we provide a sense of how much "money" is in the bank so that managers can make informed decisions on how our natural resources are spent or conserved. Counting fish may sound simple, but it's hard work and can pay big conservation dividends.

Thanks in a large part to the work we began 15 years ago, this study has underscored the vital importance of Fall Creek for bull trout.

With a little ingenuity and a lot of online research, ACA staff designed an underwater video monitoring system specifically for the Fall Creek project. The video chamber is equipped with two cameras (overhead and side views), an onshore DVR to record the video feed, and a waterproof LED that allows us to record at night as well—and the whole system is solar powered. Placed mid-channel, migrating fish are funnelled into the flow-through video chamber by wings extending to the shore off its upstream and downstream ends. Even with some equipment malfunctions over the years, the system has proven to be a minimally invasive and relatively inexpensive method of counting fish.

Results Driven

Counting fish is rewarding when study results lead to action. Since the 2000s, government, non-government, and industrial partners have worked with local stakeholders to protect the Fall Creek watershed and its bull trout through:

- Placing an angling closure on the length of stream where bull trout spawn.
- Designating lower Fall Creek as protected under Alberta's Water Act.
- Restricting truck access and reclaiming a heavily degraded random camping site in the area.
- Rerouting OHV traffic away from the stream to trails in less sensitive upland areas.
- Reclaiming over 50 OHV trail crossings of Fall Creek, including many crossings in critical bull trout spawning habitat.

photo (top): Bull trout recorded in underwater video monitoring system - 2019
photo (bottom): OHV damage in Fall Creek - 2008, ACA, Mike Rodtka

DON'T FEED THE DEER

THE BEST WAY TO HELP WILDLIFE

► *by Susan Hagan*

More than a dozen mule deer bound across the road into a subdivision that's home to seasonal residents who enjoy the foothills on weekends and holidays. The well-worn trail through snowy ditches indicates that deer often take this route—moving from winter "deer yard" shelters in the forest—to access a residential property along the aptly named Buck Lake. A number of does and last years' fawns crowd around hay bales and a trough of feed as residents spectate from windows.

"People feed deer because they enjoy nature and want to help, but it actually causes harm," said Bill Abercrombie, owner of Animal Damage Control, whose company resolves human-wildlife conflicts.

"Often when people unfamiliar with wildlife first encounter deer, they're touched by the experience. Unfortunately, landowners may feed them on their property so they keep coming back and that can create a multitude of problems. It's never a good idea to be feeding any kind of wild animal. It actually puts it at risk because you're upsetting the balance of the ecosystem."

"Feeding deer can harm or kill them," said Dr. Mark Boyce, Alberta Conservation Association/University of Alberta chair in fisheries and wildlife. Not only can feeding deer spread disease and parasites, because it draws an unnaturally large cluster, a change in diet can actually lead them to starve. In winter, a deer's metabolic activity slows so that they consume less, relying mostly on browse (leaves, twigs, buds) and small stems of woody plants.

Like cows that break into a corn field and gorge themselves, "they can bloat and die from it," Boyce said. "It's dangerous to provide supplemental food."

WHY DOESN'T THAT RICH GRAIN HELP?

Like cows, deer are ruminants with large, complex multi-chambered stomachs that ferment food in order to digest fibrous plant material. It takes time for deer to adapt to a new food source, so they aren't absorbing nutrients from grain and hay. "Even if they can adjust, if the buffet stops they starve," Boyce said. "You get elevated deer densities and then you move away, or for some reason you can't feed that year, you get very heavy die-offs as a consequence."

FEEDING SPREADS DISEASE

Drawing large numbers of deer to a food source can also spread disease and parasites through saliva, feces, or urine. Chronic wasting disease (CWD) is a prion disease of the deer family—including mule deer, white-tailed deer, moose, elk, and caribou—that is similar to bovine spongiform encephalitis (BSE) in cattle. CWD is fatal, spreads rapidly, and has been detected in 28 U.S. states and four Canadian provinces. There have been more than 3,500 detected cases of CWD in wild deer in Alberta since the first was found in 2005 along the eastern border.

"It's well understood that when you concentrate the animals like that, the transmission is going to be really high," Boyce said.

Boyce points to the situation in Wisconsin where CWD is rampant and deer feeding is major recreation. The University of Wisconsin reports that suspected environmental reservoirs for spreading pathogens include mineral licks and feeding stations. "Vast numbers of animals are dying from it." Boyce said. "It's a very serious problem and it's because of deer feeding."

AND PREDATORS FOLLOW

Gathering prey in large numbers in urban environments means increasing the risk of attracting wolves, coyotes, or cougars. "The more deer you have in an urban area, the more you're going to attract predators that prey on deer," said Abercrombie.

While it is illegal to feed wildlife on public lands, Okotoks implemented a ban on intentionally or unintentionally feeding wildlife on private property last year. Gordon White, urban forest parks technician for Okotoks, tells us that the growing mule deer population has caused damage to trees and gardens, aggression towards people and pets, deer-vehicle collisions, and concerns about predators following the Sheep River into town to prey on deer.

"It's a serious concern because cougars can prey on people; it's not outside of their capacity to do so," White said.

HOW DO BYLAWS HELP?

Education is vital to change people's behaviour and protect deer, as the animals also are struck and killed by vehicles more often as they cross highways to reach feeding sites.

"It alters the natural state of things and any time you do that, there are consequences," Abercrombie said. "Urban environments can support a certain number of deer, but not a huge amount."

White agrees that education is a strong tool. So far, instead of fining them, Okotoks has informed citizens of the problems and their obligations. Residents are allowed bird feeders, but must clean up the mess because deer are drawn to seeds that fall on the ground.

The town estimates there are some 130 to 150 mule deer living in Okotoks based on dusk and dawn winter counts over the past two years. "Deer have found a safe, predator-free environment with ample feed. There is no reason to leave," states the Okotoks' task force report from May 2021.

Long ago, the town planted crabapple trees, which number in the hundreds. These days, the town lets them die off and replaces with other species. Though the blooms are beautiful and people make jams, jellies, ciders, and syrups from the fruit, every fall, the town hires people to rake up the fallen fruit that attract deer. The town's website suggests using plants that deer don't find palatable.

A ban on feeding wildlife and allowing deer-proof fencing are the two main changes Okotoks has made so far. The task force is also looking at other solutions such as hazing, which is scaring the deer without hurting them to reduce habituation.

SO HOW CAN HUMANS HELP DEER?

The biggest change people can make is to not feed wildlife. Nature knows what it is doing. Predation and hunter harvest also keep deer densities low enough that food isn't scarce during lean winters and early springs. Conservation is the best option. "It's very important that we maintain habitat for the deer," Boyce said. "If there's adequate habitat, the deer will do just fine."

FEEDING DEER CAN SPREAD DISEASE:

CWD can be spread through saliva, urine, feces, and contaminated soils. Prion infectivity persists in the environment for more than a decade, creating a long-term source of infection.

FEEDING DEER CAN CAUSE THEM TO STARVE:

Deer are ruminants, so it takes them about two weeks to adjust to a new food source. Feeding may draw deer to areas that don't naturally support them.

TOO MANY DEER IN TOWN:

Truro, Nova Scotia, has hired four bow hunters to kill up to 20 white-tailed deer in town, but some residents are against it. In Oak Bay, B.C., a birth control program on 120 deer initiated in 2019 and 2020 shows a birth rate reduction of 60 percent.

illustration: Danielle Erickson

Off to Camp!

► *by Amy MacKinven*

Spending time outside appreciating nature, learning new skills, developing friendships, building confidence, and experiencing independence—no one can deny the benefits of the camp experience.

Alberta Conservation Association (ACA) has strongly supported camps through ACA Conservation, Community, and Education Grants (CCEG) funding over the years. Camps provide an impactful way to meet our priorities of promoting outdoor conservation education, and recruiting the next generation of hunters, anglers, and trappers.

In 2020, camps were hit hard by COVID-19 restrictions and many were forced to shut down that summer. In 2021, despite the ongoing global pandemic, these organizations adapted to the conditions and brought back their much-needed summer camps—and ACA CCEG funding was there to help.

Alberta Hunter Education Instructors' Association (AHEIA) - Youth Hunter Education Camps

These camps have provided youth with a safe and fun introduction to the outdoors for many years. After closing in 2020, AHEIA came back in July 2021 with two, week-long overnight camps that immersed teens in outdoor recreation activities and provided instruction in hunting and angling at the Alford Lake Conservation Education Centre for Excellence. Participants all came away with their Hunter Education Certificates and completed the Canadian Firearms Safety Course. They spent time with mentors at the stocked trout lake and at numerous practical sessions in rifle, shotgun, GPS, archery, wilderness first aid training, spin casting, fly-fishing, to name a few.

As these camps are very popular, AHEIA hopes to return to four, week-long camps in July 2022.

www.aheia.com/outdoor-youth-program

Alberta Trappers Association (ATA) - Trapper Education Youth Camps

For the past few years (except for 2020), ATA has provided Trapper Education Youth Camps at their new trapline near Dapp, half an hour north of Westlock. The two-day camps are offered at three different levels of trapping experience. Participants learn a variety of topics and skills, such as safety, modern trapping, tracking and reading signs in the bush, survival tips, setting traps and snares, ethical responsibility, fur handling, using a knife, and setting up a simple bush camp. On completing Level Three, participants receive a certificate of achievement. This allows them access to the standard Youth Trapping Course and the opportunity to join ATA's Youth Mentoring Program.

ATA intends to offer all three camp levels and their mentorship program again in summer 2022.

www.albertatrappers.com/courses/youth-trapper-camp-level-1

Southern Alberta Bible Camp (SABC)

In 2021, SABC ran eight weeks of summer camps on the shores of the Travers Reservoir near Lomond. With the support of three small CCEG grants, they offered archery, pelletry, and fishing programs. These programs were led by trained instructors and provided a challenging, safe, fun experience for campers. Many SABC campers came primarily from urban areas and had limited experience with outdoor activities. Both the archery and pelletry ranges were well-equipped with upgraded targets, bows and arrows, and pellet guns. Campers had access to good quality fishing rods and equipment, allowing them lots of time to practice casting and landing fish. All participants in the fishing program learned about fish identification, fish habitat, fishing techniques, and safe release, as well as the role of irrigation in the local reservoir.

The SABC normally provides camps for children and youth, but due to COVID-19 regulations in 2021, the camps were opened to families. Feedback from parent campers showed an overall appreciation that their children learned about wildlife conservation, as well as learning many new things themselves.

SABC is offering kids and family camps for summer 2022.

www.sabc.ca

Alberta Hunter Education Instructors' Association – Outdoor Women's Program

The long-running and incredibly popular AHEIA Outdoor Women's Program (OWP) has been offering a five-day camp for women in August at their Alford Lake facility since 1994. The OWP camp encourages women of all ages to enjoy and master the great outdoors by participating in activities such as fly-fishing, archery, firearm training, and survival skills. The camp was cancelled in 2020, but AHEIA put together an adapted camp with fewer participants over two very full days to comply with COVID-19 public health orders. It went ahead with a great response.

AHEIA plans to return to the full five-day camp from August 3–7, 2022.

www.aheia.com/outdoor-womens-program

Glenbow Ranch Park Foundation (GRPF) - Nature Camps

With CCEG funding, the GRPF held their first-ever nature camps for children ages 6 – 9. These small group, day camps ran for seven weeks throughout the summer of 2021 and provided safe, inclusive, educational experiences at the Glenbow Ranch Provincial Park. Two different camps were offered: the Bumblebees, Burrowing Birds, and Brown Bats camp, and the Glenbow's Grassland Protectors camp. In both camps, participants learned about grasslands, wetlands, biodiversity, land acknowledgements, Indigenous people's relationship with the land, co-existing with wildlife, and how to be environmental stewards. Campers gained an appreciation and curiosity about nature through fun hands-on activities, hikes, games, guest visitors, and crafts. The camps were very successfully received! Parents' feedback was that campers were engaged and excited to go to camp each day. The ACA grant allowed GRPF to develop substantial materials to continue running these successful camps in the future.

GRPF are currently planning their Nature Day Camps for summer 2022.

www.grpf.ca/summer-camps

Sturgeon County – Habitat Heroes

Sturgeon County ran a free, one-day Habitat Heroes Day Camp for children aged 5 – 12 at Cardiff Park on July 22, 2021. Each of the Habitat Heroes learned about environmental stewardship, conservation, and the benefits of being outside. Six stations were set up, covering a variety of outdoor conservation education topics—a trapping station with a local trapper, a wildlife station with a wildlife expert, a bug station for an educational bug hunt, a birdhouse-building station, an invasive species station, and an outdoor survival skills station.

Look out for Sturgeon County's 2022 Habitat Heroes Day Camp!

photos (opposite page, from top left): AHEIA; AHEIA; Glenbow Ranch Park Foundation
photos (this page, from top left): ATA; AHEIA; Southern Alberta Bible Camp

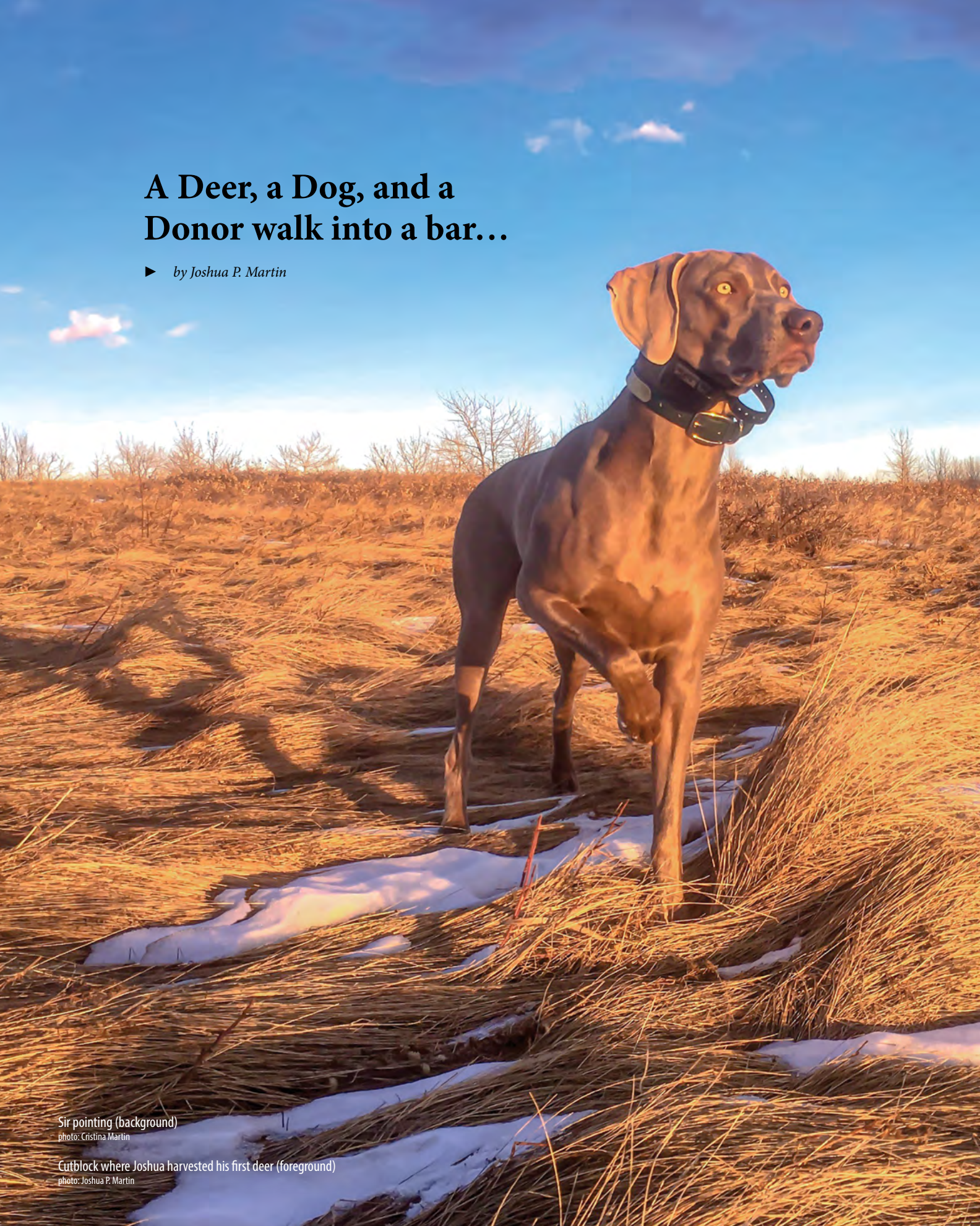
Alberta Fish & Game Association (AFGA) Summer Camps 2022

AFGA will run their popular summer camps again in July 2022. The **Becoming an Outdoors Woman (BOW) Camp** is offering 4- and 5-day camps southwest of Athabasca. This all-inclusive camp gives women ages 18 and older the opportunity to experience the best of Alberta's outdoor activities: trap and target shooting, outdoor cooking, basic survival, fishing skills, and much more. The **Narrow Lake Youth Camp** is for ages 12 to 17 to learn firsthand the fundamentals of ethical hunting and fishing; firearms safety; and survival skills, including sleeping in an outfitters tent and a lean-to.

For more information or registration, check out AFGA's Conservation Camps online:
www.afga.org/conservation-camps

A Deer, a Dog, and a Donor walk into a bar…

► *by Joshua P. Martin*



Sir pointing (background)
photo: Cristina Martin

Cutblock where Joshua harvested his first deer (foreground)
photo: Joshua P. Martin

On a cold mid-November day, a friend and I set out into a recently logged Alberta cutblock to try to harvest our first deer.

This was only our second season hunting and what we lacked in experience and know-how, we certainly made up for in confidence!

Shortly after first light, several deer made their way into the clearing. I vibrated with excitement as I looked through my binoculars and spotted a buck. I lined up my sights on the buck's vitals and nervously squeezed the trigger and missed. I reloaded, steadied, and fired again, causing the unharmed buck to walk out of the clearing.

Tired and discouraged, I found a nice dry spot under a spruce tree and sat down to replay the last hour's events. How did I miss? Only later did I learn my scope was misaligned from an early morning trip and fall in the clearcut—a rookie mistake.

While relaxing under the tree, I glanced over my right shoulder and, grazing only 15 metres away, was that same buck. He stopped and looked at me, our eyes connecting, and then he continued feeding as if I had not just tried to kill him—twice. With a racing heart, I raised my rifle and a few seconds later the small 4x4 buck was on the ground.

We field dressed the deer and rather than trek back to the truck to get our sled my partner and I decided to haul the buck out without it—a decision I would later regret. We laboriously dragged it behind us for 1.5 kilometres uphill, over fallen trees, and through willow patches to the truck. Exhausted, but filled with pride, we loaded my first-ever deer in the back of the truck.

Within a few hours of getting home, I truly regretted not going back for the easy pulling sled. Even though I was young, I had overexerted myself on the drag and, because I was in end-stage renal failure from kidney disease, it was the proverbial "buck that broke my back." The short story is that internal damage was done, and the doctors determined the only way to protect my system was to start hemodialysis. By December of that year a machine was keeping me alive, and by January my kidneys were removed.

Despite this setback, it was important to me to continue along the new hunter's journey I had so recently started. I found hunting to be both mentally and spiritually healing. My wife and I decided to get and train a pointing dog for upland hunting and invest less time and energy in strenuous big game pursuits.

Fast-forward a few years and I was back out hunting with my new partner, a Weimaraner named Sir Kensington II. Yes the name is pretentious but note he was named after the street where we lived and he was second in line to our fish. Sir, as we call him, was true to his breed—high energy, glued to our side, driven to hunt, and goofy. We were at Bigelow Reservoir, an Alberta Conservation Association (ACA) pheasant release conservation site, when we got our first bird. It took me two shots and Sir busted on the flush, but he retrieved to hand and really now, who cares: we got our first rooster! The familiar joy of planning, teamwork, and a successful hunt flooded back to me.

Fortunately, after three-and-a-half years on dialysis, I received THE CALL. The hospital had a match and I was going to get a kidney from a deceased donor. As I waited alone and anxious for the surgical team in the operating room's waiting area, I was surprised to experience mixed emotions—not unlike those I feel when I take an animal's life—joy and elation at the gift I and up to seven other recipients were receiving; and sadness and a vague guilt of knowing that somewhere in the same hospital another family was saying goodbye to a loved one.

Over the next few months, I would go through the healing process, gain hours back from not having to go through dialysis and learn what it felt like to be healthy. It was clear my energy levels had returned as I began taking every free opportunity to get outside, hike, and be active. Of course, hunting time was much improved too.

That season, my shooting skills and Sir's pointing improved tremendously as we harassed pheasants and I had a wonderful, but no-shot, big game season—always with my sled in tow! As hunting season ended and we gathered for the holidays, family and friends were surprised to hear I had so quickly traded my suits and ties for blaze orange and camouflage. Upon reflection, my casual interest in hunting had swelled to near obsession and I was watching, reading, and talking about it any time I could.

Sir with his first pheasant
photo: Joshua P. Martin

As a late holiday gift, I received yet another kidney-related surprise—an anonymous letter from my donor's parents asking how I was doing. They shared stories of who their daughter was, how much her family missed her, and how they hoped her gift had helped me. Among many things, she was an avid outdoors enthusiast who enjoyed camping, hiking, and most of all hunting!

While the letter gave them closure and brought me a sense of connection to the person who had saved my life, and who was now literally a part of mine, it also made me question whether my post-transplant obsession with hunting was in some way connected to her.

A quick google search turned up cell memory—the somewhat spiritual or metaphysical phenomenon that memories or personality traits are stored in cells. It is said this causes transplant patients to take on personality traits of their donors, and has been documented around the world. As a non-religious person, it is hard to entertain the thought. And yet, as a scientist, I know I have to remain open to the possibility. Having gone through the experience, I cannot help but feel the change is too significant and too profound to be coincidence.

Hunting, by its very nature, is a profound and spiritual activity. The transcending everyday life and the clarity of connection we feel with the life and death of the animals and oneself is not easily put into words—it must be lived to be fully understood. If you have killed your first deer, watched your dog point, hold and retrieve a pheasant in perfect sequence, or sat with quiet hopeful anticipation in a lonely woodland, you can probably relate.

In all truth, I will never really know what put my hunting interests into overdrive—improved health, a "spirited" kidney, or perhaps boredom from COVID-19 like so many others the past few years. What I do know is—from the deer that stole my freedom, to the dog that brought me my first pheasant, to the donor that saved my life—hunting is the common thread, and it is now an integral part of my life.

Joshua out big game hunting after his transplant (background)
photo: David Kelner

For more information about becoming a organ donor, please visit www.myhealth.alberta.ca

Meet Joshua

Joshua is a late-onset hunter with a passion for conservation and a drive to contribute to a more sustainable future for his two young daughters. He is an Environmental, Social and Governance (ESG) professional and the Manager, Governance at Suncor Energy, a long-time ACA Corporate Partner.

ACA Research Grants

Project Funding Allocations 2022 – 2023

Congratulations to the 2022–23 ACA Research Grant recipients!

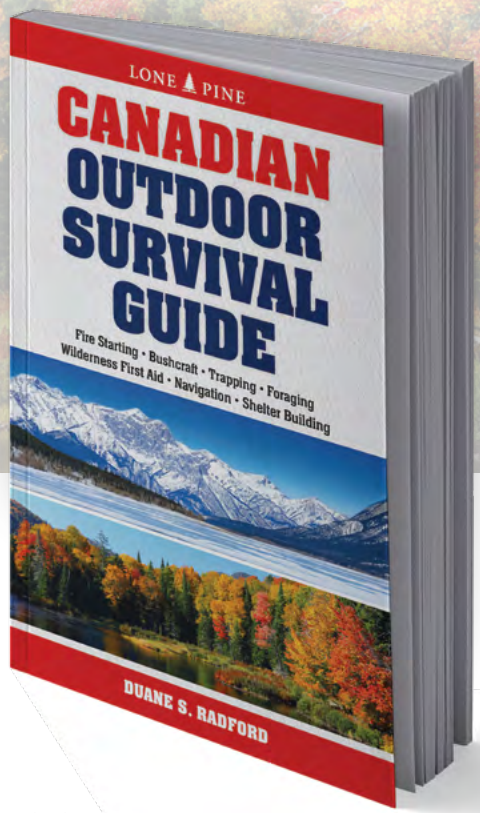
These researchers are helping to conserve Alberta's wildlife, fish, and habitat through their tremendous work. In total, over $330,000 will be allocated to help them fulfil their high-quality research projects.

photo: ACA, Paul Jones

Project Title	Recipient	Institution	Grant
Advancing Mammal Conservation through Integration of Remote Camera Data Systems and Analysis	Erin Bayne	University of Alberta	$27,000.00
Advancing Tools to Determine Beaver Dam Carrying Capacity of the Headwaters of the Bow River in Support of Trout Habitat Restoration	Cherie Westbrook	University of Saskatchewan	$25,867.80
Conservation of Athabasca Rainbow Trout using Environmental DNA (eDNA) and Environmental RNA (eRNA)	Chris Glover	Athabasca University	$24,300.00
Effects of Copper Nanopesticide Agricultural Runoff on Fish and Fish Prey Items in Alberta Waters	Tamzin Blewett	University of Alberta	$20,700.00
Effects of Unpredictable Industrial Noise on Species at Risk and Nest Predators in Alberta - Season 2	Nicola Koper	University of Manitoba	$24,255.00
Evaluating Bull Elk Reproductive Success using a Wild Pedigree Model: Year 2	Mark Hebblewhite	University of Montana	$35,042.40
Evaluating the Predictive Performance of Distribution Models Based on Autonomous Recording Units using Calling Western Toads as a Case Study	Julie Lee-Yaw	University of Lethbridge	$33,777.00
Interactive Effects of Landscape Diversity and Local Flower Abundance on Wild Pollinator and Other Beneficial Insect Abundance, Diversity, and Interactions in Agricultural Landscapes	Carol Frost	University of Alberta	$32,544.90
Measuring Up: Morphological diversity of Arctic grayling in Alberta	Joshua Miller	MacEwan University	$32,625.00
Soil Carbon Sequestration Potential in Agroforestry Systems in Central Alberta	Scott Chang	University of Alberta	$31,032.00
Temporal Reliability of Economic Values of Hunting from Data Collected using the ABHuntLog Activity Survey App	W.L. (Vic) Adamowicz	University of Alberta	$36,000.00
The Sustainability of Fish Populations in Alberta's Saline Lakes	Chris Glover	Athabasca University	$7,200.00

Prepare for the Worst and ENJOY THE BEST

► *by Susan Hagan*



"I like to control things that are within my power to control by being prepared should things go wrong to avoid a disaster."

– *Canadian Outdoor Survival Guide,* Lone Pine Publishing

As Edmonton writer Duane S. Radford clearly shows in his book, *Canadian Outdoor Survival Guide,* preparation and knowledge are key to surviving the unexpected in the wilderness.

Radford illustrates that being overconfident and underprepared can be lethal through his recounting of the legendary story of John Hornsby. In 1927, Hornsby and his companions perished because he was a reckless, ego-driven adventurer who ultimately starved to death while trying to prove how tough he was. This cautionary tale resonates as Radford walks us through what to pack, how to dress, and what to do if it all goes sideways. Knowledge of your surroundings and the supplies you carry may be all that stand between you and disaster.

"Everyone is responsible for their own safety when travelling in Canada's great outdoors," Radford says. "Have a plan, hope for the best, but prepare for the worst. If anything untoward happens, you'll be better able to cope with issues of concern."

Written during the COVID-19 pandemic, when more people turned to nature—some for the first time—Radford's guide is a timely addition to anyone's collection of survival books. He is an experienced outdoorsperson and writer who knows Canada's rugged terrain, large predators, and unpredictable weather. Radford, who completed basic training with the Canadian Armed Forces and worked for decades as a field biologist, weaves in how many people have died in recent years from exposure, drowning, avalanche, predator attacks, all-terrain vehicle accidents, and aircraft crashes. Radford reflects on the consequences of his own near-misses, and what he's learned. When he says to keep your garbage and food secured and away from the tent, just do it.

Radford offers sincere advice to novices: practice with day trips, take wilderness courses, or even better, travel with an experienced guide. His guidance and wisdom—like learning to swim before you go near water—could prevent tragedy. Many lost hikers may have perished if not for rescue.

This guide is also a refresher for seasoned trekkers who take pride in preparing their own survival packs (pocket, bag, vehicle), checking items off their lists and adding gems they hadn't thought to include. Radford makes you think about times you've been lost or injured, threatened by predator, or stuck in a broken-down vehicle in the middle of nowhere in bad weather. You feel relief that you made it through intact and wish you'd read this book sooner.

Don't head back to nature without reading *Canadian Outdoor Survival Guide*. You'd be wise to heed his gear lists, clothing recommendations, first aid kits, and common sense. Take everything he suggests with you on your trip that's suited to the occasion, the season, and the geography. His simple to follow checklists explain how to use the gear and what to do. This book could save your life or the lives of your travelling companions. Remember to take the guide with you as it explains how to tie knots, start a fire, create a shelter, and purify drinking water.

Whether your unexpected problem is as small as a tick crawling up your neck, or as big as a wood bison staring you down, you'll be glad you read the practical and engaging Canadian Outdoor Survival Guide. Instincts aren't enough to keep you safe. Reading Radford's book will help you prepare for the worst so you can enjoy the best of nature.

ABOUT DUANE RADFORD
—Award-Winning Writer-Photographer

- A multiple award-winning writer and photographer, Duane Radford has written 1000+ magazine articles, newspaper travel articles, and fish and wild game recipes, plus nine books, five of which are award-winning. His most recent book, published in 2021, is the *Canadian Outdoor Survival Guide.*
- Duane started freelance writing and photography in 1995 and is currently a member of the Writers' Guild of Alberta. He lives in Edmonton, Alberta, with his wife, Adrienne.

There's Hope **to Save the Herds**

ACA funds research of an oral vaccine for CWD

► *by Susan Hagan*

It Starts with Funding

It was "a wonderful day" when Dr. Scott Napper received news that he was able to reinitiate his efforts to develop a vaccine for chronic wasting disease (CWD). The opportunity to perform this research, working in collaboration with respected colleagues across the west, made the prospect—and potential for success—even more exciting.

Previously, much of the CWD research performed in Canada, including by Napper's team, had been funded by PrioNet Canada: a Network of Centres of Excellence. The discontinuation of PrioNet in 2013 due to an absence of federal support, left many prion researchers unable to continue their efforts. "It kept me awake at night," said Napper, a researcher with Vaccine and Infectious Disease Organization (VIDO) at the University of Saskatchewan. "Knowing you may have a really valuable vaccine, but you haven't had the opportunity to test it. That kind of haunts you."

When Alberta Conservation Association (ACA) discovered that the only thing stopping CWD vaccine research was money, they stepped up to announce $500,000 worth of funding over five years for research. "To me, this is exactly how science is meant to proceed—where it's society and science, hand-in-hand, tackling these common problems," Napper said.

After ACA got the ball rolling, Alberta Environment and Parks (AEP) contributed $381,000 over two years, and Saskatchewan's Ministry of Environment offered more than $400,000 over five years—for a total of $1.2 million in research funding.

Todd Zimmerling, president and CEO of ACA, said the impetus for funding the research came after a large jump in the number of Albertans who bought hunting and fishing licences due to COVID-19 restrictions, leading to a larger surplus of available monies at the end of 2020. "We asked ourselves, what's something substantial and important that we can get involved with?" Zimmerling said. "That's what got us thinking that CWD is a major issue that's going to impact us all, so what can we do? With the governments coming onboard, we've started something here that could be really positive."

The money will fund research at four universities in Western Canada to examine five potential antigens and two different oral delivery methods. Joining Napper will be Dr. Philip Griebel and Dr. Suresh Tikoo from VIDO, Dr. Hermann Schaetzl at the University of Calgary, Dr. Neil Cashman with University of British Columbia, Dr. Holger Wille at the University of Alberta, and Dr. Sidney Hayes at the University of Saskatchewan.

> "We asked ourselves, what's something substantial and important that we can get involved with?"
>
> – Todd Zimmerling

Deer in the containment level three (CL3) facility
photo: submitted by Vaccine and Infectious Disease Organization (VIDO), University of Saskatchewan

How big is the CWD problem?

CWD has pushed farther into Alberta after first being detected in a wild mule deer in 2005 along the province's eastern border. The rapidly spreading disease has been detected in 28 American states and four Canadian provinces, and the concern is as sick deer die off populations will decline. CWD is a fatal prion disease of the cervid family—mule deer, white-tailed deer, moose, elk, and caribou—similar to bovine spongiform encephalitis (BSE) in cattle. It's hoped an oral vaccine can reduce the spread and improve herd health.

> "The good news is, it's been done before and it's been done with huge success."
>
> – Dr. Scott Napper

Many are hopeful, as several other vaccines have been shown to delay disease progression in wild animals. "The good news is, it's been done before and it's been done with huge success. When you look at the oral vaccines for rabies that are used in Eastern Canada and Europe, there is just a tremendous track record of safety and success," Napper said.

Impact of CWD on Hunting

Brad Fenson, an avid hunter who has written about CWD for more than two decades, is hopeful vaccines could be a game changer. It's important to him that the only meat he eats is his own harvested wild game. Fenson sees Alberta as a leader in protecting wild herds. "The majority of hunters want to go shoot a deer to enjoy it, to enjoy being in the field, the experience, have the meat. If they know that we can get a step closer to fewer positive cases and actually find a treatment for this, I think people will rejoice," Fenson said, adding that hunters are avoiding areas where CWD rates are higher.

AEP Head Testing Program

Alberta is the only North American jurisdiction providing free CWD testing, and in some wildlife management units (WMU) it's mandatory. The government tests every head it receives, but as more hunters submit heads getting results takes longer. Although there are no recorded cases of CWD spreading to humans, Alberta Health advises against eating CWD-infected meat, meaning hunters may need to keep the meat in their freezers up to three months before eating it. In some cases, hunters pay to have their meat cut and wrapped, only to have it incinerated at a landfill.

Biologist Delaney Frame extracts tissues in the field at Camp Wainwright (Dec. 2021)
photo: Matt Besko

"Hunting is still a safe way to procure your meat," Fenson said. "We have a unique opportunity in Alberta for free testing. We're still miles ahead of everyone else. And here we are right out in front of everyone with a potential vaccine."

Matt Besko, director of wildlife policy for AEP's Resource Stewardship Division, says some 95,000 heads have been tested to date. Not including 2021 figures, there have been over 8,500 cases of CWD in wild deer in Alberta, with a steep increase since 2019. Rising demand has created a bottleneck for testing. "The limiting factor right now is the volume of certified labs in Alberta capable of testing for chronic wasting disease, because it is an infectious, prion-based disease that requires specific safety protocols," Besko said.

The program continually looks to streamline operations. A 2021 pilot project instructed 150 hunters on how to remove the brain stem and lymph nodes, rather than submitting the entire head. "Eventually, we want to be at a point (where) we have a very efficient means by which to collect samples by hunters from the field," Besko said. "It takes a lot fewer staff this way, takes less room, and samples can be easily transported as long as they're in good condition."

Five-year plan

Research will take time because the latency period of the disease is quite long from when the animal is first exposed to developing symptoms. The goal is to have a proven, safe, and effective oral vaccine after five years. "In terms of effectiveness, one of the key metrics that we're going to be looking for is to reduce the amount of prions that are being generated by individual animals," Napper said. "If we can reduce that, if we can reduce the amount of prions that are being released into the wild, we can start to turn the tide in terms of disease progression within populations in terms of the amount of environmental contamination."

Into the wild

This five-year phase is just one step in a battle that's been going on for a very long time. Zimmerling says proving the vaccine is safe and effective in the wild will be a tougher hill to climb. "Once we have something that we can feed to a deer in a pen, the next step is going to be how do we feed it to deer in the wild," said Zimmerling. "We have to make sure we've dealt with all the potential risk factors that are out there, deal with the public's concerns, and earn enough support from the public to be able to start to vaccinate wild populations." In addition, there are legitimate questions about the impact to the meat of a vaccinated deer. It all needs to be studied and solved, one step at a time.

Napper says we can't expect this vaccine to be a magic bullet, but rather one method to contain the spread of CWD and stop it from going into northern regions and caribou herds. "We have to have patience, but we can eventually tip the balance of this," Napper said. "One of my favourite quotes is 'societies grow great when old men plant trees whose shade they know they will never enjoy.' And to me that's the approach we have to take here. This is what we're doing to protect the wildlife for the next generation."

Dr. Scott Napper
photo: Debra Marshall, courtesy of VIDO/ University of Saskatchewan

> "This is what we're doing to protect the wildlife for the next generation."
>
> – Dr. Scott Napper

Alberta's Native Trout

are a big part of what makes the backcountry in Alberta so incredible.

Learn more about how to protect Alberta's native trout and their habitat at:
AlbertaNativeTrout.com

Alberta is Native Trout Country!

► *by Laura Fetherstonhaugh*

Alberta's native trout and their Eastern Slopes habitats are a huge part of what makes the province's backcountry so incredible. Bull trout, Westslope cutthroat trout, and Athabasca rainbow trout live in the cold, clean, clear, and connected waterways that Alberta is world renowned for. When these native trout are thriving, it shows that we're taking good care of our lands and waters.

But, Alberta's native trout aren't thriving. They are some of the most threatened species in the province. This is not a good indicator for the health of our streams in the Eastern Slopes.

The actions we take now to protect our headwaters will not only benefit all of us but will help Alberta's native trout populations thrive for years to come.

That's why the Alberta Native Trout Collaborative was formed. This group is working together to advance native trout recovery in Alberta via habitat restoration, restoration stocking, land use planning, watershed and fish population assessments, and public education. Members include Alberta Environment and Parks, Alberta Conservation Association, Alberta Riparian Habitat Management Society (Cows and Fish), Canadian Parks and Wilderness Society Southern Alberta Chapter, Trout Unlimited Canada, and Foothills Research Institute, with funding from the Department of Fisheries and Oceans Canada.

But we need your help! All of us have a role to play in protecting Alberta's native trout and their habitat. No matter how one uses the land in the Eastern Slopes, we have a responsibility to pursue our activities in ways that keep our waters cold, clean, clear, and connected.

illustrations: Barun Fox

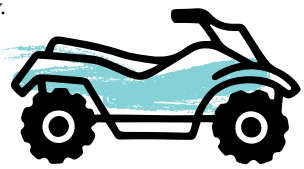
Help stand up for Alberta's native trout while...

Camping

- Set up campsites more than 30 metres from water bodies.
- Keep your campsite clean and leave no garbage behind.
- Use deadwood for your campfire and never cut down live trees.
- Stay on established camping areas and trails to minimize your footprint.

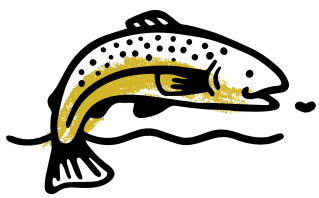
Off-Roading

- Stay on designated and sustainable trails and use approved watercourse crossings.
- Keep wheels out of the water! This prevents damage to native trout eggs and habitat and helps maintain water quality.
- Respect trail closures when they occur.
- Volunteer with local OHV or conservation groups (like Cows and Fish or Trout Unlimited Canada) to repair damaged trails and crossings.



Fishing

- Clean, drain, and dry your gear to prevent the spread of aquatic invasive species and diseases.
- When catch and release fishing, always keep fish wet to maximize their safety and survival.
- Know how to identify fish—especially Alberta's native trout!
- Be aware of postings, advisories, and other restrictions before visiting a fishing area.



Agriculture and Ranching

- Maintain natural wetlands and riparian areas on your property.
- Consult with Cows and Fish or your local forage association to create a grazing management plan that considers sensitive periods in riparian areas.
- Develop an Alberta Environmental Farm Plan.
- Reduce runoff and erosion by using low-till or direct seeding systems, and planting crop rows across slopes (instead of up and down).

Learn more at www.AlbertaNativeTrout.com

site seeing

A Good Neighbour

by Tara Holmwood

The benefits within a natural area are only as good as what their neighbours are doing.

How does business development in one area affect what's going on next door? Consider the effects of constructing an airport next to 500,000 acres of ranchland. Though this is a fictitious, exaggerated example that Dutton Ranch faces in the popular television show, *Yellowstone*, it is not completely unrealistic.

When Alberta Conservation Association (ACA) secures land to conserve, protect and enhance the wildlife, fish and habitat on the site itself—we are also preventing industrial, residential, and commercial development from encroaching on significant wildlife habitat. Through the Habitat Securement Program, ACA has secured the land adjacent to bird sanctuaries, existing conservation sites, Crown land, and natural areas. ACA is a good neighbour that offers so much more than a cup of sugar.

East Reno (Expansion)
Conservation Site
photos: ACA, Jon Van Dijk

Discover Guide

Side Family
Conservation Site
photo: ACA, Sarah Bradley

South Plain Lake (Expansion) Conservation Site

LOCATION: NW-18-053-11-W4M
NEIGHBOUR: South Plain Lake Conservation Site – Pheasant Release Site

What's better than buying land surrounded by seven other conservation sites and Crown land totalling over 2,000 acres within a six-kilometre radius? Not much! And that's why ACA purchased the highly sought-after 160 acres of land. ACA looks to expand these cluster areas for connectivity and continuity not only for wildlife and their habitat, but also for the benefit to visitors. Hunters, hikers, and explorers can seek out an unoccupied site nearby without it impeding their day. At this site, hunters can expect native big game throughout the deciduous forest, a variety of waterfowl species visiting the many small waterbodies, and upland game birds to flush in the pasture grasslands.

From the initial site visit to finalizing the online auction sale (a first for ACA), this acquisition was one of the fastest land purchases to date. This land expands the current pheasant release site located on South Plain Lake Conservation Site, which was acquired in 2007 and is one of ACA's earliest purchases under Suncor Energy and ACA's Boreal Habitat Conservation Initiative. Located within the boreal forest focus area, the purchase of this site was supported by Suncor's Corporate Partner Program funds.

East Reno (Expansion) Conservation Site

LOCATION: NW-25-080-19-W5M
NEIGHBOURS: East Reno Conservation Site and Crown land

Great opportunities, such as what this land acquisition had to offer, rarely fall into the laps of ACA's Land Management team. Not only does this site increase the area of East Reno Conservation Site, a 240-acre former logging area located 50 kilometres southeast of Peace River acquired in 2021, it also expands the accessibility to the adjacent Crown land. All this, just from ACA erecting a sign.

After noticing the East Reno Conservation Site sign nearby, the landholder of the 160 acres adjacent to the south reached out to ACA as they were interested in "downsizing" their property and conserving the mature mixed wood area. Not only are the landholder's horses fond of grazing the fairly undisturbed area (a noticeably different landscape from East Reno's dense, regenerating aspen and white spruce forest), local wildlife including white-tailed and mule deer, moose, elk, black bears, and ruffed grouse are known to wander throughout the area.

East Reno (Expansion)
Conservation Site
photo: ACA, Jon Van Dijk

Side Family Conservation Site

LOCATION: N-07-072-07-W6M
NEIGHBOUR: Saskatoon Lake Migratory Bird Sanctuary

Taking proactive measures far in advance of seeing any signs of needing to may seem excessive, but these days development can occur faster than we can react to the situation. The Side family is taking that proactive step by adding their land to existing protected areas around Saskatoon Lake, thereby assisting to conserve the shoreline and waterfowl habitat in the Saskatoon Lake Migratory Bird Sanctuary area.

Declared protected by the federal government in 1948, the sanctuary (2,804 acres) is home to the trumpeter swan, a *Threatened* species under the provincial *Wildlife Act*. Located 24 kilometres northwest of Grande Prairie, the sanctuary has been entirely surrounded by farmland—until now. The Side family approached ACA, and Environment and Climate Change Canada (ECCC) through the Ecological Gifts (Ecogifts) Program, in early 2021 to conserve the 248.8-acre former agricultural land located on the northeast shore of Saskatoon Lake.

Located in the Boreal Parkland ecoregion of northern Alberta, the Side Family Conservation Site is rich in habitat (hayland, riparian, deciduous forest, and shrubs) and offers opportunities for hunting (moose, mule and white-tailed deer, upland game birds, and waterfowl), birdwatching, and hiking.

Milk River Badlands Conservation Site

LOCATION: SE-03-002-06-W4M
NEIGHBOUR: Milk River Natural Area

Have you ever had a neighbour that seemed frozen in time…like the Mesozoic Era? This badlands landscape is just that: hoodoos, coulees, the meandering and calm Milk River, sage brush habitat, native grasslands, and even a mini–Grand Canyon (over 1 kilometre wide)!

Thor Resources Ltd., an ACA Corporate Partner in Conservation, reached out to us last summer to proactively conserve, protect, and enhance the 160-acres bordering the Milk River Natural Area. Not only will this preserve the land from development, it will also give Albertans easier access to 13,200 acres of wildlife habitat.

Milk River Badlands Conservation Site is located approximately 118 kilometres south of Medicine Hat in County of Forty Mile. Along with Alberta Fish & Game Association and ECCC, ACA has now conserved this land for Albertans to hunt native species, birdwatch, and hike the rugged terrain. If you're lucky, you may even spot the elusive mountain (greater) short-horned lizard!

Donate Land

Skyscrapers. Oil wells. Shopping malls. Airports. Commercial, industrial, and residential development may seem like a far-away problem in your rural neighbourhood, but it may come sooner than your think. Conserving your land through donation may be something to consider.

For more information on donating land, visit www.ab-conservation.com/donate/conserve-your-land

Milk River Badlands
Conservation Site
photos: ACA, Tyler Johns

Discover Guide

ADAPT, MOVE, OR DIE

The Trout's Fate

▶ *by Kevin Fitzsimmons*

This could be a Hollywood blockbuster that entertains and takes us away from reality for a brief time, but for Alberta's trout populations, these are the real-life options they face when their habitat warms beyond what they can physiologically tolerate. But let's back up a bit here.

In the 2008 spring/summer edition of *Conservation Magazine*, Alberta Conservation Association (ACA) highlighted the impacts of elevated water temperatures on stream fish communities. At the time, we had experienced a series of atypically hot, dry summers, and elevated stream temperatures were very much on the minds of individuals involved in the conservation of fish.

Fast-forward to 2022, and while much may have changed over 15 years, the impacts of weather, climate, and elevated water temperatures on Alberta's fisheries is still very relevant. From local to global scales, we have seen an increase in extreme weather patterns—such as record heat waves, floods, fires, and droughts. What this all boils down to (pardon the pun) is that weather and climatological patterns are changing, with broad impacts on ecosystems and their inhabitants. Alberta's trout populations are increasingly under threat from elevated water temperature in our streams, ponds, and lakes.

To begin to address the threats on trout posed by elevated water temperatures, we first need to ask how are fish impacted by temperature? For fish, water temperature is often referred to as the "master variable." Water temperature dictates the metabolic rates, processes, and energetic costs that fish face throughout the stages of their life.

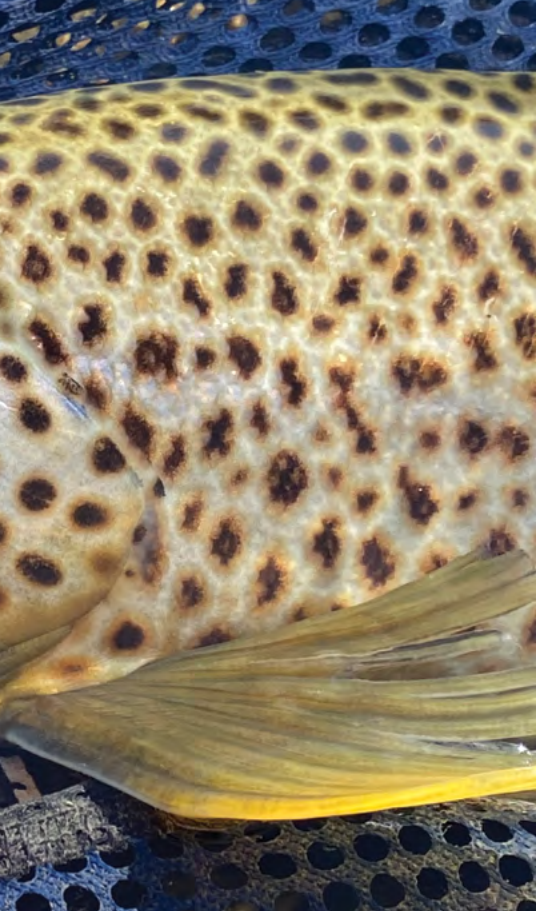
As obligate ectotherms, fish cannot regulate their body temperature; it is dictated by their environment. Their physiology and metabolic efficiency are controlled by the temperature of the water they are in. This makes fish much more at the mercy of their environment than us endotherms, who are able to regulate our body temperature independent of environment.

Trout take this one step further in that they are what is referred to as a stenotherm. Meaning, they are only able to survive in a narrow range of temperatures. This makes trout particularly vulnerable to increases in temperature. For example, brook and bull trout both have a very narrow range of about 5°C that is optimal for reproduction, growth, and ultimately survival. Outside of this range, they may not be in imminent danger, but their growth, reproduction and long-term persistence in an environment diminishes.

So, what are the options when water temperature is no longer suitable? Well, there are really only three viable options—adapt, move, or die. If they can't move, or adapt fast enough, well…their fate is more or less sealed.

ADAPT

There is some evidence of adaptation. In a California study, rainbow trout near their southern geographic limit were found to have nearly 100 percent capacity to provide oxygen and energy for the big four Fs—fighting, fleeing, foraging, and spawning (yah, I know that's not an F, but let's keep it PG) at an impressive temperature of 24.6°C. The only problem is that adaptation is likely outpaced by the rate that temperatures are increasing in our streams and ponds.



What is the prediction into the future?

Good news: Since temperature is so important and relatively easy and inexpensive to measure, there is a lot of data. Even fish are carrying around temperature data loggers that are surgically fixed to their body near their dorsal fin! Definitely this falls into the realm of Big Data. One of the more comprehensive databases for the northwestern U.S. has over 200 million temperature observations.

Bad news: The prediction on stream temperatures and suitable habitat for native trout is not so rosy. One U.S. study predicts 20–90 percent of spawning habitat for bull trout will be thermally unsuitable over the next 50 years.

photos: ACA,Mike Jokinen (left); Wade Thorson, courtesy of USDA Forest Service (right)

MOVE If one cannot adapt, one can move. Refugia can be found in habitat that are more resistant to temperature change. These are often areas of streams where temperature is mediated by groundwater, or higher elevation upstream habitat where temperatures are cooler. But keep in mind, the upstream advance of thermal preference will eventually be blocked by natural or manmade barriers, or fish will simply run out of habitat. This is known as thermal extirpation. Increasingly, thermal landscapes for fish are also being fragmented into a patchwork of suitable habitat surrounded by unsuitable ones. This is problematic for cold-water fish like bull trout that require large patches of cool, clean, interconnected habitat to remain viable. The flip side of this is what may cause range contraction for one species may cause expansion and proliferation of another desirable one.

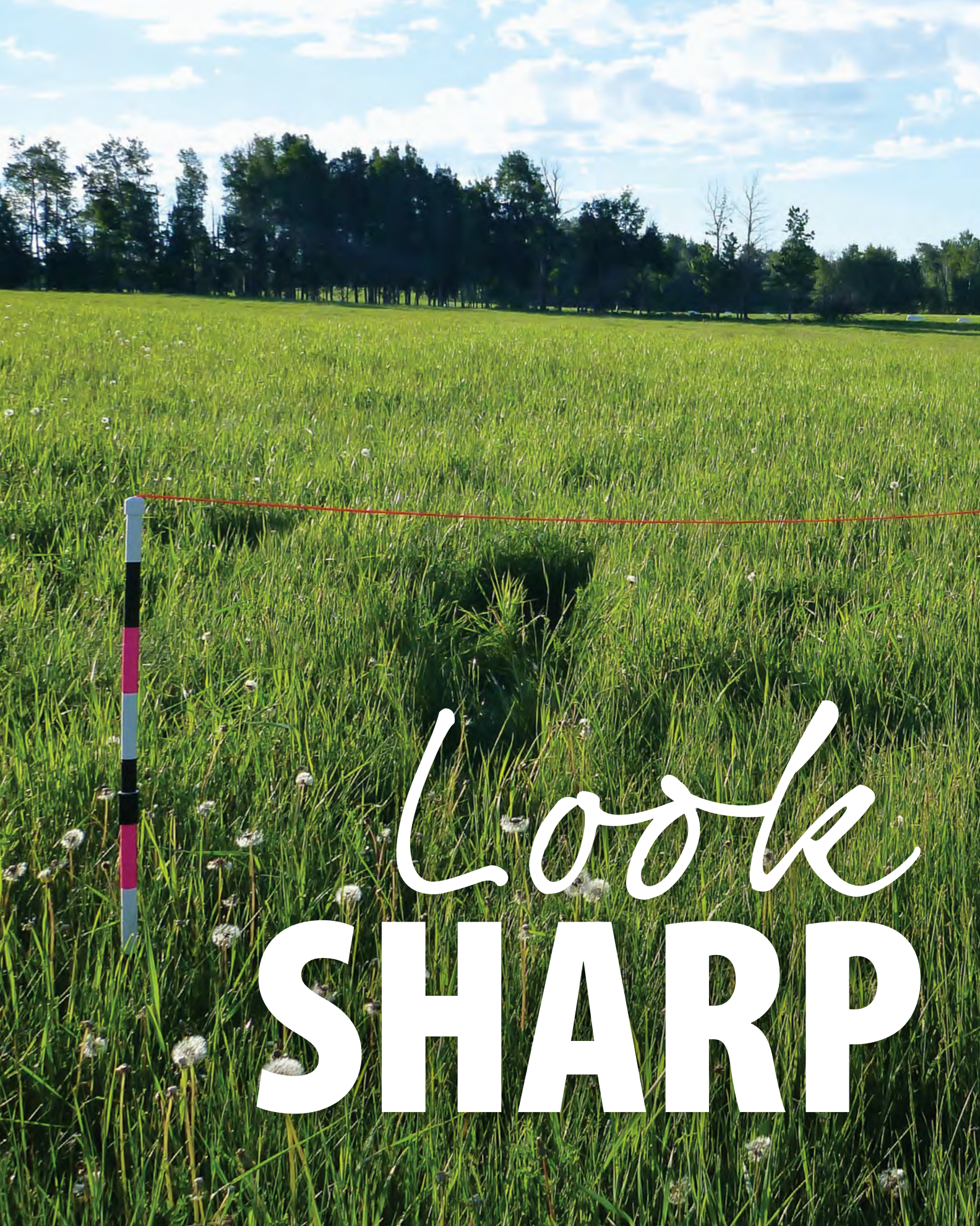
DIE Alberta's lakes and ponds are also affected by increased water temperature. Long-term monitoring and remote sensing data indicates rapid warming trends of inland water bodies. Near-surface water temperatures in the Medicine Hat-Lethbridge-Brooks area are predicted to be 2.0°C warmer on average in 2050 than currently. This may not seem like a big change, but many of our stocked ponds, currently on the edge of suitability for trout, will be unsuitable with increased temperature. Unlike in streams, fish have very limited ability to move in small ponds or lakes. Ponds can vary thermally with the phenomenon of stratification, where a layer of warm water is over a layer of cooler water. But the paradox for trout is that warm, oxygenated water is at the surface and cool, but oxygen-poor, water is below. Additional information on stream temperature data and some landscape predictions are available in the sidebar below.

BRING IN THE ALTERNATES

With some ponds becoming unsuitable for trout, an alternate species will be required if providing recreational fishing opportunities in these waterbodies continues to be desirable. The list of potential replacements for trout is long, but a few species rise to the top. Bass consistently tops the list and already have a history in the province, with over 13,000 stocked into Island Lake between 1977 and 1984. This would be the Island Lake just north of the town of Smoky Lake, and not one of the other seven Island Lakes identified in our province. Another suitable candidate is channel catfish. Currently, a proposal to stock triploid sterile catfish in Alberta is being reviewed to assess their suitability and risks as a sport fish species. Check out the article, *Catfish in Alberta: Controversial or a Conversation Worth Having?* at www.ab-conservation.com/publications/conservation-magazine/spring-summer-2021

What can we do to limit the impacts on trout as temperatures rise?

- Promote intact and healthy riparian and instream habitat.
- Reduce barriers to fish movement.
- Minimize alteration to stream discharges by carefully allocating water withdrawals.
- Avoid fishing for sensitive species like trout during the hottest part of the day and during prolonged heat waves.



Look SHARP

Stewardship in Action

by Brad Downey and Amanda Rezansoff

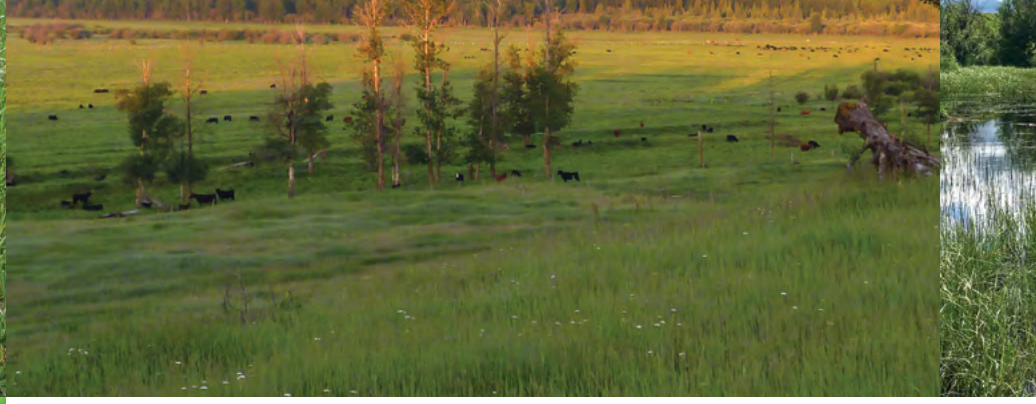
"Growing up, I was fortunate to spend lots of time exploring the grasslands and searching the numerous wetlands and cattail marshes scattered around our home. On several occasions I came home after a cattail battle covered in fluff, much to the disappointment of my mother," said Brad Downey, Alberta Conservation Association (ACA) biologist. "Patches of aspen stands also offered exciting opportunities to see how big a white-tailed deer or other critters you could find. All these habitat features were on our extended families' and neighbours' lands, which kids and parents often explored over the years."

The habitat, some in grassland and some in cropland, served a purpose for ranching and farming operations—whether it was water for cattle, flood control, or protection from the elements. Protecting and maintaining the habitat (wetlands, aspen stands, and grasslands) was just as important for their operations as it was for the wildlife species living on the land.

Maintaining wildlife habitat and sustainable grazing practices go hand-in-hand. Diverse and healthy ecosystems provide stability and are more resilient to natural disturbances such as wildfire, flood, and drought. Healthy ecosystems also provide improved water quality and availability, reduced weed invasion, higher forage production, carbon sequestration, as well as supporting a high diversity of wildlife.

Landowners have always played a vital role in the management of wildlife and the habitat they require. There is the need to continue to learn, collaborate, and build open and honest relationships with those on the ground who are managing and stewarding the land 365 days a year. This is a fundamental principle of the Species Habitat Assessments and Ranching Partnership (SHARP) Project.

photos: ACA, Kris Kendell



Photos (this page): ACA, Kris Kendell

SHARP Project

Launched in 2018, the SHARP Project is a collaboration between ACA, Alberta Environment and Parks (AEP), Alternative Land Use Services (ALUS), and landowners. The project focuses on the North Saskatchewan, Red Deer, Athabasca, and Peace watersheds—working with landowners to maintain and develop grazing management practices that benefit both wildlife and their ranching operations.

ACA biologists and agrologists conduct range, forest, and riparian health assessments, along with wildlife inventories that provide landowners a baseline assessment of their rangeland health and wildlife occurrences. By sharing this information with landowners, having open discussions on what is working, and proposing new ideas and solutions for their concerns, enables them to make informed land management decisions. This can lead to a win-win situation for landowners and wildlife. Key to this whole process is that the landowner, rightfully so, remains in the driver's seat and directs what enhancements they are willing to implement, and those projects that have defined benefits for wildlife habitat are implemented.

Tomahawk Ranch

At Western Ranchlands Tomahawk Ranch, things were getting a little batty. It seems that bats had been roosting in the residential buildings at the ranch. Although keen to maintain and even increase bat numbers, the ranchers were concerned about bats in their residential buildings. The installation of a bat condo provided an alternate roosting structure, and this past season a handful of young males began using the condo.

Tomahawk Ranch has also been altering their perimeter fencing to wildlife-friendly standards, with a smooth top wire at 42 inches and a smooth bottom wire at 18 inches high. This allows ungulates to safely and easily cross over or under, and results in far less fence maintenance. Internal fence lines are also being converted to two-wire electric fencing to reduce wildlife barriers but still provide a barrier to cattle. These fencing projects highlight how landowners can manage the habitat and needs of wildlife and still meet the needs of their operation.

> "We love working with ACA and our other SHARP partners, because everyone involved understands that the most important thing is having healthy, functioning ecosystems," said Sheldon Atwood, president and CEO of Western Ranchlands Corporation. "They understand that for us that includes profitable operations, but they also appreciate that there is so much we can do to enhance wildlife habitat, improve biodiversity, and sequester more carbon using regenerative management and deep understanding of ecological relationships. In other words, SHARP helps us achieve our goals in ways that allow us to also help them achieve their goals and show others how to do so as well."

Downing Ranch

Downing Ranch has installed a portable off-site watering system that pumps water from a nearby water source. They have also created new dugouts and have either completely or partially fenced them. These

enhancements can help increase weight gain of cattle, reduce erosion, improve water quality, and improve vegetative cover around riparian areas by encouraging grazing away from these sensitive areas that support diverse communities of plants and wildlife.

> “We joined the SHARP Project because we wanted a baseline assessment on our land in order to identify improvements we could make and then have a way to measure those improvements,” said Melissa Downing, owner of Downing Ranch. “The whole process has been so rewarding. We were amazed by the details about the biodiversity that exists on our ranch! Our kids are the fifth generation to live here, and this has helped build an appreciation of how important it is that we are good stewards of the land so that it will be maintained for more generations to come.”

Exploring the Future

The SHARP Project has been fortunate to collaborate with landowners on close to 20,000 acres thus far—with early adopters like Tomahawk Ranch and Downing Ranch signing on in the first year. The team has learned a lot from both operations and continues to develop relationships built on mutual trust and respect.

As the project continues to gain momentum, the goal is to collaborate with additional landowners so that generations to come can explore the wetlands, wooded areas, grasslands, and all the natural beauty and wildlife.

photos (this page): ACA, Corey Rasmussen; ACA, Kris Kendell; ACA; ACA, Corey Rasmussen; ACA, Mike Verhage; ACA, Lance Engley

SHARP POINTS

This project wouldn’t be possible without funding by Environment and Climate Change Canada’s (ECCC) Habitat Stewardship Program, Alberta Fish and Game Association’s (AFGA) Minister’s Special Licence, and ACA.

The SHARP Project collaborates with landowners to enhance and maintain wildlife habitat for a variety of game species including moose, waterfowl, and grouse. These landowners have and continue to allow reasonable hunting access to respectful hunters.

Habitat improvements like wildlife-friendly fencing to reduce entanglement and improve permeability in wildlife corridors not only benefit wildlife but can also benefit the landowner with reduced maintenance costs and strategies to deal with issues surrounding damage to infrastructure.

The project continues to look for additional landowners between Calgary and Peace River, particularly those within a two-hour drive from Edmonton.

A simple, effective way to prevent wildlife such as waterfowl and grouse from colliding with fences is to hang fence deflectors from fence wires that are adjacent to wetlands or near any sharp-tailed grouse leks.

What’s the buzz about bees? Pollinators play a key role in the ecosystem as most flowering plants require pollination. Last season, wildflowers were planted along the edges of a new eco-buffer shelterbelt at Tomahawk Ranch to attract a greater diversity and abundance of pollinators such as bees, butterflies, moths, and beetles.

A bat condo was constructed at Tomahawk Ranch in 2019 to mitigate human-bat conflicts. A handful of young male bats began occupying the condo this past season. It’s hoped that a maternity colony, a group of females, will move in and raise their young. Preliminary temperature findings provided by Cory Olson from Alberta Community Bat Program suggest the bat condo provides a wide thermal gradient that bats can choose among.

310-LAND

Enhancing Enforcement on Alberta's Crown Land

► *by Alberta Environment and Parks*

From the southern prairies to the northern boreal forest to the eastern slopes of the Rocky Mountains, Alberta is home to rich landscapes and biodiversity, and an abundance of resources on Crown land. Our Crown land is expansive, covering 60 percent of the province through provincial parks, protected areas, and public land. Designating these areas as Crown land helps to protect the environment while recognizing that recreation, economic use, and conservation can, and should, support each other.

Crown land belongs to all Albertans and, in recent years, more people than ever before have been getting outside to explore. Crown land offers something for everyone to enjoy, from hiking, biking and horseback riding to camping and enjoying our province's natural beauty. With more users comes increased pressure on lands, facilities, and existing infrastructure, as well as changing patterns of outdoor recreation. People are pushing their recreational activities further—creating new trails to reach remote destinations, random camping and gathering in potentially sensitive areas. While an individual may not think their activity will impact the environment, the collective impacts of land users can have negative consequences.

Every Albertan has a responsibility to respect the land and conserve our natural environment through responsible recreation. Together we will make sure our rich, natural heritage is preserved for future generations to enjoy.

Striking a Balance

In October 2021, Alberta's government introduced 310-LAND (5263), a new reporting line to enhance and optimize Crown land enforcement. The new reporting line consolidates 15 regional Alberta Environment and Parks' (AEP) phone lines, making it easier for Albertans to report violations and public safety incidents at any time of day. Albertans can also call 310-LAND during regular business hours to speak with AEP staff about general land-related inquiries.

If you see something illegal or concerning happening on Crown land, call 310-LAND. A trained staff member will answer and want to know:

- what happened
- where it happened
- if you have any photos of the activity/incident
- a description of person(s) involved in the activity/incident
- the vehicle's make and licence plate number (if applicable)

What to report:

- damage to Crown land
- enforcement concerns
- public safety incidents
- abandoned vehicles and trailers
- unauthorized or illegal structures
- people using areas with active trail and area closures
- wheels in the water (motorized recreation along the banks and shores, and in waterbodies)
- motorized vehicles off-trail in sensitive areas
- blocking existing trails
- garbage dumping
- human/wildlife conflict
- serious noise complaints in provincial parks

310-LAND is your "one-stop-shop" to report illegal activity

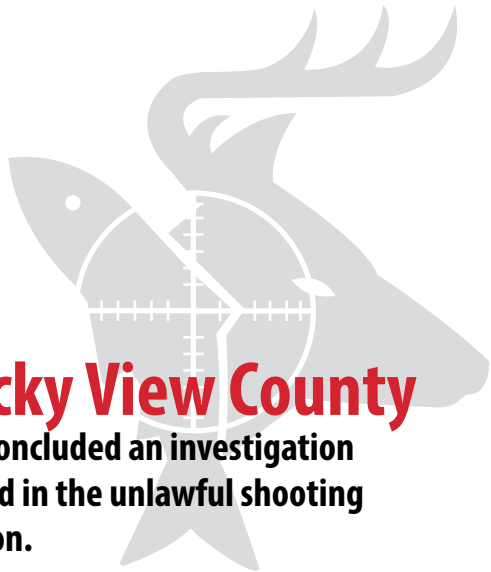
Enhanced enforcement means more support provided to Albertans and visitors exploring our parks and public lands, providing an improved visitor experience. The 310-LAND reporting line supports Alberta's commitment to optimize operations and strengthen public safety. The centralized dispatch line allows conservation officers to focus their efforts on responding to work in the field, putting more boots on the ground. Additionally, Alberta's government is supporting enforcement through revenues generated by initiatives like the Kananaskis Conservation Pass and the Public Lands Camping Pass.

Crown land belongs to Albertans. Sustainable management of the land involves all of us working together to respect the land and to ensure that we can all enjoy Crown land now and into the future. Please call 310-LAND to report incidents and public safety concerns on Crown land. For resources with tips on recreating responsibly, make sure to follow AEP on social media (Respect the Land and Alberta Parks on Facebook).

photos: Alberta Environment and Parks

REPORT A POACHER

In 2021 the RAP toll-free hotline received over 15,000 calls from the public. Fish and wildlife officers were able to solve several cases and lay charges with help from the public. Here is one of those cases.



SOLVED CASE: Rocky View County

Fish and wildlife officers recently concluded an investigation involving three individuals involved in the unlawful shooting and possession of a great blue heron.

On August 10, 2020, two eyewitnesses were bird watching on the walking paths at the Rocky View County Administrative building. They were avid birders and hoped to photograph young birds in juvenile plumage or unique birds that aren't common to the area.

While they were out wildlife viewing, they heard a loud blast coming from the direction of Highway 566. It was loud enough and close enough that they felt they had to hit the ground. When they turned around, they saw a male subject, later identified as Benny YEE, come into view and walk into a pond on the Rocky View County property. They then saw him pick up a great blue heron from the middle of the pond and walk back towards the fence line.
YEE passed the heron to a second male, later identified as Jia Wei LIANG, who took the bird and put it in their vehicle, a white Toyota Sienna van, that was driven by a third male, Jia You LIANG.

Because the witnesses were avid birdwatchers, they had a high end zoom lens that allowed them to capture all of the individuals on camera. They called the Report A Poacher line and sent the photos to fish and wildlife officers.

From their photos, fish and wildlife officers were able to identify the suspects confirmed they had taken possession of a blue heron, and track down the owner by using the licence plate captured in the photos.

On March 30, 2021, the three individuals plead guilty to the unlawful possession of a great blue heron. Benny YEE was issued a $2500 fine and his recreation hunting privileges were suspended for 2 years. Jia Wei LIANG and Jia You LIANG were issued $1500 fines each and also given 2 year suspensions.

When this event occurred, all three individuals were in the middle of a 3 year recreational fishing suspension stemming from a file in 2019. After this court decision regarding the blue heron, they are now ineligible to hunt or fish until 2023.

Great blue heron are a protected species, and as such, it is unlawful to hunt and possess them.

The penalties in this investigation were the direct result of a call from the public to the Report A Poacher line. Officers cannot be everywhere at once, and this program is a way for the public to help us protect our natural environment.

Anyone with information is encouraged to contact Report A Poacher by phone at 1-800-642-3800 or online at www.alberta.ca/report-poacher.aspx. All reporters can remain anonymous and could be eligible for an award.

REPORT A POACHER NOW. CALL TOLL-FREE OR REPORT ONLINE 24 HOURS A DAY, 7 DAYS A WEEK.

All calls are kept strictly confidential, and the information you provide can lead to an arrest, fines, and jail time. The Report A Poacher program is delivered in joint partnership between Alberta Justice and Solicitor General and Alberta Conservation Association.

Taber Pheasant Festival

October 15-22, 2022

Online registration for reserved site draws: June 1-15, 2022

Canada's BIGGEST Hunting Festival

taberpheasantfestival.com

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- Novice shoot
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- Scotch and wings night
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Alberta Conservation Association

Alberta Hunter Education Instructors' Assoc.

Municipal District of Taber

Taber Economic Development

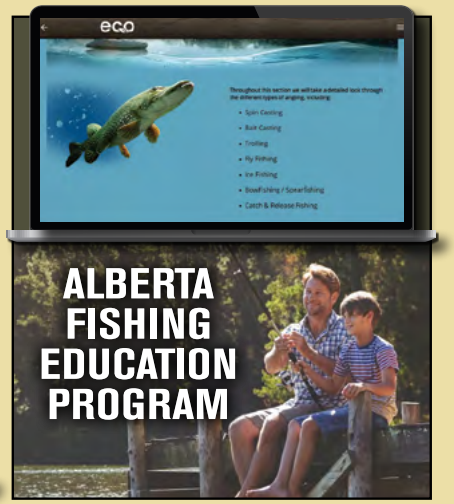
Town of Taber

Heritage Inn

Taber and District Chamber of Commerce

Alberta Fish & Game Association

Go to our website **www.aheia.com** and click on "online training" to launch these programs, view demos or sign up.



CONSERVATION EDUCATION

ONLINE PROGRAMS

FOR FURTHER DETAILS ON ANY OF THESE COURSES, CONTACT:

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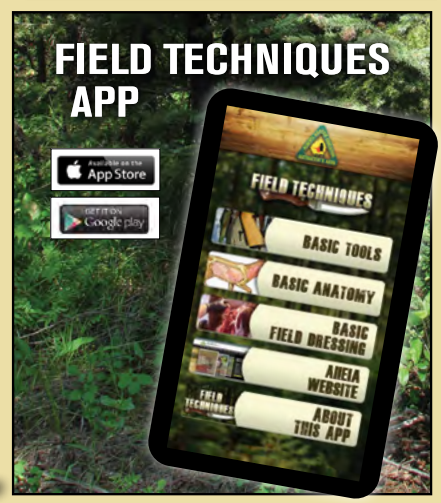

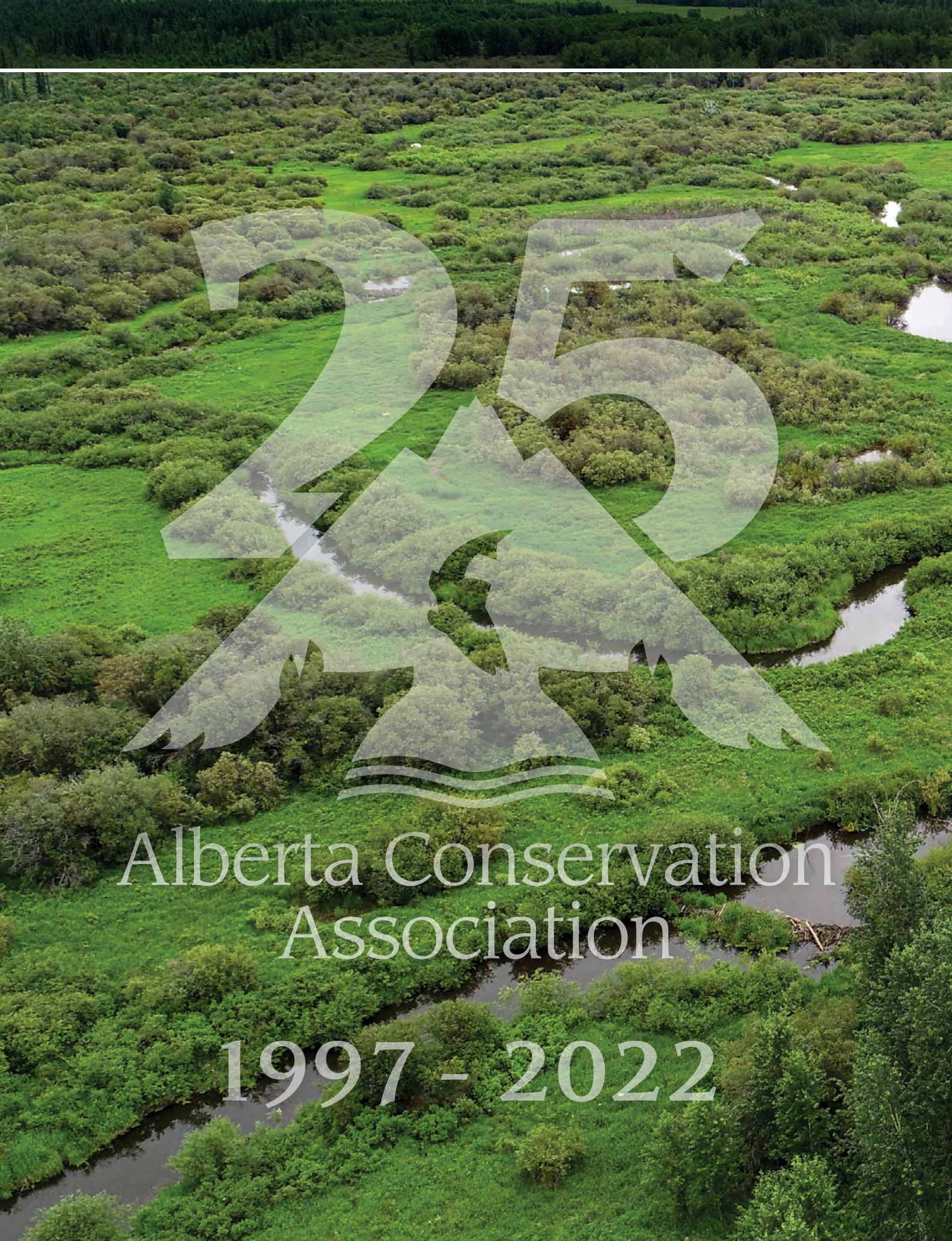
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