
Conserving Alberta's Wild Side
25
Alberta Conservation Association

1997 - 2022

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.

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The Year was 1997

The first Harry Potter book, *Harry Potter and the Philosopher's Stone*, was published. Tiger Woods, at 21, became the youngest golfer to win the Masters. Netflix was launched, Beanie Babies were the must-have toy, and *Candle in the Wind* by Elton John was on top of the music charts. The Ericsson GA628 was the top selling cellphone, the average house price in Calgary was $135,000, and 2.8 million people called Alberta home. Such was the world in 1997, and on April 1 of that year Alberta Conservation Association (ACA) was born.

A lot has happened over the last 25 years, not just with the world in general, but with the growth and development of ACA. As the 25th anniversary for ACA approached there was a significant amount of discussion around what should be done. There was no need to blow the budget and have some audacious year-long event celebrating successes. But, by the same token, ACA and our staff, Board, member groups, stakeholders, landowner partners, countless volunteers, donors, and sponsors have all worked very hard over 25 years to create a success story—and that, we felt, needed to be told.

The intent of this book is not to pat ourselves on the back, but to capture some of the corporate history that tends to disappear over time. Unfortunately, owing to the sheer volume of work that has occurred over the last 25 years, many projects and accomplishments have been left out of this book. Rest assured, the decision to leave something out was a long and painful one, and should not be seen as a slight toward the activity, but merely a result of having too much worthy content to include. Our aim is to reflect on where we started, where we are now, and where we are going. Most of all, we hope to provide an entertaining read that provides a glimpse into what, where, and why things have happened over the past quarter century—and hopefully to convey sincere appreciation and gratitude to the many people who have played a part in making ACA what it is today.

Partnership and Collaboration

By anyone's measure, ACA would be considered a successful organization. Over the past 25 years ACA has managed to undertake hundreds of conservation projects, increase revenues, increase public interactions related to conservation, and build a strong reputation for being transparent and honest with our stakeholders. Throughout this book you will read about numerous habitat projects, the development of Kids Can Catch events, the expansion of our aeration program, the history of the pheasant release program, and many other stories. Underlying all the success ACA has had is the belief that we can accomplish much more by working together as opposed to working apart.

The partnership and collaboration start right from the Board level. ACA's Board of Directors is comprised of 20 individuals—half of which represent distinct member groups—each with their own specific niche in the conservation world. As you will read, over the years, not everything at the Board level always went smoothly. However, the Board matured, and grew, and learned, and adopted the philosophy of working together to achieve more. Today we have a strong Board of dedicated conservationists, each independent in his or her thinking, each with an informed opinion on the topics we discuss, but each with a profound respect for his or her fellow Board members—and each with a commitment to find a way to work together to achieve more for conservation in this province.

Being a Board member at ACA is no easy task. Yes, on paper there are only four meetings a year (once a quarter), but this is a large organization with a lot of moving parts under the watchful eye of our stakeholders (stakeholders should be interested and encouraged to comment when they see things they may not agree with or understand). You cannot show up for an ACA Board of Directors meeting unprepared. Board members spend hours reading material to prepare for the meetings. Most board meetings are preceded by a day of committee meetings (finance, governance, communications, and recruitment to name a few).

When the meetings are done, board members then communicate back to their member groups or the general public, to both inform and to listen—and to receive feedback and look for collaboration opportunities. Is there a local club that ACA might be able to partner with on a project? Has a manager of a corporate entity expressed an interest in potentially sponsoring a project? Is there an issue that has been missed that needs to be brought back to the Board? To sit on the ACA Board of Directors means you are sitting with people who are always thinking about conservation and always looking at ways to work with others to achieve more. Over the past 25 years, these are the kinds of people who have been directing this organization and who deserve recognition, adoration, and appreciation. If you know one of them, say "thanks!"

Nobody wakes up planning to go for a swim in a bog!
Credit: ACA, Sue Peters

Heart and Soul

Staff at ACA are the heart and soul of the organization. They are a very dedicated bunch, always willing to put in the extra effort in the name of conservation. Whether it is our accounting or IT staff, our fisheries biologists, communications experts, the wildlife biologists, the administrative staff, or our land management folks—everyone is proud of the work ACA does and the role they play in making it happen.

People at ACA genuinely enjoy what they do and make it their life's work. Of our roughly 85 employees, one quarter have been here 20-plus years, and 60 percent have been with ACA for 10-plus years. This does not include the three employees who transferred over from the Government of Alberta in 1997 and who spent 15-plus years with us before retiring. ACA staff stick around because they genuinely believe in what they do.

Yes, it's like any other job: there are days that suck, and then there are days that really suck!

But those days are outweighed by the overwhelming number of experiences that are filled with a sense of accomplishment and pride; wonderment and awe. Some days are just plain cool!

Some days all the bug spray in the world isn't going to help.
Credit: ACA, Lance Engley

ACA staff do their work in all kinds of conditions, in all types of terrain, in all corners of the province, and they do it in a professional and efficient manner. They know they are working on behalf of the hunters, anglers, trappers, and other conservationists in this province and they take that responsibility seriously. They work to ensure that results of their activities are posted to our website for the public to review. If questions arise, ACA staff are more than happy to chat with our stakeholders, because they know being willing to talk about and discuss our work is what builds trust—and without trust you can't build collaboration and partnership.

ACA staff are part of a handful of people in the world who have worked directly with wolverines.
Photo: Wolverine carrying kit to new den
Credit: ACA trail camera

ACA staff get to access some spectacular locations.
Photo: Kakwa River fall fisheries assessment.
Credit: ACA, Tyler Johns

Secret to Conservation Success

All you have to do is spend a few minutes searching ACA's website and you will realize we have undertaken a lot of conservation activities over the years. What should also become evident is ACA has had a lot of help along the way. Take a look at the most recent Annual Report and you will see hundreds of partners listed throughout. Partners come in various forms. Some are member groups such as Alberta Hunter Education Instructors' Association, which works hand in hand with ACA and Alberta Environment and Parks to promote the Report A Poacher Program. Others are industry groups like the Canadian Cattle Association, which works with ACA on the MULTISAR project. Still others such as DOW, are corporate sponsors of events like Kids Can Catch. There is a huge array of municipalities, private landowners, multi-national and locally owned businesses, and private individuals, all contributing to ACA and conservation.

Some of these collaborations are built on not much more than a handshake, others are formal, long-term partnerships. Some involve sharing resources, others are funding arrangements. But in every case, the positive outcomes have been multiplied because people and organizations were willing to work together to achieve a common goal. In the end, this is where ACA's success has come from—a willingness, in fact a corporate philosophy, that much more can be accomplished by working together. While the Board of Directors and the dedicated staff deserve a lot of thanks for the past 25 years, none of this could have been accomplished without the willingness of our partners to work together to accomplish more.

Thank you to all!

Todd Zimmerling, M.Sc., PhD, P.Biol.
President and CEO
Alberta Conservation Association

Photo: Clearwater River Core Area Bull Trout Status Project
Credit: ACA, Chad Judd

Alberta Conservation Association

ACKNOWLEDGEMENTS

Rites of passage

have us earning our first hunting licence, maybe getting a tiny dab of blood on our forehead at our first animal killed; photographing and creating special dinners over the first fish caught, or toasting with an adult beverage once of legal drinking age. There seem to be no rites of passage in the cause of conservation however, as our work is simply never done. Still, Alberta Conservation Association's (ACA) Board of Directors decided that every quarter century or so, to look back at where we came from to fully grasp the progress we've made.

None of us really knows who said, "Let's produce a book" but the idea gained traction and swelled like one of those scary Hawaiian waves surfed by suntanned crazy people. Pretty soon ACA President and CEO Todd Zimmerling, ACA Communications Manager Don Myhre, and a good part of the Board were saying, "Look, ACA has been growing and doing great work for 25 years, maybe we ought to let people know about this." But who would write it? ACA staff writers know the organization inside out—but that might look too self-congratulatory, plus they have other important work to do. Professional writers, at great expense, can make any book look slick, commercial, and cloyingly smarmy—but self-promotion wasn't our real goal either. Ultimately, they wanted someone who had lived ACA's 25-year history as a close outsider.

I excelled at having been around a long time if that is any qualification. The board also thought there was value in my not quite being a staff member; someone who served on the Board of Directors for 20 of the first 25 years; has written a regular column for ACA's *Conservation* magazine for five years; steered the Grants Committee for a decade; and who is drawn to stories that showcase ACA's relevance. So, I happily came out of retirement to be the mouthpiece for those whose stories define ACA. I never promised it wouldn't get maudlin,

precious, or smarmy in places though. You see, I am biased as hell. I recognized a good thing in 1999 when I got involved in ACA. My positive opinion simply grew over the next 20 years, recognizing that the need for an organization like this in Alberta (or any other province) is just tremendous. It is a privilege to help shine a spotlight on some of the big wins, outstanding personalities, and ACA's role in what's been a broader conservation movement that has been alive in Alberta since the 1930s.

Many voices and perspectives are interwoven in the stories being told, and I owe a great debt of thanks to the many people who sat patiently on the phone while I scribbled notes about the insights they provided. The original plan was to conduct interviews face-to-face over coffee, but that was dashed as this book came together during the first COVID-19 roll-out. Surprisingly, interviewees and I both found solace in revisiting ACA's progression, even while locked down.

Previous CEOs Kelly Semple, Steve Hull, and Dr. Todd Zimmerling helped me capture the positioning of ACA in Alberta over time. Board members, past and present, helped channel the history and many changes that have brought us to this point. Such was the passion for conservation that some conversations drifted into hours. I thank my colleagues, friends, and conservationists for their generosity and insights; it was a lot of fun catching up and their collective recollections are at the centre of this book. Key ACA staff members—Darren Dorge, Mike Rodtka, Paul Jones, Kevin Gardiner, Dr. Doug Manzer, Lance Engley, Kelly Hudson, and of course CEO Dr. Todd Zimmerling (Todd also wrote the preface)—helped tremendously with understanding initiatives, fact checking, detailing research, lands, vision, and finances.

The extensive coverage, titles and timing of ACA Granting Programs were generously assembled by the dynamic duo of Tracy Stewart (ACA Grants in Biodiversity) and Amy McKinven (ACA Conservation, Community, and Education Grants, and ACA Research Grants), as well as Dr. Bill Samuel, the first Grants supervisor. They add an outreach (with dollars!) component through which thousands learn of ACA annually.

My dear wife and university dean, Dr. Naomi Krogman, was consistently encouraging and never complained once—even though she frequently went to sleep at night to the gentle tapping of my keypad.

Heartfelt thanks are reserved for the team of people who helped to bring this book to life: "data-wolverine" detective Laura Volkman compiled and assembled the employment, financial, and project background information from ACA files; writer-editor Susan Hagan provided valuable critique and story steerage; editor Adrian Watzke repaired innumerable grammatical, punctuation, and word-use problems; while Charmaine Brunes creatively assisted with design. And special thanks to Don Myhre who oversaw this project with the kindest editorial steerage a writer could ever ask for. Despite a last name with too-easily transposed letters, Don encouraged, brainstormed, and brought the aesthetics and design vision on art and photography that make this book successful beyond anything the words might add. Specific credits for art and photography are listed separately.

My thanks to all those named and apologies to the many who inspired the content but are not mentioned above. ACA has had a tornadic 25 years of upward spiral, so undoubtedly a few errors have found their way in and for those, I apologize and accept full responsibility in advance.

Lee Foote, December 2021


Credit: Jim Potter

In the Beginning… Conservation in Alberta Welcomes ACA

The old man scratches his beard and looks up contemplatively before he begins:

"Yeah, I remember the good old days of my youth, when I could wander these foothills with a dog and a small rifle, with no worries about neighbours or game wardens. Once or twice a year I would see a grouse, and of course there were no beaver left but the odd muskrat was around. The streams ran muddy with all the livestock grazing so the fish couldn't make a living. We had some ducks, but it wasn't until the 1960s before I saw a single goose stop on our farm. We ate him for Thanksgiving. Game was scarce, used up, hard-hunted, or pushed aside by a bunch of hungry Depression-era people and their skinny cows. Something needed to be done."

Retracing this old hunter's steps today, one would find verdant willow-fringed shorelines supporting songbirds, ruffed grouse, mink, and salamanders—all benefitting from the active beaver ponds. Pike lurking in the deep, weedy water, nesting Canada geese would honk from the top of the beaver lodge. Below the pond, deer and moose tracks would churn the sand next to the clear streams filtering through dense shoreline sedges and the upstream beaver dam. The old timer was right, something needed to be done and it was! People have made huge strides in adopting a conservation ethic like a great blanket of care for nature. A thirst for knowledge, a desire for shared resource use, and a reinvented relationship with nature has unfolded from 1920s through 1990 as a utilitarian "Modern Conservation Movement."

Since that time, nature has continued to grow in the psyches of Albertans as an escape, a treasure, an engagement, a symbol, a resource, and a national identity. The environment now ranks among the top priorities for Albertans. And the depth, importance, and richness of nature in our lives is ever more important as work, distance, concrete, and time demands edge between us and our original relationships with the natural processes of the earth.

Over the next 100 pages and scores of photographs, we will delve into an intriguing and beautiful series of stories—ranging from how the natural processes of Alberta have healed landscapes, wildlife has been repatriated to their original ranges, as well as some ongoing challenges and attempts at solutions. Astoundingly, this progress has been achieved in the same period that Alberta's human population has swelled 600 percent since the old timer first walked the logged-over fields in the 1930s.

Since Alberta Conservation Association (ACA) was founded in 1997, the province has welcomed 40 percent more citizens—but human density does not mean an automatic death to nature. This book's accounting of active conservation begins on April 1, 1997, ACA's creation date. There are approximately 2.8 million people in the province and the median age is only 36 years old. The province is full of adults in their prime years, with

growing families of young hikers, hunters, and fishers. The time is right to consider the inevitable desires and pathways into natural ecosystems that such growth brings. Conservation is front and centre.

This is your story, the results of enlightened Albertans who continue to reconfigure their relationship with the wildlands you visit, protect, and sometimes have to repair. Through it all, an appreciation of nature and the foundations of our existence here is worth keeping front of mind. This is the story of conservation.

The word *conservation* in ACA's name is no mistake. It is an older word dating from the late 14th century when it meant maintenance of health and soundness, the act of guarding or keeping with care. In environmental terms, by the 1600s, the English authorities charged with caring for rivers, forests, fisheries, etc. would capture abundant spring meltwater behind dams to conserve it for use later during the dry parts of the growing season. Many Albertans will know "conserves" as the delicious tart saskatoon berry or high bush cranberries simmered in sugar and canned in the fall, to be consumed later in the depths of winter. Even the overly politicized label of "conservative" connotes a resistance to rapid change and a holding to steady values and convictions. Today, the wise use of natural resources based on knowledge, scientific management, and public wishes are the foundations of our conservation approach and land ethic.

What is the take-home message from conservation's origins? Maybe it is that conservation is a use term. Water, jelly, and wildlife are all cared for with prudent extraction, and wise use into the future, thus creating a working system sustained into perpetuity. Invoking such change-over-time approaches require hopeful optimism, the abstraction of caring about the future, and occasionally a willingness to forego or ration immediate windfall benefits for a longer payout. Conservation truly becomes a form of consideration for others, a highly laudable virtue brought to us by our association with nature.

Although both preservation and conservation have a place in the human-nature spectrum, they are not the same thing. Whereas preservation may aim to protect a place or thing in an unchanged condition and typically involves a minimization of human influences, conservation blends the needs of nature with human engagement and accommodates humans directly benefitting from natural resources. Conservation builds a relationship of interdependence and exchange of services. Plant stands, river flows, or wildlife populations benefit from stewardship, care, management, being deeply valued, and some degree of protection. Simultaneously, humans benefit from recreation, appreciation, access, and resources such as the prudent off-take of animals and plants. Done properly, this use enhances the value of natural resources to the public and generates a broad level of appreciation and acceptance that gives nature a powerful place at the table when resource negotiations come up in relation to alternative uses.

We let parts of nature into our hearts and psyches. Our love of nature expresses itself in actions such as ice fishing, hiking to remote ridges at sunset, bending low in shoreline reeds as honking geese glide into our decoys, stalking with camera in hand on a pair of courting American avocets, or grunt-calling in a bull moose for winter meat. These constitute emotionally significant events that populate our memories, imagination, and dinner plates—even as they fuel our hopes for future experiences of similar gravity. Outdoor experiences provide a passionate *raison d'être* that leads naturally to stewardship through bolstering our values for nature. Human commitment is the origin of conservation and it is only natural that an organization such as ACA would spring forth from this upwelling of goodwill toward nature. This book chronicles the role of ACA and the response of Alberta's natural environment to the social movement called conservation.

The chapters build and link to each other, yet, each is intended to be free standing so you may pick and choose your favourite topics to dive into. Some may approach this book as an unfolding history, others as a coffee table picture book to flip through. Still others might see it as vignettes and stories arranged like a box of mixed chocolates from which to pick their favourites. There is no wrong way to ingest this book and we hope you find meaning, delight, and knowledge however you choose to approach it.

A Moose for Bill

The call came at 11 a.m., thankfully on a Saturday. Bill had gotten his moose at last! A public moose on public ground being stalked by an Albertan with an Alberta tag resonates in a special circular way. The sedges and willows that had burst upward in the sun and public water had produced this remarkable animal's black coat, polished antlers, and beautiful face. As friends rallied to help pack the 300 kilograms of lean meat off the ACA site, we mused on how this came to be. A portion of the licence and draw application fees the hunter had willingly paid helped purchase this ACA-administered land and if things went just right, our hunter would have a full day of skinning, meat-packing, meat-handling, and storytelling and we would all share some tired muscles by sunset.

Although one cannot sell moose meat, wild ungulate meat is comparable to captive elk meat that goes for $35 a kilogram. The 300 kilograms of moose meat could be considered north of $10,000 in replacement commodity value. That this remarkable animal was organic, free-range, absent steroid or hormone injections, lean, and humanely killed were bonuses to appreciate in every stew, steak, and kebab. To get 300 kilograms of meat in exchange for that $44.95 licence fee makes that meat cost 15 cents per kilogram and you can save on gym memberships in hunting and hauling it out yourself.

But really, this remarkable gift was a natural largess that transcends financial considerations. People from away will actually pay similar thousands of dollars for the privilege of participating in such a meaningful pursuit. Bill also knew that several other moose he saw got away to strip twigs another day, so hope was already building for his next moose draw!

Illustration: Danielle Erickson

The Origin Story

Alberta Conservation Association

Credit: ACA, Don Myhre

The origin story of Alberta Conservation Association (ACA) is shrouded in some intrigue and political mystery. But through a series of interviews with early board members, a picture appears through the glass darkly, motivated by both political expediency and an overriding need for environmental engagement. In the 1990s, Alberta was on an economic roll, growing the per capita GDP to one of the highest in the world. In 1997, Alberta oil and gas production was ramping up, agricultural lands expanding, and a human population with an average per capita income of $53,700 was in need of housing and infrastructure.

This was the climate into which ACA was born. Boom eras are not new and the public response follows a predictable pattern. Alberta was open for business in the midst of a 1993–1997 austerity plan and was led by then premier Ralph Klein who had promised to "balance the provincial budget by 1997." To accomplish this, his first priority was to reduce the provincial payroll—abolishing 4,000 public service positions by privatizing liquor sales, motor vehicle registries, and property registration services. The time was ripe for moving public services from government departments to a more private structure like an ACA-style organization that would be invisible on the tax rolls.

One of the mandates of former premier Klein's Progressive Conservative Party was to reduce government spending and consolidate provincial budgets. As the finance minister consolidated all non-critical funds to the provincial general fund, conservationists could see the writing on the wall for their hunting and fishing licence fees and the $1.00 surcharge that went to the Fish and Wildlife Trust Fund. The $5–7 million collected annually from hunting and fishing licences had always gone to the Alberta Department of Fish and Game (the ministry's name has changed a few times since then, and is currently called Alberta Environment and Parks). At the time it seemed as though these licence funds were squarely in the financial crosshairs. To hunters and anglers, the idea of "their" licence fees being used to fix highway potholes was infuriating—this much was known.

In the 1990s, Alberta was on an economic roll, growing the per capita GDP to one of the highest in the world.

The backstory is less clear, but seems to be that pressure was building to protect licence fees and maintain conservation services. Some mechanism was needed, and an idea bubbled to the surface in 1996 in a closed-door meeting attended by Director of Wildlife, Bob Andrews, a private lawyer named Rob Eckkles, and representatives from several conservation groups. Mr. Eckkles had some experience with an obscure mechanism called a Delegated Administrative Organization (DAO), whereby government could delegate key duties to private organizations for reasons of efficiency and to keep government small—both guiding principles of the government of the day. Previous DAOs had been established for provincial health boards and a few others. Eckkles drew up a proposal to place a portion of hunting and angling licence fees into a DAO called Alberta Conservation Association. This creation met several goals—it protected the Buck For Wildlife funds from rolling into the general revenue stream, it meshed well with the mandate from former premier Ralph Klein to make government smaller, and it drew various user groups together. The environment minister of the day, Ty Lund, agreed to carry this forward to council where it was approved. However, time was short to create this new entity and the legislature set April 1, 1997, as the origin date of ACA—and no, this was not an April Fool's prank. The birth of ACA started many dominoes falling in sequence.

ACA was created as a DAO, which is an agreement held with the provincial government to provide conservation services. These services include enhancement of wildlife and fisheries, habitat improvement, public engagement, natural resource education, conservation, and research to address problems. Shouldn't these roles fall to the government's own natural resource personnel?

In anticipation of redirecting up to $5 million per year to ACA, it seemed every wildlife agency, conservation organization, and hunting group in the province had their hair on fire and their hand out to gather resources for their favourite causes and organizations.

In this case, they were partially delegated to ACA and paid for with the income generated by the sale of hunting and fishing licences. Despite the confusion, and the arms-length from government arrangement, there are some real advantages. Firstly, the private business model can often run more efficiently, with greater independence from the inevitable course-corrections that follow each election cycle. Secondly, there is nothing preventing ACA from partnering with private industry or the federal government in tackling conservation issues in the province. Thirdly, longer-term projects spanning fiscal years can be better accommodated. And finally, the direct input from the eleven principal fish and wildlife user groups in the province ensures equitable and direct reflection of public values for conservation initiatives. Wildlife and fish management topics generate passionate and sometimes vitriolic public responses, conditions that are very toxic to government hierarchies.

In anticipation of redirecting up to $5 million per year to ACA, it seemed every wildlife agency, conservation organization, and hunting group in the province had their hair on fire and their hand out to gather resources for their favourite causes and organizations. The government's own division of Fish and Wildlife felt somewhat robbed of the millions of dollars they had come to rely upon for research and surveys. Furthermore, dozens of government employees, whose salaries had been at least partially covered by the licence fees, were transferred to initially populate ACA staff positions. This move resulted in ACA immediately having staff spread across the province in Fish and Wildlife offices. The Government of Alberta's need for support would be partially addressed later with cooperative programs and memoranda of understanding to share resources.

The fledgling Buck For Wildlife Program that took some money from licence fee surcharges for land acquisition was managed by Alberta Fish and Game Association, the largest hunting and angling system of clubs in Alberta. When both the annual income stream and the accumulated land base were placed under the purview of this new kid on the block, ACA, a wedge was driven into the budding relationship of ACA and the organized Fish and Gamers. One of the early architects of ACA's rulebook for the Board of Directors, who was at the decision-making table, was Glen Semenchuk, then president of the Federation of Alberta Naturalists (now called Nature Alberta). Glen set about to ensure that licence dollars benefitted all species and habitats for all Albertans, not just a tight focus on hunters and anglers, or for species that were hunted and angled. Such a broad focus was a new way of thinking about conservation for Albertans and would cause ripples for about two decades. Ultimately, this was a prescient inclusion that has allowed ACA to throw a broader net to supporters in industry, academia, photography clubs, and urban birdwatchers.

One final player in the early ACA configuration appeared in the form of University of Alberta academics. Because the 1996 provincial budget allocation was held in escrow in anticipation of the DAO establishment, those dollars were uncommitted in fiscal year 1996 and the ever-resourceful academic Dr. Bill Samuel, who was also a hunter and angler, and Dean of Science, Dr. Dick Peters, established a graduate student research grant called the *ACA Challenge Grants in Biodiversity* that persists to this day (renamed to ACA Biodiversity Grants, and detailed in the Grants chapter of this book). The academics also extracted a promise to endow a Chair in Wildlife Ecology at the University of Alberta by matching a one-time ACA donation of $2.5 million in an interest-bearing account to fund the chair position in perpetuity. These two expenses were drawn on the uncommitted funds that most likely would have been lost to the provincial pothole fund otherwise. Grants, research, and teaching became defining pillars of ACA's direction and provided credibility in conservation research and ecology.

By 1997, a director had been appointed and a makeshift board of directors was selected from a broad variety of resource users including Alberta Fish and Game, Alberta Trappers Association, Alberta Professional Outfitters Society, Treaty Eight First Nations of Alberta, Trout Unlimited Canada, Western Walleye Council, a Government of Alberta representative, Federation of Alberta Naturalists, and ACA's president.

In short, with so many diverse interests coming to the table, the stage was set for a battle royal as the flow of public dollars was redirected. Government scientists, as well as some hunting groups, felt their ox had been gored by funds being redirected to a DAO. Some groups such as trappers and professional outfitters realized an unexpected windfall of influence and a seat at the table. And new players like academics came out of the woodwork, opportunistically seeking a share of the licence fees. What kind of governance structure could possibly reconcile this jumble?

In early years, the Board of Directors meetings were rough and tumble affairs, somewhat in keeping with the wild west approach of Alberta Legislature and the premier's cabinet. Alliances of board members formed up to win votes, loud debate ensued, and at least one board member quit and called the board dysfunctional, while one obdurate representative was voted off the board. ACA had not yet caught its wings and was taking flak from within and complaints from without—mainly from those who hoped to return to the pre-1997 arrangement. There were four ACA presidents in the first six years too, some of them departing shaking their heads at the chaotic workings of the board. There was some question whether ACA would survive these growing pains.

As Kelly Semple, the second director of ACA said, "The board meetings were not always pleasant affairs early on; the member groups arrived with set agendas and unrealistic expectations." A burning passion for conservation is somewhat like fire—if unmanaged it is painful and destructive, yet if focused and directed well, it warms, reassures, and runs the engines of progress. ACA was founded on the basis of committed, passionate warriors for conservation. These very attributes had been forged in the era of land deals, ill-considered land use policies regarding mining, damming, over-harvest of resources, unlimited access, and public land transfers to private ownership.

Imagine a room full of battle-hardened gladiators sitting politely while discussing *governance* over a cup of tea. According to early board members, meetings during ACA's first four years were lively and sometimes acrimonious affairs. Today even, they admit this was a crucible of commitment that would ultimately be forged by governance into a unit that worked together. Wild mustangs gentled into harness to pull together. Still, some thought the early days were composed mostly of horse's rear halves!

The third ACA Director, Steve Hull, was a professional accountant with ACA work experience. Steve understood the crucial importance of procedures, process, and accountability and working with an experienced ENGO professional Glen Semenchuk, leaned into the formalization of ACA's "Big Binder" of governance that contains things like: Terms of Reference (TORs) for each position and partnership; Board procedures; TORs for grants, programs; Memorandums of Understandings (MOUs) with the provincial government; and how income and expenditures would be recorded and held.

There is no doubt, reading the Big Binder is a sure cure for insomnia; however, when you need an answer on how to proceed, it is an invaluable rule book. Each year this Big Binder is updated and fine-tuned with a vote to accept changes at the Annual General Meeting. This is in accordance with the Federal Societies Act to maintain not-for-profit status. For many on the board, this is a new chapter of organizational responsibility and leadership, so it requires some training and adjustment.

By year five, in 2002, the Big Binder of board governance was finally in place, edited and accepted. The Memorandums of Understanding with the government's Fish and Wildlife Division saw ACA funnel support for duties such as the expensive helicopter and airplane time to conduct wildlife surveys, which helped to mollify some of the government complaints. The efforts and oversight of the early directors Terry Nerassen, Kelly Semple, and Steve Hull began to show a "herding influence" to organize the board.

Another twist emerged in 2002, when seven more board members were added from the general public. These were called Public At Large members, with one drawn from each quadrant of the province. Two more new members were an academic representative and a business representative, and finally, Mark Boyce, the first ACA Endowed Chair of Wildlife Ecology was added. The board bickering and factions were greatly diluted by these new members who had no agenda other than public representation for conservation goals. A harmonic balance began to form and, in 2007, a dynamic and highly qualified new president and CEO, Dr. Todd Zimmerling, was hired. During his interview, he stressed that he saw this as a career endpoint for his business and wildlife science training. Indeed, the continuity of the following 15 years (and counting) brought a professionalism and set of business principles to ACA that have made it shine.

The difficult days at the outset are largely forgotten and dismissed as growing pains resulting from a sudden diversion of conservation dollars without a board or governance structure in place. Government has commissioned one informal report and two official DAO audits of ACA over the years and ACA came out with many compliments, a few criticisms, and some recommendations.

The Government of Alberta took a moderately large risk in 1997 by extending DAO status to the newly minted ACA. However, through a coincidence of timing, the proposal for ACA's creation arrived at a time when the province was bent on delivering smaller government. It was an era of big dollars, free-wheeling, risk-taking, and spin-off-creating government initiatives. Thus, ACA was a product of the times and needed to catch its feet and show value to the public quickly, lest government audits reconsider the financial support. There was certainly a sense of urgency in the air, and the people selected for ACA's early Board of Directors were well schooled in political swashbuckling. It would be easy to dismiss many of the early board conflicts as posturing, chest-beating, and implied threats as just bad behaviour. However, looking deeper, the motivation for such acrimonious strong-arm tactics within the board was because the hunting, angling, and conservation crowd was, and is, deeply passionate about their causes. The expeditious way that resources and a weak mandate were tossed into the mix invited a cage match to sort things out.

In the early board's defence, possibly the greatest enemy to conservation is apathy—and our early board members were *anything* but apathetic! What was called for, and what eventually arrived, was a rudder to guide the board—a comprehensive board governance document. This became the skeleton on which the muscles of ACA's conservation representatives were draped. By 2010, the board was an efficient and effective group steering ACA's vision and strategy extremely well, while largely staying out of the day-to-day operations (which were also humming along well). Together, they set about on a course to change the way conservation was operationalized. The public, industrial partners, large landowners, and admirers from provinces across Canada have been taken aback at the success of ACA in delivering an astounding list of programs (see Appendix page 94), independently raising funds, acquiring tens of thousands of acres of publicly open recreation lands, and consistently educating Albertans about nature from grade school students to PhD students operating with ACA grants. The evolution of great governance has held ACA tight to a mission that is finally applauded by government and Board members alike.

Some of the current compatible relationships of member groups and ACA come from a proven track record of success—because more can be accomplished together than apart, and a place at the table is a vital credibility enhancer. Within the board, reasoned voices have developed a culture of cooperation and self-policing against inappropriate behaviour. Not all the fire, brimstone, and passion for causes has been ironed out, nor should it ever be, but civility and respect prevail.

Photo: Spruce sapling planted at Shell True North Forest Conservation Site
Credit: ACA, Garret Mcken

Working with Government in the Business of Conservation

One of the greatest hurdles during the first decade was transitioning from a governmental mentality to that of a private, not-for-profit society, according to Kelly Hudson, ACA's Chief Financial Officer for almost two decades. This was particularly difficult in the early years, as Alberta Conservation Association (ACA) was housed in government offices, and used the government's accounting system and courier services.

The Delegated Administrative Organization (DAO) of ACA was formed in 1996 by conservationists and the Government of Alberta's Sustainable Resources Department. Realizing that DAO is not a common household term or concept, many outdoorspeople simply considered ACA an offshoot of government (it is not). Understandably, the public viewed ACA as an embedded contractor to government, even though DAOs are independent organizations bound to provide mutually agreed upon services.

In the beginning, a sense of "governmentality" existed inside ACA. Nonetheless, the confluence of need, timing, and government cooperation helped ACA's launch and journey to become one of the most successful environmental non-governmental organizations (ENGOs) in Alberta, and a leader among all Canadian provinces.

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The success and increasing profile of ACA caused some consternation for government wildlife employees who could not operate with the same unfettered access and freedom from public accountability. As funds fuelling ACA previously went to the government's wildlife management workers, they felt the loss of funding as well. Still, ACA and government cooperate on programs, projects, issues, and topics—even if there are occasional bumps along the way.

Most conservation and ENGOs struggle with many of the same issues—funding streams, wandering mission priorities, governance structures, and unfolding and sometimes malicious publicity campaigns aimed at discrediting them. The best ENGOs have an endowment, or an assured funding stream, so they are not fixated on fundraising. While ACA has grown its budget through donations and fundraising, it has the assurance of annual funds in the range of $12–15 million generated by provincial sales of hunting and fishing licenses. This provides the year-to-year stability to hold valued employees securely, and to undertake longer-term initiatives for lake improvement, habitat securement, wildlife research, and public outreach.

Slowly, ACA emerged as a highly functional, smoothly run, and neatly organized unit. The same passions and commitment from day one are now better channelled into the mission and vision statements of the organization.

The identity of ACA began to mature and unfold to show its divergence from, and compatibility with, the Government of Alberta. Even standing up to difficult negotiations over the Memorandum of Understanding, agreements with government helped define the differences. ACA brought different services to major projects like aerial ungulate surveys, fish stocking, lake aeration, access guides, threatened species projects,

Photo: Wolverine radio tracking collar
Credit: ACA, Mike Jokinen

and generous grant funding for graduate students, researchers and grass-roots conservation groups. These contributions were presented in ways that would have been very difficult for government to achieve.

Government administrators launched audits and commissioned reports to evaluate ACA's effectiveness as a DAO. ACA took guidance in a positive, responsive way and rapidly grew into its new role. Though rarely spoken of, in the early 2000s, the board held discussions about alternative models for ACA's continuation should the DAO ever be rescinded by government. Affectionately dubbed "Doomsday Scenario," it laid out options for ACA to continue on as a free-standing, albeit much smaller and more private, donation-dependent organization. We are all thankful that period passed and ACA has become a great initiative that bolsters the conservation goals of government and the public. ACA truly can engage in some things that government is not allowed to do—such as promotion, outreach, granting funds over multiple years for research, and quickly purchasing wildlands for the public—all important functions. For reasons of accountability, politics, and reporting, government has difficulty performing such tasks nimbly.

The early establishment of ACA as a DAO allowed later leaders to move to a model clearly outside government with its own identity, branding, employee status, projects, and clientele. The board became more active and drew strength from its diverse composition—including a wide range of member groups, a government representative, four Public At Large members drawn from each quadrant of the province, an Academic representative, and a Business representative.

Dr. Todd Zimmerling, a PhD wildlife biologist, private businessman, and ACA's fourth and current CEO, excelled at strategic planning, partnership building, board cultivation, and public relations. Closely assisted by CFO Kelly Hudson, Todd also brought on a second-in-command, Ken Kranrod, an expert in organizational management and business development.

From a fledgling organization with an annual revenue of less than $7 million, ACA has grown and evolved into an efficient, effective, and transparent conservation organization with annual revenues some years in excess of $18 million (including $3–5 million per year in partner funding) and ongoing partnerships/working relationships with over 100 different corporations, municipalities, private landowners, and conservation groups.

Thoughtful Board–A Thriving Organization

Alberta Conservation Association

Maybe Alberta Conservation Association's (ACA) Board of Directors serve their terms for the emblazoned gift vest, or for the annual sporting clays shooting invitation, but more likely it is because it's a wild itch that must be scratched by giving something back. Given the earning power of many board members, the time they spend earning that vest and sporting clays costs them the equivalent of a new truck!

They think, they worry, they care passionately, and they communicate. There are a surprising number of books, articles, images, and news stories that have come from the Board of Directors. Reading them sheds light on the board's values. Some writing projects are scientific, some share deep insights into outdoor lives and interactions with wildlife, and some are from biological or conservation perspectives of land use. I know of at least five books published by the Board members and many hundreds of articles. They are a literate bunch. Here are a few board member vignettes to illustrate:

Photo: Visit to Timber Ridge Conservation Site - 2010
Credit: ACA, Darren Dorge

Tom Bateman

Tom Bateman is one of the elders on our Board—a philosopher, outdoor ambassador, and writer. This recollection is a true story he calls, The Conference.

In 1989 Alberta, Canada hosted an international Project Wild conference in Lethbridge. Over 150 people attended representing almost every state, province, and territory in North America. The purpose of the conference was to create new and better ways for helping people understand the value and the conservation needs of wildlife and fish. Most of the delegates came from urban centres, and several were from very large urban centres where wildlife is virtually nonexistent aside from pigeons and urban tree squirrels. For many participants, Lethbridge was the most remote place they had ever visited. Tellingly, several of them were enthralled with the starlings, robins, and crows that were residents of the Community College grounds where the conference was being held.

A small group arrived from Montana, where they had attended a bear workshop. They had spent three days in the mountains trying to find a bear, but to no avail. They were very disappointed because they had never seen a bear in the wild. I advised them to keep their group together for our Waterton field trip because there was a good chance they would see a bear. The conference work kept us inside for three full days, but for the fourth day we had arranged field trips to Frank Slide, Royal Tyrrell Museum of Palaeontology, Writing-On-Stone Provincial Park, and Waterton Park. I took one group to a small marsh about 25 kilometres south of Lethbridge, and the group that went to Waterton included the people who had worked so hard to find a Montana bear. Ironically during that day, they saw five black bears and a grizzly with one cub, so they were excited and satisfied.

The group I took to Sterling Lake spread out along the lakeshore with cameras, binoculars, and bird books—and all combined they made enough noise to frighten most birds. Their noises were exclamations of pure delight because of the variety of birds they were seeing. It was late June, and all the birds were nesting or preparing to nest. The people from the eastern U.S. could not imagine such an abundance and variety of birds all in one place. They expended rolls of film—that celluloid material cameras used in that era—and made notes and lists of all the birds they could identify. We were past due at the college, but I could not persuade the group to return to the van. I gave up and just enjoyed watching them revel in their southern Alberta wildlife experience. Hosting the conference and seeing the reaction of the visitors to our wildlife gave me a new level of appreciation for what we have. Our prairie marshes and river valleys are spectacular places for wildlife watchers. It took a group of people from Chicago, New York, Pittsburgh, and Miami to make me realize that these places are treasures to be protected and enjoyed forever.

Dr. Brad Stelfox

Dr. Brad Stelfox, an independent ecological consultant who served on the Board in its first iteration produced, *The Hooved Mammals of Alberta* which details the history, management ecology, status, use and basic biology of all of Alberta's deer, elk, goat, pronghorn, and bison. More recently, he provided a detailed analysis of the effects of coal mining in southwestern Alberta on water quality. Alberta writer Lorne Fitch summarized Dr. Stelfox this way:

Dr. Brad Stelfox is another David confronting goliaths of industry, commerce, politics, and entrenched self-interest. Rather than a sling, his weapon of choice is cumulative effects assessment (CEA). Using data collected over many years from industry, government, and academia, Stelfox developed ALCES—A Landscape Cumulative Effects Simulator—to objectively measure and track land-use activities and their accumulating footprint.

Brian Bildson

Brian Bildson is a Grand Prairie businessman, trapper, lodge operator, and the second-longest serving ACA Board member in the organization's history thus far. Brian is a regular columnist for Alberta Trapper and Alberta Outdoorsmen. The following snippet shows his engaging style:

The Call

Is there anything more glorious than the call?

You could hear the voice of the bull moose before it showed. The guttural grunting sound echoing off the shoreline. The bull, rack swaying in a display of dominance, arrived. Attracted by the sound of a birch bark horn raked across the willows, thinking a rival awaited. Soon the same horn would be used to imitate the pleading call of a cow moose in estrous.

The battle of wits would soon end, the victor yet undetermined. The bull elk was no longer bugling; the time for long-distance engagement was over. No, a primal roar designed for the close-up intimidation of whoever had dared challenge his supremacy rent the air. The volume of the call is such that the hair stands up on your arms and neck. Yet you know the odds, and the wind, are now in your favour. So you raise your grunt tube, and the sounds of the challenger pour forth.

A flash of tawny brown and the dark antlers of a buck announce its arrival. Mesmerized by the rattling of the whitetail shed antlers, the deer came in like it was on a flight plan. Using voice, I grunt, the deer stops, and a journey ends.

The boy lies on the floor, a magazine open. Contained within those pages are outdoor stories that enflame a passion that burns white-hot. Little does he know that the call he hears that day will lead to a life full of other calls. Is there anything more glorious than the call?

Dr. Mark Boyce

Dr. Mark Boyce, professor and ACA Endowed Chair in Wildlife and Fisheries Ecology, is possibly the most prolific Board member. He has published numerous books and scientific articles, including seminal works on wildlife species, management issues, climate change, and others. Mark's breadth is impressive. For example, consider the following topics drawn from his last three years of refereed publications (not complete citations):

Crop reserve program and managing white-tailed deer; barren ground caribou and climate change; black bear biology; roads and grizzly bears; protected status mammals; mountain sheep management; landscape connectivity; sitatunga antelope ecology in Uganda; ungulate migration in Wyoming;

Whew! And that's just in the past few years, but it goes on and on. There is a reason Mark has received over 30 awards of excellence from around the world. He is a credit to ACA, and the University of Alberta, for helping make our province an ecology-based wildlife leader in North America.

These Board member examples, among many others, demonstrate a life-orientation toward the sanctity of ecological processes, outdoor beauty, humanity's role in the environment, and stewardship. We are all fortunate their contributions invite others to share their passion, and see through their eyes some newer and deeper perspectives. These individuals enrich our lives by sharing their life's work widely. Appreciation and gratitude are pillars of conservation, and we thank the 25-years' worth of Directors for their volunteer time.

Credit: ACA, Mike Jokinen

Board Members

Over the first 25 years of Alberta Conservation Association's (ACA) existence there have been 60 Board members. They are listed in the Appendix on page 93. The members of ACA's board come to serve by one of four different pathways:

(1) eleven member group representatives selected by their organizations to sit on the ACA Board.

(2) four Public at Large (PAL) members selected from WIN cardholders who put their names forward to serve either a two- or four-year board membership.

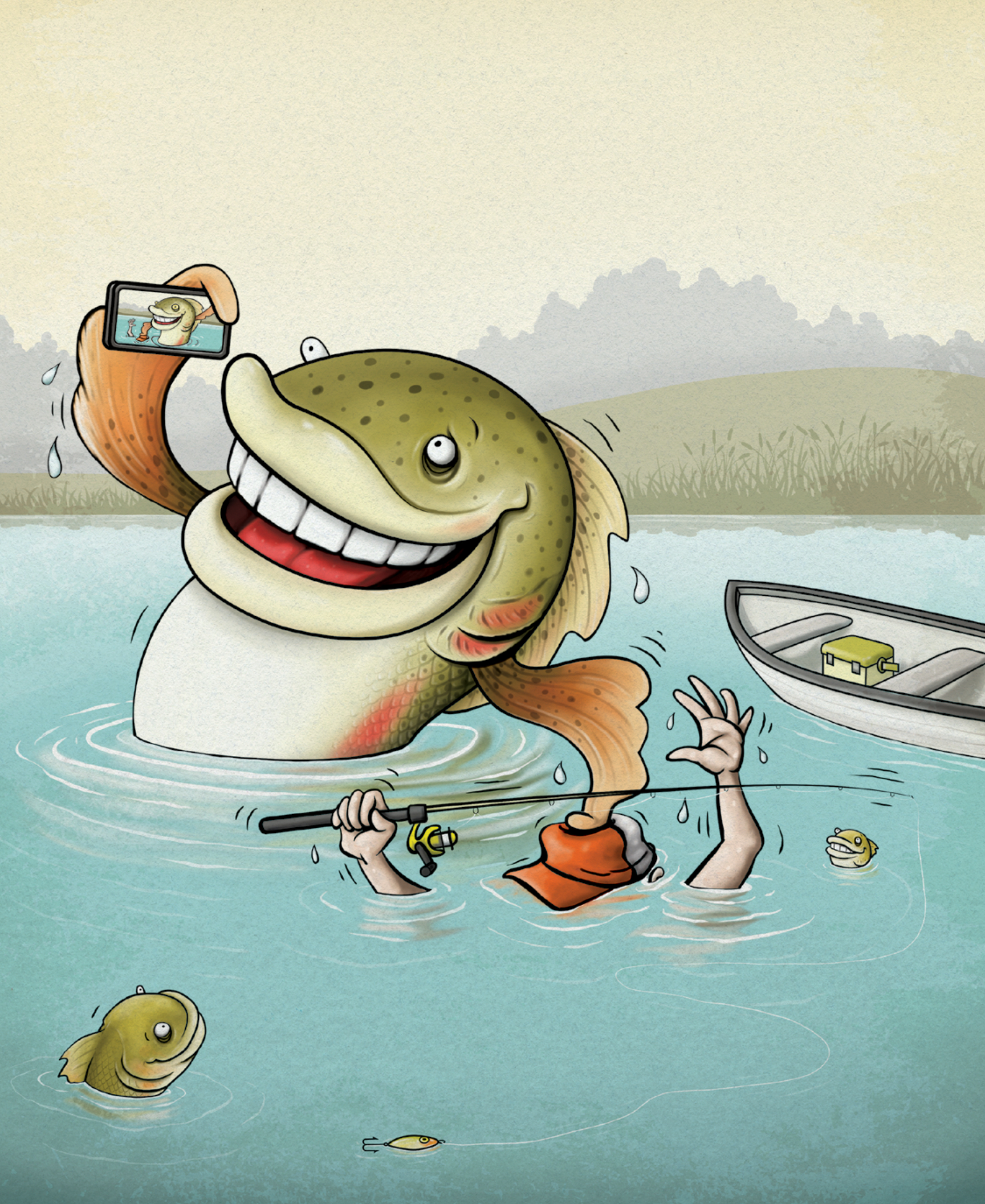
(3) five long-term positions of academic rep, business rep, indigenous liaison, and ACA Chair are appointed; and a Government of Alberta representative is assigned by our Alberta Government partner.

(4) two senior Board members may be invited to serve in an advisory capacity as public liaisons for northern or southern Alberta.

The Board contributes in many other ways too—writing, reviewing strategic direction, approving land acquisitions, representing their constituent groups, meeting with the public, recommending partnerships, and meeting with government officials.

Serving on the ACA Board enlightens and educates members on the avenues toward conservation in Alberta. They eventually rotate off the Board with a much deeper resolve to help Alberta's environment thrive. From time to time, those emeritus members have a chance to help with policy and outreach. It is both a privilege and a pleasure to join such a committed group.

25
Alberta Conservation Association



If a tree falls in the forest…

Perhaps even more poignant now than when this was written in the 1800s—some things have changed, some have not, some we are trying our best to keep from changing, and some we are trying to change.

We live in a world now influenced and dominated by communications. Social media platforms, streaming media subscriptions, smart phones, google ads, and algorithms.

Everything competes to be relevant in our busy day-to-day lives, and so must ACA with its own mission and vision. Until 2008, the communications department was occupied primarily with business cards, stationery, and the reports' portion of corporate services—not really a contributor to conservation or research. Then we started connecting the dots. ACA realized with data-tracking of hunting and fishing licence fluctuations over the years and human population growth that we could no longer assume a constant audience share or level of revenue stream. In addition, ACA was almost unknown as a conservation organization, and too often, wrongly considered a part of the Alberta Government.

The need for corporate branding, relationship building with public, business, and research arenas emerged as profound communication challenges. The need to keep conservation relevant in Albertans' lives became imperative. The fourth resource program—Information, Education, and Communications—at ACA was formed to meet these needs.

Referred to as simply Communications, this small staff roster of designers, writers, web and social media talent, engage and educate ACA's wide scope of audiences through all affordable media.

If catfish are stocked in a pond and it's not posted on Instagram—will anyone catch them?

Who Knew?

What do peregrine cameras, app design and development, wolverines and pheasant releases have in common? These projects and almost any other project of ACA's resource programs have a communication component. Thin ice ads, online fish stocking awareness, bathymetric maps with QR codes on angling signage, events such as Waterfowl Warmup and Kids Can Catch—and even this book—all need to be written, designed, printed, posted, or promoted. Communications contributes to conservaton.

The 3R's

Conservation is a big word. It means different things to different people. Currently hunters and anglers shoulder the majority of costs of conservation in Alberta through levies on licences. Other initiatives for outdoor enthusiasts may also take root for enjoying the outdoors and protecting habitat. It's communications' role to keep the conversation on conservation open to all existing and potential supporters.

Recruitment, retention, and reactivation are the buzz words for ACA marketing. Building trust with existing and past supporters, and sharing our mission with anyone who will listen, will keep conservation present day.

Illustration: *Conservation Magazine* Spring/Summer 2021
article "Catch and Release Done Right"
Credit: Danielle Erickson

Tell me a story

Communications staff talk to the biologists, the decision makers, read through reports, and look up the Latin name for wolverine *(Gulo gulo)*. We convey what scientists and managers have to say about their resource programs' work in progress—the boots on the ground. We let the public know how ACA projects improve Alberta's wildlife, fish, and habitat. We help publish the annual reports for transparency and provide a record of the day. We explain by talking to the experts how habitat loss leads to species' stress. We tell about initiatives that change the future: replanting native grasses on farm land creates habitat for species at risk and draws a variety of birds, insects, ungulates, and amphibians.

Communications helps tell the stories of conservation. Albertans are introduced to species at risk from peregrine falcon cameras; they learn about hunting access dynamics on private lands from surveys that Communications helps to interpret, promote and share. We write about the partnerships that strive to improve how wildlife counts are done, like with ABHuntLog, which allows hunters to contribute to science. We tell the stories so that Albertans can learn what is being done right now to improve the future of Alberta wilderness, such as with funding research into vaccines for Chronic Wasting Disease in cervids. We tell the stories about corporate partnerships, about families who donate land to ensure Alberta stays wild and cared for, and how hunters and anglers make a difference.

Be it through press release, *Conservation* magazine, *Discover Guide*, social media, website, or a museum exhibit about species at risk or trapping and the fur trade, the message from Communications shows what is being done, what can be done, what will be done.

There are a lot of stories—a lot to share. There is a sense that we cannot tell everything that ACA has done in the last 25 years, that there is no way to cover all the ground that has been reclaimed. We strive to bring you a slice of the important work that comes from ACA. It's these stories that keep us connected to conservation.

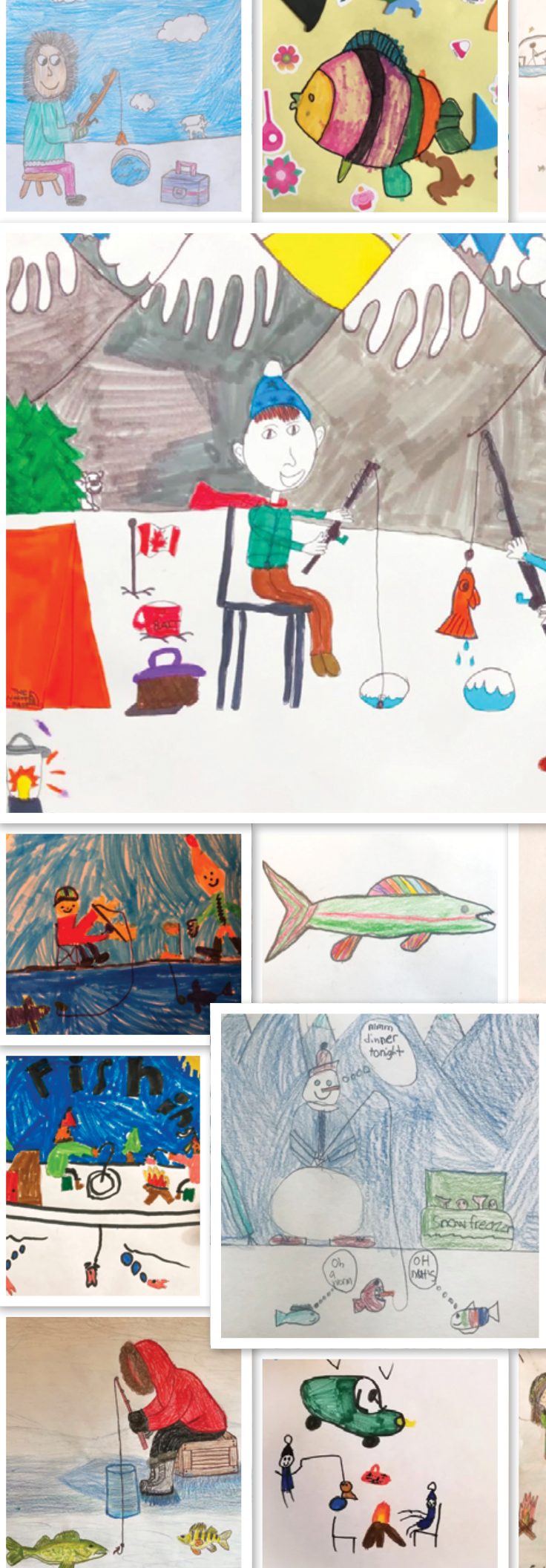
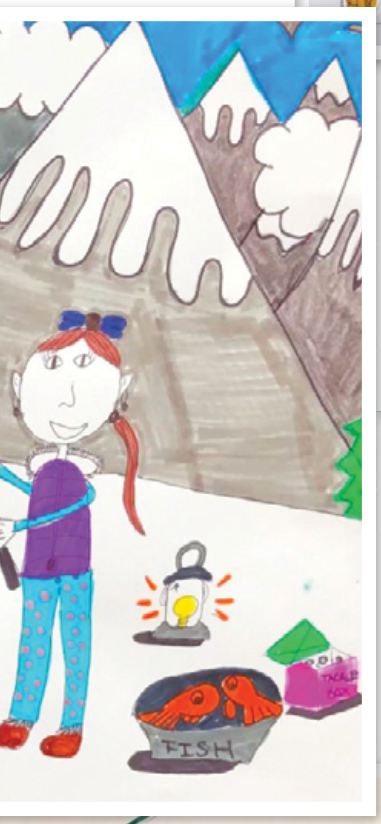


Image: Drawings submitted for Kids Can Catch prize contest







FISH





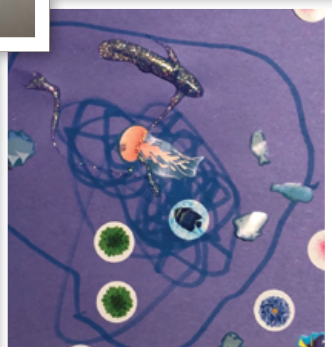
DOG


It's so warm underthis blanket
I Love Ice Fishing





Ice Fishing


CANADA


I like ice fishing with my dad ♡

Wolverine Project

Photo: Live wolverine trap
Credit: Trap, Matt Scrafford;
Photo, ACA, Mike Jokinen

Photo (top right): ACA staff and trapper Duncan Abercrombie processing a wolverine
Credit: ACA

Photo (bottom right): Wolverine
Credit: ACA

ACA has been making final project reports accessible to the public since 1997.

A collaboration between the Alberta Trappers' Association, University of Alberta, Dene Tha First Nation, and Alberta Conservation Association (ACA), resulted in ACA's first foray into live capture of wolverines.

Final Project Report

State of Knowledge for Alberta's Wolverine Population 2020: Literature Review, Density Estimate, and Gap Analysis

Executive Summary: The wolverine is considered *Data Deficient* in Alberta. Alberta uses criteria developed by the International Union for Conservation of Nature (IUCN) when assessing species' status. IUCN status designations are determined using a variety of criteria including a declining population size, extent of (and changes to) geographic range (e.g., extent of occurrence, or area of occupancy), a determination that population size is small and/or restricted, or a quantitative analysis on the probability of extinction (IUCN 2012). Alberta's designation of *Data Deficient* is used when the available data are inadequate to determine the degree of threat faced by the species.

Several wolverine studies have occurred within Alberta since the provincial status assessment in 2000, and much more information is now available that will be useful for an updated status assessment, including abundance estimates for some regions of the province, areas of occupancy and occurrence, habitat ecology, and response to anthropogenic change. However, the data on population size within the province remains limited. Some extrapolation techniques might allow for coarse estimates at the provincial level, but there are limitations to these options. In particular, there are currently no robust population estimates for the Boreal Forest Natural Region even though this makes up the vast majority of the wolverine distribution in Alberta.

We estimated wolverine density for the Birch Mountains area using data originally collected for an occupancy study from 2016–2017. The study area was 1,976 km² with an estimated density within the range of 0.66–3.00 per 1,000 km² (95% CI). This estimate should be interpreted cautiously because of low precision and the failure to meet spatially explicit capture-recapture model assumptions regarding trap-specific behavioural response. However, the study area was again relatively small and may not be representative for Alberta's Boreal Forest Natural Region as a whole. Wolverine density estimates from studies in various locations in the Rocky Mountains and Foothills natural regions between 2004 and 2020 range from 1.3/1,000 km² to 6.8/1,000 km²; however, differences in field and analysis methods make comparisons across studies difficult and should be interpreted cautiously.

In addition, there are limited available data to provide an estimate of population trends over time. Harvest records can provide an index of harvest and changes in the distribution of harvest, though these records are largely influenced by trapper effort, which has not been accounted for with wolverine harvest to date. In summary, data gaps that continue to exist include a current abundance estimate for the northern portion of the Rocky Mountains and Foothills, a reliable abundance estimate to represent the Boreal Forest Natural Region, and information to account for population trends across the province.

Citation: Alberta Conservation Association. 2020. State of Knowledge for Alberta's Wolverine Population 2020: Literature Review, Density Estimate, and Gap Analysis. Data Report, produced for the Alberta Conservation Association, Sherwood Park, Alberta, Canada. 41 pp + App.

Contributors: Andrea Morehouse (Winisk Research and Consulting), Sue Peters (ACA), Robert Anderson (ACA), and Doug Manzer (ACA)

Photo: RAP trailer interior
Credit: ACA, Colin Eyo

Report A Poacher

The Report A Poacher (RAP) Program allows hunters, anglers, landowners, and any other concerned citizen to report suspicious activity related to fish, wildlife, and habitat within Alberta. In 1997, ACA was delegated the responsibility for promoting the program, providing funds for rewards, and partial funds for investigations undertaken by enforcement officers employed by the Alberta Government. Report A Poacher (RAP) has received hundreds of thousands of calls since it started in 1990. In 2021 alone, the 24/7 hotline received more than 15,000 calls from the public, with 3,413 reporting suspected illegal activity. Of those, 350 charges were laid for violations of fish and wildlife laws, and $60,100 in rewards were paid out to those whose information led to charges.

The delivery of RAP is a story of cooperation and partnership. The original partnership was between ACA and Fish and Wildlife Enforcement housed within Alberta Environment and Parks (or any previous iteration of the ministry). However, in 2012, fish and wildlife enforcement officers were moved to what is now Alberta Justice and Solicitor General (AJSG) which meant the partnership grew to include AJSG.

As of 2021, the partnership grew again with an agreement between ACA and Alberta Hunter Education Instructors' Association (AHEIA) that brings the considerable resources and expertise of AHEIA to the education component of RAP. AHEIA is now responsible for the education component of Alberta's RAP Program, using the RAP trailer. The trailer is used at outdoor events and sports shows across the province and is outfitted with static displays and videos about RAP. To reach even more people about the importance of conservation education, AHEIA visits schools, providing a mobile education program that complements provincial outdoor education curriculum, in addition to educating about the impacts of poaching. Teachers are welcome to contact AHEIA staff, who assist with many topics, including the fur trade and how it opened up Canada.

After 25 years the RAP Program has evolved with ACA. While ACA does the promotion and AHEIA does the education, AJSG still retains sole responsibility for liaising with informants, investigating reports, and enforcing laws.

Photo (top left): Original RAP trailer
Credit: ACA

Photo (bottom left): Redesigned RAP truck and trailer
Credit: AHEIA

Photo (right): Original RAP highway signage
Credit: ACA

Hook-horned Prairie Rockets

Pronghorn seem to rise up out of the ground in the broad expanses of tan native prairie, wheat stubble, or the grass and clay slopes of southern Alberta coulees. Remarkable animals, remarkable landscapes. Alberta is special because even though the pronghorn range extends from Canada to Mexico, Alberta and Saskatchewan are the only two provinces to host this speed demon. Our pronghorn however, live on the ragged edge of survivability during severe winters. Those that cannot migrate hundreds of kilometres southward to milder winter ranges suffer high mortality rates.

In addition to being the fastest terrestrial animal in North America, pronghorn are great wanderers and may spend time in two provinces and one state all in the same year. Occasionally, they will wander hundreds of kilometres from southerly winter ranges to the parklands up north, such as the ones that showed up at Edmonton International Airport a few years back. They are big-eyed prairie vagrants with their own movement agendas, which makes keeping their travel corridors open a large conservation challenge.

There are two hooved mammals that evolved and lived continuously in North America—they are the collared peccary, a small pig-like (but not a pig) animal of the desert southwest, and our own pronghorn also mistakenly called “antelope” or “speed goats.” While horses also evolved here, they were absent for a few millennia before their reintroduction.

Most Alberta pronghorn live out their lives trouble free in the matrix of private–public ranchlands. They don’t really compete with livestock because their narrow delicate mouthparts and sage-adapted stomachs take different forage than what is primarily consumed by cattle. They are also small animals that occur at low densities and travel widely. Most ranchers seem to welcome their presence and allow reasonable hunter access for those willing to minimize range damage. Watching groups of tan and white pronghorn ghosting across the purple-skied prairies at 30- to 40-kilometres per hour creates a nostalgic reminiscence of intact ecosystems and conservation successes. They seem to fit particularly well and bring a flash of colour and movement to otherwise monotonous landscapes.

Photos: Pronghorn
Credit: ACA (left); ACA, Paul Jones (right)

Project Pronghorn

For over two decades, Alberta Conservation Association (ACA) has had its feet deeply entrenched in the conservation, stewardship, research, and education regarding Alberta's native grasslands. MULTISAR (Multiple Species at Risk) projects help ranching and farming operations maintain space for struggling species. Research projects have been funded on sage grouse, greater short-horned lizards, and grassland birds. However, possibly nowhere has a longer-term, more conservation-oriented initiative played out than ACA's hands-on participation in Project Pronghorn.

In 2000, ACA looked to address a simple recommendation in the Government of Alberta's management plan for antelope (but not antelope—pronghorn). Where in Alberta do pronghorn winter? What was supposed to be a short and simple project turned into a multi-stakeholder, long-term endeavour to understand and conserve pronghorn not only in Alberta but across North America! Landowners provided crucial on-the-ground information, and in the initial years of the project, ACA surveyed ranchers and farmers across southern Alberta to learn where they observed pronghorn during the winter. Interestingly, pronghorn were using both native grasslands and agricultural crop fields—a surprising result given the prevailing idea that pronghorn were supposed to be native prairie specialists only.

To quantify the results of the landowner survey, ACA, in partnership with University of Calgary and the Government of Alberta, placed GPS collars on 25 pronghorn does each year over a three-year period to examine their habitat use, movements, migratory bottlenecks, effects of winter weather, road presence, and the region's rapidly unfolding petroleum development. The results of the collaring effort revolutionized how pronghorn were viewed in Alberta. Not only did individual animals use native prairie year-round, but certain ones chose agricultural landscapes, while others moved back and forth, using both native and agricultural fields.

An understanding of the daily, monthly, and yearly movement patterns of pronghorn emerged, including travel distances that far exceeded the expected. One female travelled over 445 kilometres in three weeks during the spring of 2004 and covered over 800 kilometres that year—one of the longest movements recorded for any pronghorn across their entire range. While distances exceeded expectations, it was their travel destinations that highlighted what a small world pronghorn occupy. With disregard for political boundaries on a map, Alberta's pronghorn moved between Alberta, Saskatchewan, and Montana. One female sought greener pastures south of the border in the spring of 2004 and never returned. These inter-jurisdictional movements led to the signing of a memorandum of understanding for the coordinated conservation of pronghorn (plus sage grouse, mule deer, and swift fox) between the provincial and state representatives for wildlife management in Alberta, Saskatchewan, and Montana. The Northern Sagebrush Steppe (NSS) agreement is still in place today. The agreement also created opportunities for cross-jurisdictional research, partnership development, and project delivery including collaring additional females in Saskatchewan and Montana.

While the GPS study still yields new knowledge 18 years after the first collar was deployed, it was a simple picture taken during the first year of capture that spoke volumes and changed our minds about how pronghorn traverse their range.

Credit: ACA, Paul Jones

The photo, depicted below, was of a female being released by the capture crew—and to say she was scared for her life is an understatement! Her injuries resulted from traversing a landscape criss-crossed with fences. Fences are ubiquitous across the landscape and are invisible in terms of the effects they have on wildlife including pronghorn. Fences affect the movement and survival of pronghorn especially during winter. Pronghorn migrate hundreds of kilometres to escape dangerously deep snow and exposure, except in locations where fences prevent such movements, then they flounder in the drifts where they die of starvation or are easily killed by coyotes. Understanding and mitigating the negative ecological effects of fences on pronghorn and prairie wildlife became the Pronghorn Project's focus starting in 2009.

This is when the marriage between science and stewardship for pronghorn was born. Simple changes in fence construction will hold livestock and still permit passage by pronghorn. But what standards should the new fence design take? Alternative fence designs are proposed in the literature, but most are based on anecdotal accounts of what "should" work. Such suppositional accounts, no matter how logical, rarely result is management changes. To produce reliable guidance on fence effectiveness, ACA, The Nature Conservancy, and University of Montana stepped in and began testing pronghorn-friendly fences. Results indicated setting the bottom wire at 46 cm (18") was needed to allow passage by pronghorn, as well as for mule deer and white-tailed deer. All three species prefer passage under fences when unpressured. The minimum bottom wire height was adopted by Alberta Fish and Game Association in their stewardship efforts, as well as by jurisdictions in the U.S., and is now an accepted best-practice across North America's Western Association of Fish and Wildlife Agencies.

Photo: Pronghorn release
Credit: Bighorn Helicopters

Credit: ACA, Paul Jones

Every year since 2009, volunteers from Alberta Fish and Game Association remove many kilometres of low, tight, barbed wire on the bottom level of fences and replace it with higher, double-stranded smooth wire. The smooth wire does not damage the backs of pronghorn when they slip under the fence (they rarely jump) yet is too low for cattle to negotiate. Knowing where to alter fences and improve permeability is guided by the migratory and movement tracking data from ACA and others. In this period, surveys and estimates of pronghorn numbers have fluctuated between 6,000 to 22,000 for a variety of reasons including weather patterns, but improved fencing has likely helped too.

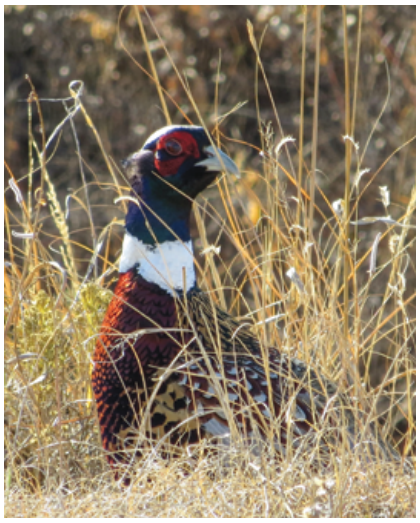
The new fencing standards represent an excellent example of research bringing population-limiting features to light, followed by ACA mobilizing financial resources, partnering with other conservation groups to provide volunteer efforts, and engaging private landowner cooperation. Of course, mule deer and white-tailed deer benefit from this as well. Direct action by outdoor groups on hundreds of kilometres of fence removal and modification have helped return the prairies to a less obstructed continuum of pronghorn habitat.

This long-term support from ACA for partner groups, volunteers, and landowners is a flagship project that accomplishes much for pronghorn and deer, for landowner relations (as they get some fence refurbishment), and interestingly, for the volunteers who work so hard to reconfigure the fences. Once a person has invested sweat and responsibility for improving the lives of wildlife, they are changed. An old truism says, "If you want to make a friend, ask them to do you a favour." Perhaps no better example of this exists than that of the Aeolian Recreational Boundary Institute, a Calgary artist collective that has been volunteering side-by-side with Alberta Fish and Game Association members on this project. This certainly seems like an odd combination of people working together (hunters and artists would not be considered by most as traditional bedfellows), but this project has allowed both groups to gain a great deal of understanding and respect for each other. It seems that if you want to make a conservationist, ask them to do conservation work. We all exist on this earth at a cost to other organisms, so when the opportunity arises to give something tangible back, it just seems to resonate. Yes, we may change the lives of wildlife, but never forget, they also change ours.

Photo (top): Pronghorn crossing fence
Credit: Alberta Fish & Game Association

Photo (bottom): ACA staff removing page wire
Credit: ACA, Paul Jones

Photo: Installing wildlife friendly fencing
Credit: Jason Headley



Bark, Flush, Boom, Sizzle on the Pheasant Release Sites

Credit: ACA, Amanda Rezansoff

They walk among us. Gaudy iridescent topknots, jaunty show-offs, noisy raucous cries—and we love these ring-necked pheasants dearly. An evening call to a pair of fellow hunters, some excited dogs, and a morning plan over hot coffee and doughnuts are all part of the ritual that precede the 45-minute drive to the public hunting area. With a gorgeous sunrise, a few wary mule deer bounding ahead of the car, the dogs put up a pair of teal from a pond, and then the canines get serious about pheasants. There is some excited tail wagging and zig zagging, and we run to keep up just as a glistening cacophony lofts to head height, treetop level, and then freezes in a mid-flight puff of feathers before arching to earth. One of the Labrador retrievers is at the landing spot and racing about for scent before snagging the trail. Fifty metres down the trail, a proud dog pulls an expired rooster from a thicket and delivers him to hand. A speck of blood, luminous blue-green to russet to black barring is just incredible—despite a little dog saliva.

This hunt is half over as the pursuit continues for a second bird of the two-pheasant limit. Our hunters are surprised by two more legal game animals bursting from the exceptional habitat—a snowshoe hare bounds out and rolls to silence to a hunter's shot, then a ruffed grouse flushes to safety catching everyone unaware, dogs included. Ducks, pheasants, hare, grouse—all engaged while streams of white-fronted geese sing their laughing call overhead. Is this really happening on a free, public hunting area within 50 minutes of a city with a population of over one million? Yes it is, and if one is willing to drive a little extra, there are a half dozen such parkland sites that are a day-trip from Edmonton or Calgary. The pheasants, purchased with Alberta hunter and angler licence fees, are stocked on the area throughout the season. This is a service comparable to very expensive private reserves from England to India to Scotland and across the northern U.S.

In southern Alberta, in the coulees and windbreaks of Brooks and southward, it is possible to find wild pheasants that were hatched and raised on the prairies. The Eastern Irrigation District's numerous canal banks and cattail stands make excellent hunting and overwintering habitat for pheasants. Simply wandering this area in late October is a joy of rough shooting for pheasant, sharp-tailed grouse, grey partridge, a dozen species of ducks, three species of geese, one shorebird (common snipe), one species of rail (American coots), and a few species of rabbits and hares. For those schooled in squirrel hunting, there are a few river and coulee systems with invasive fox squirrels too—a delicious and wary quarry.

One never really knows what opportunities a general licence will present in southern Alberta. It is also a good idea to carry binoculars or a camera when walking the prairies because watching coyotes, badgers, moose, elk, white-tailed deer, mule deer, and even an occasional plains grizzly bear (near the mountains) makes for a memorable day. Try basking on a sunny hillside to give the hunting dogs (and hunters) a rest and just take in the prairie's wildlife activities. You never know what you will return home with after a day of walking and stalking these public lands—a delightful mixed bag of game birds, tired legs, some new species identified, and stories of a full day of fitting into a prairie ecosystem as a viewer, predator, and appreciator.

Credit: ACA, Mike Jokinen

Photo: ACA staff releasing pheasants at Taber Pheasant Festival
Credit: ACA, Colin Eyo

Returning the Pheasant Release Program to Albertans

Pheasants were first introduced to Alberta's prairies near Strathmore in 1908 with only moderate success. However, subsequent releases in the southern third of the province saw a golden era of pheasant reproduction, spread, and hunting opportunities.

In the 1930s, land-clearing and grain cropping created environments quite different from native prairie and parklands causing the populations of our native sage grouse and sharp-tailed grouse to dwindle. These two native species are adapted to lower disturbance conditions, and while they will use croplands, their nesting and young fare better in expansive sage flats and native grasslands. This was also an era of experimental management and a U.S. Fish and Wildlife employee, Gardiner Bump, was scouring the world for wild game bird species that might thrive in North America. While he released species like Himalayan snowcock, black francolin, button quail, red-legged partridge, only chukar partridge, grey (Hungarian) partridge, and ring-necked pheasants have truly thrived to date. Alberta hosts self-sustaining populations of the last two and they are much valued by outdoors lovers.

Our province's modified habitats are surprisingly similar to conditions of the arid steppes of China where ring-necked pheasants originated. Pheasants like heavy seeded prairie grasses and lightly managed grazing lands interspersed with small grain farms. Alberta followed the pattern of most U.S. states and stocked ring-necked pheasants throughout the province. While they thrived in the southern coulees, they did not fare so well north of Red Deer due to snow depths, predators, cold winter temperatures, and frequent cold rains during the nesting and brooding seasons. Though Alberta spring and summer conditions were great for pheasants, the winters were just too harsh and snowy. In response, small pheasant stocking operations subsidized by the Alberta Government sprang up for put-and-take pheasant hunting. This was accomplished with no apparent cost to native grouse, and the willow-dwelling ruffed grouse continue to exist amicably with pheasants where they overlap. As early pheasantries supplied birds, the Alberta hunting public went slightly crazy for pheasants. Their cackling flushes, elegant tapering tails, and highly elusive habits tested the acumen and speed of hunting dogs. Their brilliant colours are a joy to hold or photograph, and they are a delicious wild-chicken fare for your table.

As the popularity of pheasant hunting increased across Alberta through the early-mid 1900s, it became apparent that populations would not be sustainable. Several methods for enhancing pheasant populations were explored, including live trapping and relocating birds form high- to low-density areas. This work was conducted largely by Alberta Fish and Game Association members, but proved to be labour intensive and limited by the challenges of finding and trapping wild pheasants. It became evident that finding, collecting, and incubating eggs was an easier option, and thus, for several years, an informal raise and release program was in operation. Through these efforts it became clear that a centralized facility and coordinated program would be considerably more efficient.

In 1945, the Government of Alberta built a large pheasant hatchery in Brooks, incubating eggs collected in the wild and releasing pheasants at seven weeks of age. Eventually, a brood stock was established that reduced the reliance on the collection of wild eggs. From 1945–1959, a total of 50,000 pheasants were stocked between the U.S. border and Peace

Photo: Brooks pheasant hatchery - 1975
Credit: Provincial Archives of Alberta, Bob Matula

River, with birds being distributed at a rate of 45 percent in the parkland south of Edmonton, 35 percent across the prairies, and 25 percent north of Edmonton. By the 1950s, pheasant hunting had become popular, with a daily limit of five roosters and a seasonal limit of 30.

In the early 1990s, the Government of Alberta sold the Brooks hatchery to private interests, where it continued to operate under the name Canadian Pheasant Company (CPC). At the start, the Government of Alberta purchased the same number of pheasants from CPC for release throughout the province. Over time, the amount of government funding for the pheasant release program began to decline, resulting in a reduction in hunting opportunities and a decline in the number of pheasant hunters. A negative feedback loop began. As pheasant hunter numbers declined, government's priority to continue funding a pheasant release program declined, in turn driving down pheasant hunter numbers further. In 2010, it became apparent that the future of the pheasant release program, and potentially the pheasant harvest in the province, was at risk. It was a small group of dedicated hunters/conservationists/business leaders, operating under the name Upland Birds Alberta, that stepped in to save the program for several years, while a long-term solution was agreed upon.

That solution came in the form of Alberta Conservation Association (ACA). After several years of negotiations, ACA and the Government of Alberta came to an agreement that saw the expensive Aerial Ungulate Surveys, which had traditionally been paid for by ACA, transfer solely to the government. The similarly expensive provincial pheasant release program became a permanent project within ACA's Wildlife Program area. In the fall of 2014, ACA officially took over the provincial pheasant release program, with the release of 17,080 ring-necked pheasants on 49 public hunting sites.

It is a fair question as to why a group so dedicated to biodiversity like ACA would undertake a systematic infusion of a naturalized species such as ring-necked pheasants. The explanation is three-fold: (1) our native grouse were largely absent in expansive croplands so pheasants could fill an "emptied niche" in human-altered farmlands; (2) hunters were fanatical about the beautiful, delicious, and sporting ring-necked pheasant; and (3) pheasants can and have acted as the poster-child for upland habitat conservation and restoration. Many rural landowners remember the glory days of pheasants in Alberta, and many would like to see a return to those days. As a result, returning pheasants to the landscape opens up a great starting point for conversations between an ACA biologists and private landowners, toward working on habitat improvements.

This attraction of landowners to pheasants is no more apparent than in the ACA/4-H Pheasant Raise and Release Program. This program was re-initiated by ACA concurrent with taking over the provincial release program. The program is aimed at young people, the next generation of farmers and ranchers, the individuals that will shape the future of private land habitat in the province. The program has been highly successful, including hundreds of kids (and by extension families) across the province. The increased hunting opportunities provided by the provincial release program in combination with the ACA/4-H Pheasant Raise and Release Program and media attention around the Taber Pheasant Festival have all combined to result in concrete, on-the-ground habitat work in many locations in the province.

The OTHER Upland Game Birds

When asked to describe a typical ACA research day, Dr. Doug Manzer, an expert on—and keen hunter of—sharp-tailed grouse, offered stories of the 15-year field effort to understand the breeding habits of this wonderful Alberta native species.

Sharp-tailed grouse, AKA "sharpies" or "sharptails," are a relatively primitive and hardy group of cold-adapted birds ranging from Montana to Alaska. Their feathered nostrils and toes help them weather the severe exposure of Alberta's prairie winters. They have the fascinating habit of establishing leks, which are traditional breeding grounds where the males can strut, bob, stomp, and show off their inflatable neck sacks to woo potential breeding partners.

Photo: Taber Pheasant Festival
Credit: ACA, Paul Jones

We often say wildlife biology is part science and part art.

Finding, observing, and counting birds on these aggregations is the best way to estimate grouse numbers by region. Biologists seek out the leks and monitor them to count maximum bird numbers, sex ratios, and hopefully spot any banded birds. The remainder of the year, the elusive sharp-tailed grouse are encountered only sporadically.

Lek monitoring sounds simple, but leks are only active for about an hour per day from before sunrise to just afterward. And then only in springtime, and down distant mud roads on the howling prairies. Snow, rain, wind, long distances, and getting stuck are all part of the process. To top it off, observations must be made from long distance to avoid disturbing the birds.

The research crews rented a pair of remote run-down farm houses to be close to the lek sites and minimize travel time. The houses brought their own mouse, skunk, and power issues—but at least they provided shelter and somewhat laughable cell coverage. Crews were regularly weathered-in for days on end, waiting out storms while doing data entry and reading—getting the real prairie homesteader experience of isolation and howling wind. While it doesn't seem so exciting, in hindsight, this provided young biologists with unfettered mentoring time, and a chance for advice and discussion with more senior team leaders.

This was also prime time to work on landowner relationships, hear their observations about grouse occurrence, and share some of what had been learned from the research. Partnerships were essential, because the vast majority of sharp-tailed grouse occur on private ranchlands. The hardy grouse are a favourite prairie bird of many ranchers too, providing some colour and life through the bleakest times of winter.

It all seems worthwhile once the weather clears, the roads are passable, and the grouse are whirling, fighting, buzzing, and strutting. Springtime waterfowl in full-colour dot the wetlands, prairie falcons streak passed, pronghorn drift like ghosts, and deer emerge from coulees and shelterbelts. In peak years, such as those from 2006–2008, crews surveyed 630 lek sites scattered across 26,000-square kilometres.

Getting sharp-tailed grouse observations is just one part of the process. Numbers and sex ratios must be mapped and related to the regional habitat conditions—often for years on end before the real biological insights of limiting factors can be estimated. Is there sufficient cover for nesting? What are predation levels? Are grazing practices grouse-compatible? Is industrial disturbance causing lek abandonment? Is there water access? How is food abundance throughout the year? Is hunting pressure excessive? Are numbers going up or down by research area?

We often say wildlife biology is part science and part art. We will never truly know the precise numbers of animals, but changes can be detected and reasonable evidence for where to spend habitat improvement efforts can be gleaned from the data. For example, grouse benefit when haying is delayed until after nesting, using flushing bars mounted on mowers, retaining some shrub cover, and practicing key grazing practices for tame and native pastures. Each of these measures are components of the MULTISAR recommendations that serve to inform ACA-rancher relationships.

Sharp-tailed grouse overlap with ring-necked pheasants and even ruffed grouse and grey partridge in some southern Alberta habitats—so a four-species daily bag is possible, though quite rare.

While we are confident of a few wild pheasants and many stocked ones occupying a place in the hunting fields here, nobody really knows the long-term fate of highly specialized species like sharp-tailed grouse under a changing climate. For now though, ACA biologists shiver and sweat alongside the grouse trying to understand and then remove unnecessary barriers to the birds' success. Given those feathered noses and feet, my bets are sharp-tailed grouse will out-survive our human presence—and the grouse biologists want to give them every chance to do so.

While there is little direct management for Alberta's ruffed grouse, spruce grouse, blue grouse, willow ptarmigan, or wild turkey—they fare well and largely fluctuate within weather and natural cycles, adding a touch of spice to the upland bird hunter's bag in lucky years.

Photo: Sharp-tailed grouse
Credit: ACA, Mike Jokinen

Alberta needs more hunters

Hunter numbers have been dwindling for decades, which doesn't fare well for the future of licence-funded conservation. While Alberta still has a hunting culture stronger than other places, a continued decline is a major concern for all wildlife managers and conservation organizations across North America. They rely on hunting data and funding to help guide balanced wildlife and habitat management.

So, how do we create more hunters? How do we get more non-hunters to appreciate and understand the role of hunting in our futures?

Passionate about these goals, Todd Zimmerling developed the Harvest Your Own project in 2016. By building on a public interest in local and sustainable food and offering a robust online "how-to," the project continues to break down barriers and get more people involved in harvesting their own protein across Alberta's landscape. Starting with articles (topics include understanding hunting regulations, finding a place to hunt, preparing wild game for the table, and much more), Harvest Your Own has since expanded with a popular bimonthly podcast and step-by-step cooking videos. The most viewed webpage is "I Want to Hunt, How Do I Start?", with nearly 25,000 unique views since inception.

Harvest Your Own's active social media community is a place to share tips and support both new and seasoned hunters. The project continues to engage potential hunters and new audiences with corporate sponsors—five to seven contests a year drive up engagement (we gain an average of 75 new newsletter subscribers and 10–30 social media followers with each) while spotlighting our committed corporate partners.

As the content, contests, and videos continue to grow, so does the positive feedback from people who are taking on their hunting journey. Step by step, we're creating more life-long hunters!

www.harvestyourown.ca

Credit: ACA, Samuel Vriend

Save the land, save the species on it

When conservationists and managers spring into action with transplants, captive breeding, predator control, and protective laws, we must remember to repeat the manager's mantra, "It's the habitat, stupid." This is something we all know in our hearts but often forget because it is human nature to seek quick wins, silver bullets, and showy salvation stories for which we can take credit. Unfortunately, such successes are rare. The long-term maintenance of range, forest, river, and wetland are the ultimate prerequisite to species' survival. The best captive breeding program, fish stocking, or transplanting effort is doomed unless the organism's placement is in habitat that will support them. While not glamorous, there are so many ways habitat protection yields benefits—particularly when multiple species can thrive, systems can reconnect, and the aesthetics of pristine habitats resonates in us.

"Multiple species" are the lead-off words of the MULTISAR (Multiple Species at Risk) Program. It was initiated as a large scale, multi-partner, long-term program to create foundational grassland habitats required not just for one species, but all their co-occurring species as well. The MULTISAR approach is advanced by almost 200 landowners, and over 300,000 hectares positioned in key prairie regions of southern Alberta where the bulk of our rare and threatened species occur.

Photo (left): Greater short-horned lizard
Credit: Jason Headley

Photo (right): Common night hawk
Credit: ACA, Brad Downey

MULTISAR has a 20-year track record now of working relationships with landowners, and on many ranches it is now entering its second generation of ranch managers and family members

Consider the fate of *Special Concern* species such as the long-billed curlew and Sprague's pipit which rely on native grasses for foraging and nesting, or prairie falcons which require native grasses for hunting grounds. *Endangered* burrowing owls need native grasslands on loose soil because they make their homes in old ground squirrel or badger holes where they can raise young and escape predators. Even pickier are the greater sage grouse, which depend on silver sagebrush for food through winter in a sliver of habitat in the southeast corner of the province. In 2014, the population was estimated at 50 individuals.

Another species that Alberta Conservation Association (ACA) took on to understand was the common nighthawk, which is *Threatened* in Canada. They have ground nests in recent openings which makes them vulnerable to silviculture and salvage logging.

What makes this approach so effective is that the "administrative unit" of management is an intact ranch, and each ranch comes with its own dedicated champion who knows every coulee, fence brace, and water source. The pride and care carried by landowners ensures that any investment, recommendations, and study results will be fitted to the unique ranch conditions. The MULTISAR net is broad, but the heart of it is large ranches where ACA was invited to complete detailed Habitat Conservation Strategies (HCS).

Photo: Long-billed curlew
Credit: ACA, Paul Jones

MULTISAR has a 20-year track record now of working relationships with landowners, and on many ranches it is now entering its second generation of ranch managers and family members.

The leverage of conservation emerges when range management influences many species simultaneously. Imagine, an endangered ferruginous hawk floating over a flock of thick-billed longspurs, next to the breaks supporting prairie rattlesnakes, and greater short-horned lizards. Maybe after a heavy rainstrom in the dark, some plains spadefoot appear while a burrowing owl nests nearby. Protecting the water sources, residual forage, and native range on this patch of prairie heaven provides for all these species at risk in one fell swoop.

Let's be greedy though and insist that the land also provide commercial benefit. These birds, lizards, and snakes evolved comfortably with herds of grazing bison that managed the complex grass systems. Although the migratory bison herds are absent, we can approximate their influence by managed cattle grazing. These bison-cousins are energy collectors that appropriately graze down grass, provide some hoof action on soil to help germinate prairie plants, deposit manure piles for dung beetles, and occasionally die on the prairie to become eagle, vulture, fox, and coyote food. Cattle ranching also allows landowners to make a living from land that doesn't yield commercial value in any other way.

For many years, the simplistic and incomplete notion held by preservationists was that cattle grazing worked against "natural" conditions. While it is possible to over-graze land, it is actually difficult to do permanent damage to the resilient grazing lands without years of mismanagement. When the forage is gone, the cattle move on or starve, allowing plants to rebound. The prairie wool, needle and thread grasses, and prairie bluestem evolved under heavy pulse grazing by bison, prairie elk, pronghorn, bighorn sheep in the breaks, and deer throughout. Today, the same plants thrive under sound grazing practices, even if cattle have largely replaced bison.

As counterintuitive as this sounds, prairie plants thrive because grazing, occasional fire, hoof action, and periodic drought doesn't hurt them much—and such disturbances

disadvantage their competitors gravely. In the incessant competition for space, nutrients, and root water, anything that hurts their competitors indirectly benefits the durable range grasses. Furthermore, without fire or grazing, it is possible for previous years' forage to accumulate and produce dense shading cover that reduces range productivity, even if it provides some good small mammal and nesting bird habitat. The rancher's cattle are a welcome and needed addition to the prairie landscape.

Conservation on working landscapes also brings us to a good place for reviewing the difference in static museum-like preservation approaches versus the use-concept of conservation. There is a place for both, but the former is more suitable to publicly funded parks with no public expectation of profit-making. The latter is the way of the world on private lands that must generate tax and livelihood incomes. It is great though when both goals are met—a landowner's income and the public's desire for healthy ecosystems—which is the driving rationale behind the MULTISAR approach.

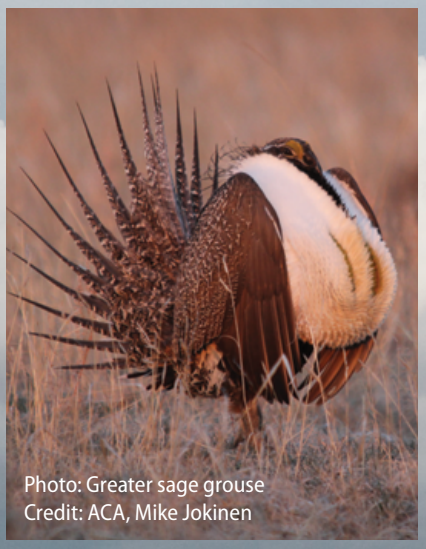


Photo: Greater sage grouse
Credit: ACA, Mike Jokinen

Photo: Ross Ranch
Credit: Roth and Ramberg Photography

The United Colours of MULTISAR

Being a trusted convener of, and participant in, programs involving diverse user groups is arguably ACA's greatest contribution. The MULTISAR Program is an excellent example of a partnership program combining private rangeland owners, ACA, the federal and provincial governments, Prairie Conservation Forum, and the Canadian Cattle Association. In some settings, parties with such differing values, priorities, and mandates might degenerate into factions and competition. Yet, once all partners understood they had more in common than in conflict, things got much easier. All participants value clean air, water, sustainable range use, biodiversity, abundant wildlife, and health for livestock where they occur. Landowners and cattle organizations bring the worries and expenses of land ownership alongside the need to produce income. Federal and provincial government mandates represent the will of the citizenry in both economic and environmental issues. ACA and other ENGOs bring opportunities and professional biologists to the mix to help meet conservation needs for both hunted and non-game species. Long-term funding from the diverse partnership as well as Environment and Climate Change Canada has allowed for the project's success. In the end, all groups are watching out for threatened species of the prairies.

Photo: Ross Ranch
Credit: Roth and Ramberg Photography

By the numbers, MULTISAR is one of ACA's largest program areas with 66 large landowners cooperating on detailed Habitat Conservation Strategies that cover over a half million acres in total. They get ACA's expert guidance on their lands in the form of detailed and encompassing habitat assessments. Another 90 landowners holding 809 hectares or less (totalling almost 68,796 hectares in aggregate) are treated to a Rapid Habitat Assessment, often for species at risk or specific habitat management plans. Even as we write this, another dozen new landowners with almost 20,234 hectares have enrolled in the program for this year. In operation since 2002, MULTISAR is a real winner for landowners, habitats, ACA, and the people of Alberta.

The same prairie rattlesnake that may have been seen as a dangerous denizen is recast as an appreciated mousetrap with negligible threat to cattle. The deer and pronghorn of Alberta's prairies have been shown to have minimal overlap in diet with cattle and, may in fact reduce weed and forb competition with the hardy grasses that make up most cattle forage. Wild browsers also add pleasant ambiance and some sporting opportunities for landowners who might prefer venison over a steady diet of beef. At some level, we all know that a diverse, sustainable prairie ecosystem, rich with bird song, reptiles, and soil-aerating burrows is more desirable then an area of grass monoculture devoid of this diversity. An approach like MULTISAR is very valuable for discussing and demonstrating ways to simultaneously reach the goals of all groups often with just simple changes that increase the durability and sustainability of the land.

Learning from those on the land and providing education to owners and managers is an outreach effort that pays off too. A few examples include, range management short courses for women landowners, volunteer efforts to replace old barbed wire fences with wildlife-friendly smooth wire fencing (often with financial assistance from government or ACA), and field demonstration days jointly led by cattlemen and wildlife biologists.

Photo: Sandstone Ranch Conservation Site
Credit: ACA, Samuel Vriend

The Gold Out There

Our eyes drink in the colours of an American goldfinch perched on a thistle; a backlit red fox in spring with russet tan fur, or the stringers of October yellow-gold aspen stands slashing across silent green hillsides. They all bring gold to nature. There is indeed gold in the 20,000 hectares of Alberta Conservation Association's (ACA) deliberately assembled properties—secured to be usable by the public and all free of charge.

The vast majority of these securements have occurred because of cooperation between ACA and other conservation organizations like Alberta Fish and Game Association, Pheasants Forever Alberta Chapters, Nature Conservancy Canada, Trout Unlimited Canada, Ducks Unlimited Canada, and Edmonton Area Land Trust. In fact, with thousands of new hectares of wildland recreational property newly opened to the public each decade, there is a freshness and happiness for future generations.

Maybe it is a mistake to first look at the presence of wildlife as the value of land. In many ways, living animals and even plants are a product of the land that produces them. Just because there are no interesting animals present doesn't mean the land is not valuable. But, if the land itself (soil, aspect, water, plants) is deficient, you can be fairly sure the wildlife will be absent. At their core, farmers understand the power of soil structure, moisture, and latitude to produce crops or support livestock. Wildlife share this dependence on the sites as well. We all sort of know this in our bones too.

Good conservation planning responds to site quality. While many would like to reach the magical 17 percent of secured wildland recommended by the 2015 Biodiversity Goals set forth by the United Nations Convention on Biological Diversity—for recreational use as well as the long list of environmental goods and services they provide. However, conservation organizations live in a world of inadequate funds to accomplish everything desired, thus, some system of prioritizing and ranking is needed. Enter the Land Management Team at ACA.

The Board of Directors and ACA leadership have consistently prioritized habitat securement and public access for recreation as essential for the future of outdoor engagement. The ACA Land Management Team has worked successfully over the years to both steward the provincial Buck For Wildlife lands as well as to ensure many other accessible lands were distributed across the province.

The task of deciding which properties to acquire is tremendously complex and is influenced by location, price, partners, surrounding property, accessibility, quality, and distribution of other lands held. In landscape ecology, the term SLOSS is an acronym for *Single Large or Several Small* and captures a long-running debate on how to acquire and hold properties. Would ACA's 20,000 hectares of land serve best as a single large holding that could encompass caribou, grizzly bears, and interior specialist species, or would it best be served as a sprinkling of small properties sometimes called "postage stamps" of habitat in a landscape of disturbance, farming, or development? It largely depends on who is asked, however a mixture of large and small parcels well spread around the province is what has evolved.

The actual size of a protected land parcel is only part of its functional contribution. For example, expansive farmlands can represent low biodiversity areas. However, even modest additions of woodlots, wetlands, or native prairie interspersed with modified regions can bring disproportionate benefits. Wildlife can access the refuges for thermal cover, escape cover, feeding, nesting, and watering sites—even if they spend a lot of their time on the farmland. Similarly, a reasonable reach of pristine and protected stream course can serve as a spawning and egg raising stretch for fish that move both up and downstream. We don't have to protect 100 percent of a region to maintain many of the benefits desired. Still, there are some habitat specialists such as boreal owls, piping plovers, sage grouse, caribou, fishers, bull trout, and lake sturgeon that have specific habitat requirements needing protection and who benefit from large intact blocks of habitat.

We private citizens no longer need to own our own hunting/fishing/picnicking acreage. Having ACA's wildlands at our fingertips is akin to the old saying "The best boat available is the one your friend owns." For urban dwellers in Edmonton, Calgary, Red Deer, or Grande Prairie, the best

wildland hunting and fishing property to visit might just be that which is owned by ACA. These are nearby lands which you don't have to fence, pay property taxes, remove invasive weeds, insure, or protect from forest fire—you can simply go out and enjoy them. Forest, prairie, and wetland tracts are selected by the Land Management Team with the values of Alberta outdoorspeople in mind. ACA provides access, publishes maps of each area, and manages the wetlands, forests, and lakes for all of us. There is even a guide to the species you might find there for fishing, photographing, hunting, or picking berries and mushrooms. These lands are there to be used and this is a golden gift to us and our future.

Of all the great things one can do for biodiversity, there is no substitute for vast land area of rich habitat, and such land provision is the tangible anchor of any conservation organization. We judge environmental organizations by their ability to protect the very ground and water that produces bull trout, large-antlered mule deer, green-winged teal, black-throated green warblers, huckleberries, and high bush cranberries. We should remember that there is much more going on than just wildlife availability and recreation. ACA conservation sites bring ecological services such as carbon storage, biodiversity maintenance, water purification, enhanced value of adjacent properties, flood control, and refuges for species of special concern. These are well-rounded wildlands—secure, productive, and diverse.

Credit: Jim Potter

The governments of Alberta and Canada have the jobs of setting seasons, developing wildlife regulations, and conducting enforcement—all essential activities. Yet, since ACA is a non-governmental organization, ACA can focus on public wishes and satisfaction within the legal framework established by government. The Government of Alberta is still one of our largest partners in delivering public goods—and teamwork and partnership meets the challenge more effectively than either can alone.

For many years, ACA leadership claimed, "We don't manage; that is government's purview," which isn't really accurate. To get the biggest bang for the buck, habitat securement professionals at ACA seek out land bargains based on land potential. Any expert ecologist can recognize exceptionally rich, diverse habitat when they see it in its pristine state, yet, it takes an exceptionally wise, insightful and experienced land man or woman to examine an overgrazed, degraded, or farmed site and crystal ball its potential to become a great site. Getting there requires management however. Some examples of ACA's long-view management include shelterbelt plantings, wetland creation, erosion control, fish introductions, livestock exclusion fencing, and sometimes pheasant releases. In the absence of grazing herds of bison, land managers occasionally invite local ranchers to conduct managed grazing or hay cutting on some tracts. This mimics a natural process to improve the habitat, reduce wildfire risks, and improves relationships with adjacent landowners.

Land use is a funny thing that is riddled with tradeoffs. We can't have row crops and forestry occupying the same exact sites, cougars are not welcomed on playgrounds, and cattle watering in streams are incompatible with trout spawning. But there is a possible synergy. For most species, ACA does not need to own the entire landscape—rather, a sprinkling of protected forest and prairie sites throughout a heavily farmed landscape can meet the minimum requirements to bring moose, coyote, Swainson's hawks, ovenbirds, and ruffed grouse back into the whole area. Similar to how a tiny oasis in a vast desert completely changes the species capable of dwelling there, ACA's forest patches meet the cover, nesting, foraging, and security needs of a broad sweep of species. They may browse on agriculture's wheat stubble, waste grain, and weedy edges, but for part of their lives they absolutely require those conservation areas to fulfil their annual needs.

Photo: Flatbush 2 Conservation Site
Credit: ACA, Garret McKen

Land Securement: a Core Value of ACA

The pride of accomplishment is embodied in Darren Dorge, Manager of Alberta Conservation Association's (ACA) Land Management Program. Over most of our 25 years, his team has steadily ratcheted up land holdings, distribution, quality, and cooperation across the province. With $28 million of habitat secured in the past decade alone, ACA juggles a complex set of needs, opportunities, gifts, easements, access, and county cooperation. One of the defining differences between ACA and the Government of Alberta is that our structure and business principles allow flexibility and operation under a set of non-governmental rules. It is a luxury that we can negotiate land exchanges tailored to the individual seller or donor, accommodate donor tax incentives of a not-for-profit organization, and build on consistent personal relationships. The ultimate beneficiaries of ACA's efforts are recreational users of the land.

Another key difference between ACA and the Alberta Government is our ability to receive donations. Much of ACA's success in securing habitat over the past decades is not only due to private donations and bequests, but also in the development of funding relationships with corporations. While some may see resource extraction companies as being at odds with conservation, ACA has accepted that the majority of Alberta is composed of a working landscape. The best way to impact and improve that working landscape for conservation is working with the companies actively working on that landscape. As such, ACA has a robust Corporate Partners in Conservation Program, which has resulted in significant and sometimes long-term funding contributions for habitat securement.

Photo: ACA staff at MacConnachie Conservation Site
Credit: ACA, Charmaine Brunes

High-quality land is deliberately acquired across Alberta to provide outdoors access to all residents. An overall plan of land acquisition and key considerations is managed by ACA's Land Management Team.

There are six primary ways that lands are acquired:

1. **Fee Simple Purchase** – The old-fashioned approach of we value it, we buy it, and we secure it (often with partners). Many early Buck For Wildlife lands were purchased outright.

2. **Land Donation** – Conservationists, ranch families, and aging homestead owners often want to know their beloved land will remain in good hands in perpetuity, and they trust our mission and goals in accepting care of their donated properties.

3. **Voluntary Terrestrial Offsets** – Corporations sometimes use land donation to offset unavoidable land damage or habitat loss elsewhere. ACA is seen as a fair and neutral broker to accept and manage these voluntary offset gifts.

4. **Fee Simple Purchase with Partial Land Donation** – A hybrid model that allows extended payment to donors, and lets them receive a tax-favourable remuneration over time for their land generosity.

5. **Conservation Easements** – Sometimes ACA will accept and oversee the (legally recorded) promise of a landowner that their land will remain in wild condition.

6. **Crown Land Transfers** – Occasionally government may own small, unwieldy, or isolated patches of land surrounded by private land and are willing to transfer its management over to ACA for simplicity's sake.

Because ACA's funding derives primarily from hunting and fishing licences, our mandate is specific and focuses on outdoors and nature information. Thankfully, this mission is not distracted by competing budget issues like potholes, utilities, or health care that government must juggle. Not every special interest group or jurisdiction follows ACA's approach—so communication and explanation never stop in our attempts to maintain trust and understanding.

Public need for transparency, redundant accountability, and abundant consultation can create a glacial pace for government action. In contrast, ranchers, farmers, outdoorspeople, and corporations appreciate ACA's nimbleness. Partners like being able to phone up a specific ACA employee whose hand they have shaken, who has walked their land with them, and who understands their values in developing land donations. Even though ACA operates for the public good, we remain staunchly non-political—freeing us to focus on the business of conserving land holdings for the public.

The ACA story is one of good fortune and a confluence of many inputs. But thus far, the land holdings and management are unmatched by any province in Canada in regards to free public access to recreate. This great opportunity is a direct outcome of the passion outdoor users feel for their resources in the hunting, hiking, fishing, birding, and trapping fields. Clearly, use and appreciation can pay off in perpetual benefits to wildlife.

Credit: ACA, Dan Sturgess

MacConnachie
Conservation Site

Our Landscape is Our Home

► *by Tara Holmwood*

When you picture a conservation site, does a serene landscape open to outdoor enthusiasts come to mind?

The MacConnachie Conservation Site, dedicated to the memory of Peter Thomas Fraser MacConnachie (1962–2017), is such a place. Covered by trees and shrubs, with birds singing and frogs croaking in the scattered knob and kettle wetlands, it's an ideal site to honour Peter's lifetime of environmental conservation efforts, particularly within the ecologically sensitive areas of the boreal forest. The land provides an opportunity to reconnect with wildlife and their habitat and makes us appreciate all Alberta has to offer.

"Peter would be so proud today to see how much has been accomplished."

~ Patricia O'Reilly

To celebrate Peter's legacy, a commemorative stone has been placed on the site. And on May 22, marked each year as International Day for Biological Diversity by the United Nations, ACA hosted a dedication event at the MacConnachie Conservation Site. On this day, a trail through the forest was shaded with spring buds from the aspen, birch, poplar, willow and spruce trees, and contoured with shrubs readying their wild berries for lucky summer visitors. The forest brimmed with flora and fauna alike. Fresh ungulate scat and tracks were left on the trail by moose and deer. A broad-winged hawk soared in the clear, blue sky overhead. The previous day, a black bear had been spotted wandering through the forest. Luckily for our event and its honoured guests, the bear had moved on.

Following a delicious barbecue, Todd Zimmerling, ACA's President and CEO, welcomed those who had travelled from near and far on behalf of Suncor Energy, Alberta Fish and Game Association (AFGA), Pembina Institute, Alberta Environment and Parks (AEP), and Silvacom Ltd. and friends and family. But how had all this come about?

The previous spring (2018), Suncor Energy had donated funds for ACA to purchase conservation land. The idea is that the land purchased—and then conserved in perpetuity—helps Suncor voluntarily offset a portion of their development footprint. Shortly after the donation, a half section (310 acres) of land approximately 17 kilometres east of Two Hills, and right next to ACA's Morecambe Conservation Site, came up for sale. ACA purchased the land and suggested dedicating the site to Peter MacConnachie. Peter had been a strong advocate of ACA and Suncor's long-term partnership—the Boreal Habitat Conservation Initiative (BHCI) that started back in 2003—which sealed the decision. "Peter was instrumental in our partnership with Suncor and achieving our goals together," says Ed Kolodychuk, an ACA Senior Technician who worked closely with Peter.

As the dedication event rolled on, Patricia O'Reilly, Director of Sustainable Policy, Partnerships and Disclosures, and one of several of Peter's former coworkers from Suncor Energy who took a five-hour bus ride from Calgary to be there, spoke kindly and eloquently about her colleague. His extraordinary conservation efforts started out like those of the Lorax in Dr. Seuss' book of the same name. In the book, the Lorax tries to preserve the delicate Truffula tree. Similarly, Peter started his environmental career very early with tree planting, steadily progressing and contributing to the greater environmental cause. Peter was so closely connected with nature that he claimed to be on first name basis with "Phillis and Phil Pheasant" and "Mal and Mallory Mallard," Patricia shared with us.

As a champion of biodiversity, Peter worked closely with the Suncor Energy Foundation and ACA under the BHCI to help preserve over 10,000 acres across 43 different conservation sites. "Peter would be so proud today to see how much has been accomplished," Patricia pointed out.

Speaking about his accomplishments, Peter's wife, Celeste MacConnachie, shared how—inspired by their children, Margaret and Elizabeth—Peter launched the OSQAR (Oil Sands Question and Response) blog. He wanted to engage the public to "participate in a conversation about the responsible development of the Canadian oil sands" (OSQAR 2019). Celeste highlighted that Peter felt education, knowledge, and getting people involved was an important aspect of "the stewardship of our natural heritage: once it's lost, it's gone forever."

As Celeste put it, "If you really want to affect change, you really need to get in there…. Just put your head down and do the job that's in front of you. If you don't care who gets the credit, it's amazing what you can get done."

Her sentiment supports Peter's "our landscape is our home" ethos—a meaningful theme in conservation efforts. This theme is also supported by ACA's mission for Albertans to enjoy the outdoor landscape. As Todd told everyone present, "This beautiful, fairly undisturbed property is a great place for people to get out and see what the boreal forest looks like."

Though the dedication of the conservation site to Peter MacConnachie's memory was a meaningful gesture to those who knew him, the greatest way to honour his legacy is continuing to care, sustain, and maintain our environment. And not alone, but through personal relationships developed by thoughtful conversations. Ask someone you know, as Todd regularly asked Peter (who was a dedicated crossword puzzle enthusiast), "What are we going to solve today?"

The One Percenters of Alberta

Are you a one percenter? Not necessarily the top one percent in income and certainly not an outlaw motorcycle gang member, but are you among the one percent of Albertans who is a farmer? A betting person with a smattering of math skills would see there is a 100-to-1 chance your answer is "yes." You see, only one in 100 Albertans actually grow crops, raise cattle, manage chicken or hog barns, bale hay, or run a dairy.

Though scant in numbers, Alberta farmers punch well above their weight class in producing and hosting public wildlife on their lands. In fact, of the 275,000-square kilometres in Alberta's White Zone (southern private lands), over 200,000-square kilometres are in agriculture. A whopping 75 percent of Alberta's private lands are agricultural. These same rich soils, more moderate climate, interspersed forest patches, wetlands, and lakes are also where most of Alberta's wildlife production occurs. The 60 percent of the province's public parklands and boreal forests are expansive, but lack the sheer productivity of the southern 40 percent of the province.

As prime stewards of a large swath of landscape, crop and livestock producers are a vital link between cultivated land and natural habitats. Since its inception in 1997, Alberta Conservation Association (ACA) has chosen the correct fork in the road regarding landowner relations. In many places, conservation organizations battle landowners and try to force the desires and agendas of the public onto the people who depend on making their living off private lands. In a deliberate and insightful move, ACA has been able to develop a more flexible and mutually beneficial relationship with landowners than government ministries are able to. There's always a risk of suspicion when the same government that taxes, regulates, and enforces laws comes knocking on your door looking to partner up.

Any rural landowner can tap into ACA's conservation advice through the landowner partnership programs. Some large landowners have been approached by ACA's land stewardship group to become early adopters—as well as to share knowledge of best practices on topics as diverse as rotational grazing, prescribed burning, invasive weed management, predator conflict reduction, streamside management, off-site watering for livestock, and soil carbon storage. While there may be a little caution and bluster with landowners at first—over time it is replaced by trust, friendship, and a sense of shared mission. Partnerships are just that, the best of what multiple players can bring to environmental and ecological problems.

The Landowner Habitat Program and Habitat Legacy Partnership at ACA help maintain that diversity and are funded by hunters' licences. We can celebrate that common appreciation and the specialness of knowing that many of our agricultural one percenters are also great supporters of conservation.

Perry Olsen, an early Colorado Director of Wildlife, astutely observed, "Wildlife management is 10% managing wildlife and 90% managing people." People management comes from several directions too—in the case of landowners, the magic happens through partnerships. A solid workable partnership is mutually beneficial and operates with shared goals and some level of trust. Trust and shared goals require a great deal of understanding, compromise, and an ability to see conditions from each others' perspectives.

Just for fun, let's try seeing things through the eyes of a one percenter and pull on the dusty, manure-caked boots of a cattle rancher down near Twin Butte, south of Pincher Creek, for a minute:

Photo: John Ross
Credit: Roth and Ramberg Photography

You have a half dozen Angus cross heifers due to drop their first calves in a remote pasture along the river and you're heading out into the first November blizzard to check on them. An orange Jeep meets you at your farm gate as the first big flakes of snow start and two hunters from Calgary roll down their window to ask access permission to hunt whitetails in the river breaks this evening…right where you know those cows are going to seek shelter and drop their calves. You're running late, the weather is getting worse by the minute, and if things go wrong you could lose $5,000 overnight on those young cows. It would be easy to offer up a curt "Nope" and be done with it. However, you know they have driven a long way, and you also know that their licence fees have helped you with cattle watering devices, range recommendations, and some improved fencing for wildlife. Besides, they did have the courtesy to stop and ask permission so instead you tell them, "No, not that river bottom, we will be working cattle down there." But you go on to help them out by saying, "Thank you guys for asking first, that can be hard but it is really important. Now, see my centre pivot on that bench up the valley? There is a coulee on the south side that leads down to the bottoms. I see whitetails crossing that bench most evenings around dusk. If you play the wind right, and hunker down by one of the centre pivot wheels, you have a better than even chance at one of three decent bucks that have been coming in late. A few ranch rules though—don't shoot up the irrigation equipment, don't drive on the pasture; and don't gut animals close to any cattle pastures because it attracts the predators we are trying to live with. Oh yeah, inspect closely because we also have a fair number of mulies, and even elk and moose, coming up to that alfalfa stubble. Good luck." You make smiling eye contact and the hunters seem genuinely excited and appreciative—always a good sign, and one you have observed repeatedly throughout the season.

Later, turning up your coat to check cows, you see two of them have healthy new calves nursing at their sides so you record the moms' ear tag numbers and leave them undisturbed. As you walk a little further, you cross a streamside protection fence you helped the local fish and game club install with Alberta Conservation Association (ACA) funds. Just then a doe whitetail and her six-month old twins go bounding down the river shoreline, flushing a pair of late season mallards from a clear river backwater.

You worry a bit about just how cold this blizzard wind might get tonight, but are glad of the protective cover strips you fenced out. The grizzlies that share these foothill pastures are mostly denned up and you are glad the new calves are unlikely to present a predator problem. Then, as you trudge back up to your truck in the dusk, you hear two rifle shots a kilometre up the valley. Squinting into the late evening light and sparse flakes, you can barely make out the two hunters walking across the centre pivot to a dark spot in the alfalfa stubble. Good for them, they seemed decent and appreciative sorts. Now, if only they would reciprocate and host you and your bride for a night on the town in Calgary. On the way back to the ranch house you nod appreciatively that they have closed the gate to your bull pasture.

It is almost Christmas when you see the same orange Jeep pull into the drive and the same two hunters walk up to the door. Hunting season is over so this seems a little odd. You usher them out of the cold and into the front room where they offer up a decorative Christmas container stuffed with homemade venison jerky and a butcher's paper package filled with frozen Polish sausages from the healthy 4 x 4 whitetail and the doe they managed to bag. It looks like some of that alfalfa field would make its way indirectly into your freezer after all. Over coffee, they seem as thrilled over the grizzlies on the place as you are about the free tax advice one of them offers on property improvements. The other guy discusses a new synthetic building material his store carries that never rots or needs painting. Hmmm—the new calving barn plan could benefit from that. These two should definitely come back next season for a late elk-in-the-haystacks shoot. Names and numbers are exchanged along with best wishes for the holidays.

Scenes like this little bit of fiction play out across southern Alberta every fall and reinforce the triangle of landowners, outdoorsmen, and conservation organizations. As one of the few North American jurisdictions where land is not leased to third parties for hunting rights, the public is not excluded here except by those landowners who have previously had bad experiences with hunters. One of the greatest opportunities for hunters afield in Alberta is to ensure that landowners get recognized in return for access permission, and it can't legally be money, so a sincere thank you, a Christmas gift of homemade jam, or a shared meal at the local café become important, even if incomplete, thanks.

Ironically, going out into a cold snowy environment to get some fresh air and maybe hunt is often less of a holiday to farmers and ranchers. Farmers are out there every day as work. That, however, doesn't mean landowners don't love their land. They draw security, sustenance, pride, and meaning from their stewardship efforts. In this case, they share with hunters and anglers the desire for healthy soil, clean water, abundant forage, bird song, diverse wildlife, and productivity.

Credit: Roth and Ramberg Photography

Conservation Offsets—Having Our Cake and Eating it Too

Maybe it's natural to just want it all. Income, energy security, recreation areas, and high-quality environments. Few topics divide Albertans as much as energy policy, but what is the full range of good to emerge from Alberta's energy production and employment? When Suncor approached Alberta Conservation Association (ACA) in 2002 to host and steward a series of unbidden land donations in north-central Alberta, some were quick to ask "What's the catch?" As it turns out, there was no catch. This was not some snake offering an apple in the Garden of Eden, rather it came from a very frank and business-like awareness on Suncor's part that a responsible society expects and appreciates the process of resource-users giving something back.

Many of us have worked in the oil sands region and appreciated the honesty of Suncor's assessment that exploration, access, mining, and slow reclamation were necessary but unwelcome byproducts of mineral extraction. Mining was taking productive habitat out of commission for uncomfortably long periods, so Suncor made a corporate decision to fund ACA's Habitat Stewardship professionals to select properties to be protected in perpetuity. These properties would help ensure some voluntary compensation and goodwill to offset the working landscapes. In short, it was a generous act and the right thing to do.

However, Suncor did something that seemed very "unbusinesslike" in never requesting paybacks to any bottom line, compensation, mitigation credit, or future permission-to-mine from regulators. This act, or rather series of actions, was stimulated by Suncor's internally generated sense of ecological stewardship. They, like ACA, hoped to demonstrate a new concept of replacement habitats with hopes that other companies and governments would learn from this proof-of-concept approach. They wisely sought out the expertise of ACA's professional staff who had an excellent track record of finding and securing wild recreational lands. Here is how it all played out:

The "land men and women" of ACA are constantly assessing, visiting and ranking the habitat values of potential land acquisitions. In 2003, ACA identified 190 hectares (470 acres) around Winagami Lake as a rich shoreline and riparian zone for protection with public access. Suncor provided the purchase funds as a means of giving back intact habitats as a partial, voluntary offset to their boreal habitat disturbance elsewhere. This proof-of-concept conservation initiative was so successful that it led to a multiple-year relationship between Suncor and ACA that still continues to this day. To date, Suncor funding has helped secure 3,951 hectares, all as a part of a voluntary commitment on the part of an industry leader.

Along the way this voluntary offset arrangement between Suncor and ACA attracted attention of both ENGOs and other industry players. Pembina Institute and the Canadian Boreal Initiative publicly pointed to the partnership as an example of how a voluntary offset system could work.

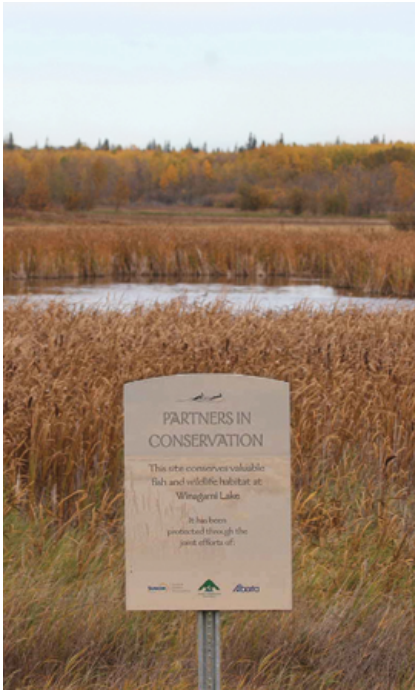


Photo: Winagami Lake
Credit: ACA

Photo: Junction Lake Conservation Site
Credit: ACA, Garret McKen

Total Energy and Petroleum, and Shell Canada Ltd. also recognized the success of the Suncor/ACA partnership and entered into similar types of arrangements with ACA to provide funds for the purchase of conservation lands.

Globally, the idea of conservation offsets has gained acceptance—where industrial and development disturbance to wildland values are matched with or offset through the securement or improvement of other lands at risk. Offsets are one of the more tangible and beneficial ways of maintaining wildland functions and values. The early wetland offsets managed by Ducks Unlimited expanded and informed ACA's own terrestrial, wetland, and wildland offsets. The Province of Alberta was watching these successful programs with an eye toward making offsets an official form of regulatory compensation for both wetland and terrestrial systems. Although the Alberta Government maintains parks and some natural areas available to the public, it does not have an official roster of wildlife refuges for hunters, anglers, and trappers—so ACA's land areas are highly complementary to the government lands available to the public.

In response to a downturn in the petroleum markets, the provincial recognition of offsets was slowed somewhat, but ACA's President and CEO Todd Zimmerling met with the Minister of Alberta Sustainable Resources and gained renewed public assurance that voluntary offsets would be recognized under certain conditions.

In 2015, when ConocoPhillips funded ACA's purchase of several quarters of breeding habitat for the *Endangered* piping plovers at Junction Lake, east of Edmonton, it became the first conservation offset officially submitted to and accepted by the Government of Alberta's new Early Action Process for Conservation Offsets.

Maybe, just maybe, it is possible to have our [natural gas-cooked] cake, and eat it [by a beautiful undisturbed lakeshore] too.

Of the several other categories of land securement—purchase, donation, government transfer, easements—it should be noted that individuals who've worked, stewarded, and loved their land often want the natural values preserved into the future. They find ACA a responsible home and host (with charitable donation status for tax purposes too) for accepting the care of their family farm, ranch, woodlot, or wetland. The professional land men and women at ACA help bring these donations and offsets into reality in ways that benefit both the donor and the public. One of the core attractions is the perpetuation of nature in a sustainable way, and the assurance that the land will stay in its original condition to be cherished by future visitors. Like the Suncor offset, these donors are some of the unsung heroes of our grandchildren's linkage to a land ethic. These donors are the foundation of a land-based experiential "school" where those without their own land can go to embrace nature. Such enduring gifts are right up there with libraries, parks, museums, and theatres in terms of social enrichment.

Credit: ACA, Colin Eyo

I Caught A Fish! Mom! Dad! I Got One…

Maybe it was the fishing, but it was special even if we never wet a line. The feeling of riding snuggled up to my father's side while the car tires crunched gravel in the pre-dawn darkness is a memory that will never fade. I felt truly loved and special as I relished my doughnut and chocolate milk while he balanced a thermos cup in one hand and the steering wheel in the other. This morning I was his sole fishing companion. The smooth aluminum boat seats, the vapour on the water, the echoing clunk of boots on the boat floor leading to the crank and putter of the small outboard steering us to a distant shoreline full of anticipation. The delicious smell of two-stroke fumes and the hooky rattle of the tackle box as he first set up my pole, line, hook, red and white cork, and earthworm. It was almost as if Norman Rockwell were calling the shots for my entry into utopia. And here is the thing, I remember all of this clearly but I don't recall if we caught any fish or not. Even 55 years later, it doesn't really matter as those memories of dad are priceless.

But wait, let's rewind a moment and imagine a very different fishing trip. It starts with a worried, exhausted single mother of twin eight-year-old boys. Her shifts at a commercial bakery don't leave much time or money for extravagances like fishing. Add on the time demands of her own aging mother and it is too easy to just say "nope" to two young boys begging to go fishing. It is here that an Alberta Conservation Association (ACA) program Kids Can Catch can make dreams come true. They provide the fishing venue, expertise, tackle, and a cadre of volunteer experts to make learning to fish simple. This is not something a working mom could easily do for her boys on her own. Maybe it is just a day on a dock watching minnows and bobbers surrounded by dragonflies, water beetles, and even a great blue heron stalking the shoreline. Regardless, the twins are in the moment! So much so that maybe mom can hang back at a shoreline picnic table for a coffee and chat with other parents. The stillness broken by squeals of excitement as a trout is lofted to shore. The hours fly past in a blur, until the sun is setting and sunburned kids trudge back toward the car as new fishers. Their prized catch, cleaned and on ice in a small cooler, is heading home for their very own fish fry. Maybe a screen shot for grandma to show her they are bringing home dinner—as well as a heart full of treasured memories.

Never dismiss the power and gravity of a child's first fish. So what is involved at the deepest heart-felt moment when the twitching tug from another world appears? Psychologists might call this an "emotionally significant event" for the child—a one-minute crucible of empowerment, of gaining control over another life that fundamentally changes them. Never dismiss this moment, because a child's world view is like molding clay at that moment—still malleable and formative in ways it will not be a decade later. The reassurance and validation by parents at their side cements the rightness, anticipation, preparations, and hope—leading to bonds of shared experience. They have been rewarded with both a fish and the validation of their elders.

Fishing can be a verb, a noun, or an adjective, and it is also a common metaphor in world religions, in poverty alleviation theory "Give a man a fish…" and in love relations as in "Plenty of fish in the sea." Yet, the most powerful expression of fishing experience may be in introducing children to the awe and joys of the natural world. The mystery of casting a line into the unknown, waiting patiently for response, then reeling in a marvelous, iridescent, and delicious organism into the light of possession is an experience filled with wonderment, delight, and satisfaction. It is the moment in which conservationists are created.

Kids Can Catch – A Winning ACA Program

Alberta Conservation Association (ACA), in conjunction with a myriad of community groups and corporate sponsors, crafted the Kids Can Catch Program to eliminate barriers for children and their parents to go fishing. They did so by making it fun, simple, accessible, local, and free. With expert fishing coaches on hand to explain hooks, provide rods, offer casting advice, and help with fish handling, this is an easy fishing day. The coaches provide encouragement and there's often a free lunch sponsored by corporate donations, or maybe a fish fry along the shoreline. The pressure is off parents who are new to fishing themselves—and who knows, maybe they're taking some notes for future fishing trips on their own. After all the preparations, it is time for lines in the water and, a surprising number of children catch their first fish. The logistics are all taken care of by ACA or one of the partner groups (AFGA clubs, local municipalities) at public waters on well-advertised days.

The goals of Kids Can Catch are to demystify this simple, accessible, year-round outdoor activity. It's true, ACA depends partly on outdoorspeople's continued involvement for its existence, but the motivation for this public outreach goes much deeper than future licence sales. Fishing as a family brings a wealth of connections to nature. Fishing teaches patience and perseverance, and introduces broad conservation concepts. Fishing helps us to disconnect from routines and screens and spend quiet, yet fully occupied time with loved ones. Finally, few things boost children's confidence and connectedness like drawing sustenance from nature.

Alberta lakes, streams, and ponds provide a great range of fishing experiences. Children who learn to love fishing will often become life-long conservationists—whether trolling for lake trout, dry fly casting for rainbow trout, or sitting on an ice-covered lake jigging for perch. That 70 percent of Alberta anglers visit managed fish ponds near towns each year speaks volumes about the demand and the distribution of fishing experiences. ACA seeks to maintain viable, self-sustaining fisheries, as well as a distribution of ponds stocked with delicious trout.

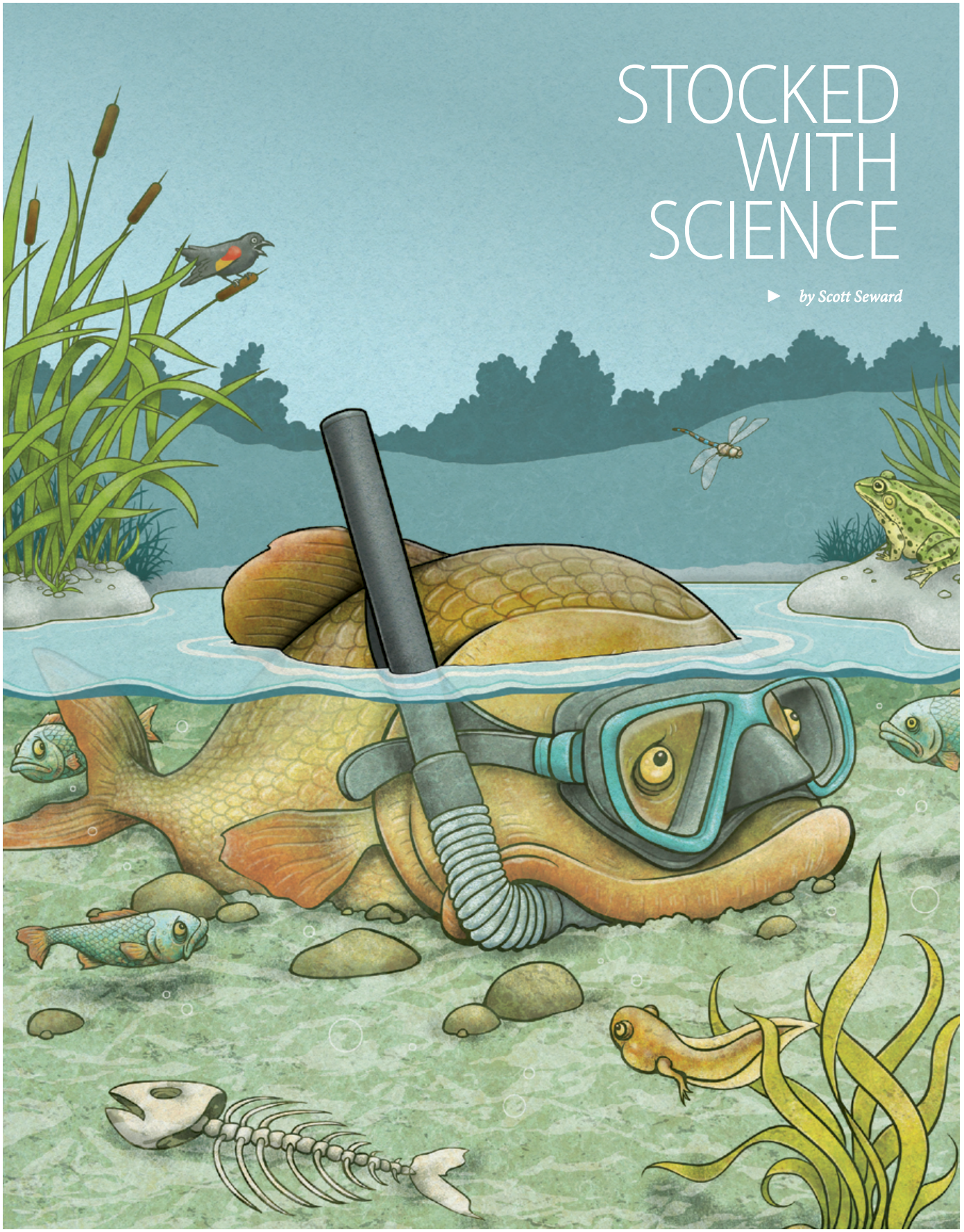
There is no downside and plenty of upsides to ACA teaching the public how to fish and how to love fishing. Check out a fishing lake near you—and should you happen to see some elated kids shouting over their first ever catch, be thankful fishing in Alberta is in good shape and improving.

Photo: Kids Can Catch - Wabamun Lake
Credit: ACA, Colin Eyo

Photo: Kids Can Catch - Fort Saskatchewan
Credit: ACA, Charmaine Brunes

STOCKED WITH SCIENCE

► *by Scott Seward*



Article originally published in
Conservation Magazine Spring/Summer 2019

You can't just throw any kind of fish into any kind of pond; there is a science behind it.

ACA's Fish Stocking – New Lakes (AFS – New Lakes) project has been fine tuning the science behind what makes a pond suitable for trout stocking for several years. The primary goal of the project is to increase recreational angling opportunity in Alberta by creating fisheries near large urban centres and in areas of the province where angling opportunities would not otherwise exist. Since 2015, 219 ponds have been evaluated for fisheries potential, resulting in three new ponds being stocked and more ponds are being screened each year. So, what exactly do biologists look at to determine if a pond is suitable for stocking?

A lot of paperwork is required before ACA biologists even visit a pond they might consider for stocking. First and foremost, they must ensure that there is the possibility to secure public access to the pond. Next, they look for connectivity to other waterbodies and the risk of fish escapement that would make the pond unsuitable. From there they look to see if the pond is in an area where the presence of a stocked trout species could negatively impact any species at risk (such an northern leopard frogs). If the pond meets those three criteria, then biologists use aerial photographs to study the pond and the surrounding land uses. Aerial photos can give clues about water depth, algal growth, weed growth, nutrient sources, and water fluctuations that will impact water quality and, consequently, fish health. They also look for things like proximity to urban centres and proximity to other amenities that might make the pond an attractive destination (such as campgrounds). Most ponds fail to make it past the desktop stage of the investigation. More often than not, aerial photographs reveal that the ponds are too shallow and "choked with weeds" to be suitable for fish stocking.

However, each year a few ponds make it through the screening process and ACA biologists head into the field to get a first-hand look at prospects. While on site, water quality, shoreline health, and water depth are all measured. Biologists also take note of things like shoreline slope that could be a cause for concern if an angler fell into the pond and could not get out. The shoreline slope is also an important indicator of what types of animal and plant life can live in the pond. Generally, gently sloped ponds with some shallow areas will have more food for stocked fish than ponds with steeply sloped shorelines. Biologists also look for the presence of animals that prey on trout species such as northern pike and cormorants and take note of what types of bugs are present for trout to eat.

If ACA biologists are lucky enough to find a pond that has all the right ingredients for a successful fishery, they collaborate with landowners, local government, area stakeholders, and Alberta Environment and Parks biologists to determine how best to proceed. Stocking permits, amenities such as garbage cans and picnic tables, parking space, site maintenance responsibilities, and fish growers all need to be considered.

Stocking Stormwater

That's the process for most ponds that ACA evaluates. Sometimes a stormwater pond is suggested for stocking. Stormwater ponds come with their own unique challenges in addition to what is normally completed for a standard evaluation. Stormwater ponds are, by design, created to temporarily retain urban runoff so that fine sediments, contaminants, and nutrients can settle out in the pond and "cleaner" water can be released at a controlled rate to nearby rivers and lakes. Of course, the very function of a stormwater pond means that some special considerations need to be given to water quality and the potential for toxicant accumulation in fish tissues. That's why ACA analyses water samples from stormwater ponds for toxicants. If the water samples meet Canadian Council of Ministers of the Environment guidelines for the protection of aquatic life, the pond is considered safe for stocking. Once the pond is stocked, biologists monitor toxicant accumulation in fish muscle tissues and continue to monitor water quality.

A big part of the AFS – New Lakes process is finding new waterbodies to evaluate. You can help with the process by suggesting waterbodies for ACA biologists to assess; we know there are hidden gems out there. If you feel that there's a waterbody that could meet ACA's New Lake criteria, email scott.seward@ab-conservation.com. Who knows, maybe it'll result in anglers getting to drop a line in a newly stocked waterbody near you!

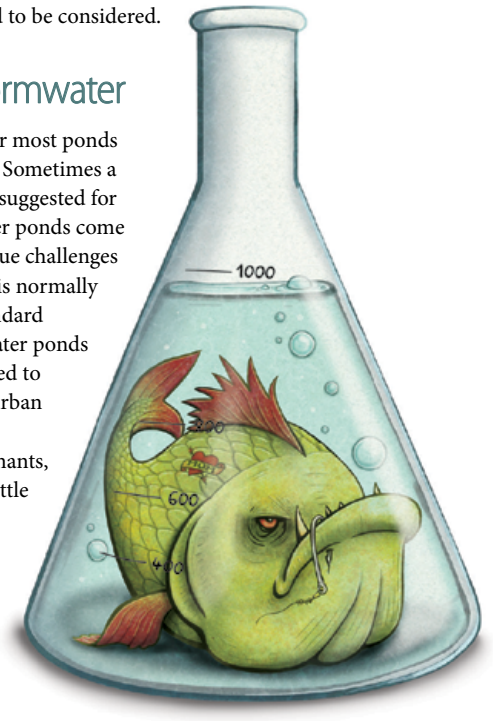


Photo: Brook trout
Credit: ACA, Mike Jokinen

The Fishing Fix

Fishing in Alberta is not actually broken, though there have been some periods where commercial fishing, non-existent limits, or water-quality issues made fishing less productive. Like the 1800s overharvesting of bison and beavers, old growth timber in the 1900s, or waterfowl through the Dirty Thirties, we were still learning the right ways to use resources and mistakes were made. Thankfully, few Alberta species were driven to extinction. Despite some early overuse, the return to greatness has been largely achieved. So how does that return to the glory days happen in the face of a swelling human population with the desire, time, and means to catch fish? It certainly was not easy, and no one group did it alone.

Understanding the basics of fish life history in Alberta's cold, high latitude location clearly shows that Alberta fish live by different rules than the same species occupying more productive and warmer southerly waters. Measuring fish harvesting requires layering on the types and timing of fish catches—an essential determinant of sustainable use. Research by fisheries biologists outlined what is called a "stock-recruitment" problem. To illustrate the production of fish versus the off-take of fish, consider the following analogy. Imagine using a garden hose to fill a barrel that has a softball-sized hole in the bottom. To succeed, you need to either get a bigger hose (produce more fish), or plug the hole (reduce fish death). Here is where Alberta Conservation Association (ACA) stepped in to help with the solutions. ACA helped increase the hose size through fish stocking, aerating lakes for over-winter survival, and working with shoreline and streamside landowners to improve spawning and rearing habitat. Government biologists used ACA's surveys as part of matching harvest with acceptable harvest sizes too.

ACA plays yet another role—providing the power of fishing information to achieve the goal of a safe, sustainable fishing resource. Consider the effects of *Conservation* magazine's fishing articles, the descriptions of places to fish in the *Discover Guide*, fishing seminars, Kids Can Catch events, and grant support for regional public fishing docks and ponds. By making fishing accessible, and spreading fishing effort over a much larger area, a lower fishing pressure on any one lake or river is likely. A lighter off-take of fish over a larger area means fish reproduction can better keep up with the lighter harvest, thus, less chance of the dreaded fishery collapses. Our barrel of fish slowly fills.

Photo: Fish stocking
Credit: ACA, Brad Hurkett

Photo: Raven River
Credit: ACA, Kevin Gardiner

ACA's Scientific Fisheries Work

On the topic of increasing the recruitment (increasing the hose size in the barrel analogy), one of the favourite approaches implemented is to improve the habitat. A fish's elemental medium is water, so water quality is paramount. Things that turn life-giving water into uninhabitable, life-stealing water include excessive suspended sediments from erosion, cropping, shoreline cattle, feedlot runoff, grease and oils from cities, and pesticides from lawns and crop fields. These additions not only stress the fish, but also the insects, worms, and crustaceans they depend upon for food. We often forget that thermal pollution also stresses fish. Where trees are removed, cooling groundwater flows can shut off, or shallow water that is dammed can cause stream and pond temperatures to soar, thereby exhausting oxygen and killing fish and their eggs.

Alberta has many lakes that are suitable for fish for almost the whole year. But late winter often brings thick ice, heavy snow, darkness, and insufficient oxygen levels for fish survival—even if these conditions exist for only a few weeks. ACA has installed electric bubbler/agitators in 21 lakes across Alberta as part of its aeration program. Aeration changes everything by ensuring at least a low level of oxygen exchange with the atmosphere to sustain life. If fish can get through the most difficult months of winter, they may thrive for the remainder of the open water season. Now, lakes that were formerly fishless become year-round recreation locations for anglers.

A big part of fixing fishing means fixing fish habitat by clearing water, protecting catchment basins from excessive disturbances such as excessive land clearing or dangerous runoff that inevitably flows downhill into water bodies. Physical improvements include the many kilometres of streamside fencing that protect shorelines from cattle and off-highway vehicles; removing fish-blocking culverts; and re-establishing riparian (near shore) vegetation.

Improving streamside habitat is an important partnership opportunity. Cattle trampling and defecating in streams is problematic, but off-site watering devices can alleviate that. Plus, cattle ingesting clean, clear water have better weight gains than those drinking stirred up muddy water. So it's a win-win! Fencing off riparian habitat improves water conditions and can be used to better contain cattle, making ACA partnership programs with private landowners very popular.

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Update: Headway at Hasse

Hasse Lake
photo: ACA, Peter Aku (foreground); ACA (background)

Were you one of the lucky ones to experience Hasse Lake back in the day? Big trout and easy access made it one of the best fishing lakes in Parkland County. It was a vibrant destination, with family after family creating special memories.

But like a memory fades, so did the lake. It wasn't one pivotal moment—with excessive nutrient loading (from surface runoff), naturally high productivity, noxious algal blooms, and startlingly low levels of oxygen, recurring fish kills were inevitable. By 2012, Hasse Lake wasn't fishable.

Fortunately, concerned stakeholders brought the plight of Hasse Lake to ACA's attention for fisheries restoration work. We couldn't ignore that the lake's impressive volume of deep water makes for valuable fish habitat. So in summer 2015, ACA began working with local groups and landowners in the watershed to reduce nutrient loading to the lake and improve water quality, ultimately re-establishing the fishery.

Alberta Environment and Parks (AEP) conducted pilot stocking with 5,000 rainbow trout last spring—the first stocking of the lake since 2012! A second stocking of 5,000 fish included rainbow and tiger trout. And thanks to several sponsors, ACA installed aeration infrastructure that became fully operable in October 2020.

As for now? Get ready for a big increase in AEP's fish stocking since aeration is in place. Plans for other activities continue, including monitoring and improving lake quality. The fish are back…and we're hoping people like you are too!

Project Contributors

- Alberta Environment and Parks
- Alberta Fish & Game Association
- Belair Industries Corp.
- Fortis
- Northern Lights Fly Fishers - Trout Unlimited Canada
- North Saskatchewan Watershed Alliance
- Parkland County
- Parkland County's Alternative Land Use Services Program
- RPB Industries

Albertans can access more than 51 km of world-class angling on the Raven River system through riparian agreements and conservation sites. This includes a continuous stretch of 15 km near the confluence of the North Raven and Raven Rivers.

Photo: Fly Fishing on the Raven River
Credit: ACA, Colin Eyo

Blue Ribbon Trout in a Foothills Setting

What does success really look like? ACA's North Raven River project has become a showpiece. It has the distinction of being the first ever Buck for Wildlife expenditure (1973) to provide river access for the public. And is a shining example of what a partnership between various conservation group (Trout Unlimited Canada, Alberta Fish and Game Association and ACA), landowners and government can achieve.

Taking a high-level view of conservation means understanding the setting in which fish water occurs. Water sources are very important, and different protections are needed for streams and lakes fed by impoundments, groundwater, snow melt, or river diversions. In the case of the Raven River, there is a large flat region of permeable gravel that filters and transmits water from the nearby Clearwater River to the active springs that are the North Raven's source.

The shorelines of the North Raven are active with occasional natural levels of erosion. Trees fall naturally into the channel to provide carbon and create water-slowing back-eddies and insect habitat—what anglers call "holding water"—begging for a delicately dropped dry fly. Yet, too much of a good thing can be a bad thing. Such as with beavers felling trees, ponding water, and cutting new channels. This could eliminate the mineral-bottomed stream of what ACA biologist Kevin Gardiner calls a "natural hatchery." Surveys counted over 1,600 natural trout redds (gravel egg bowls) in some years. Thus, occasional beaver dams get removed; not all, but some.

In the case of too much erosion, water quality also suffers. A number of overly erosive banks have been protected with woven willow mats to diffuse stream energy. Excessive cattle action in and around rivers can break down undercut banks, remove shoreline vegetation, and add excessive nutrients to the water. So, cattle have been fenced out of the North Raven corridor with participating landowner agreements to protect shorelines. An incidental benefit is the riparian zone of the North Raven is exceptional moose, deer, waterfowl nesting, and grouse habitat and is now open to the public for hunting. The area is rife with songbirds as well, welcoming nature lovers year-round. Even large predators have returned, with grizzly bears and cougars seen on the property.

The North Raven has benefitted from the protection it has received from riparian clearing and excessive erosion and habitat alteration. It truly qualifies as a northern blue ribbon trout stream that brings anglers long distances to fish its flow. ACA recognizes that the North Raven is unique in its positioning, groundwater source, open and clear waters year-round, and the exquisite technical fishing it requires. It is a premier, catch-and-release trout fishery for those anglers who hold a PhD in reading water, interpreting emerging insects as trout food, and casting. It also deserves all the protection and management that partnerships like ACA, Trout Unlimited Canada, Alberta Fish and Game Association, landowners, and government can muster.

Photo: Brown trout
Credit: ACA, Zachary Spence

Having Your Fish and Eating it Too

Most anglers know the urge to get ahead of the next person on a trout stream or racing to be first at some favourite lake honey hole. We want to make sure we are on the water for opening day; or jostling for top spot on a fishing pier. This urgency comes from a sense of resource scarcity. We intuitively believe that if we don't catch "our" fish someone else will get them instead, because fishing is a zero-sum game and there's a fixed number of fish. Like the slices of a pie, if you dither, there is nothing left but crumbs. But maybe there are some unconsidered solutions.

Borrowing from the world of business comes the recommendation to "Increase the pie size," thereby eliminating scarcity and reducing competition for resources. Fisheries management tools to provide more opportunities for fishing include:

Photo: Red-winged Blackbird
Credit: ACA, Garret McKen

(1) maximizing and protecting suitable habitat, (b) protecting fish from unnecessary stressors, (c) managing habitats to produce and grow more fish, (d) avoiding overharvesting, and (e) thinking outside the box for innovative solutions including underutilized or newly introduced fish species.

Mountain and northern lakes and streams are special places, but their low productivity means most have very restrictive fishing rules—fishing bans, catch-and-release only, or minimum sizes for keepers. These are necessary because Alberta game fish may not breed every year and small fish grow slowly. For example, it may take 20 years of growth to produce a 50-centimetre walleye in northern Alberta—ironically, children may be catching and eating fish older than they are. By expanding the fisheries options with stocked and aerated lakes, the scarcity of fishing opportunity in cold water fisheries can be reduced. Fish living in aerated ponds are healthier, grow faster, endure less stress, survive winter's ice cover better, and taste better than in similar non-aerated lakes. Because electricity is required for aeration pumps, most aerated ponds are situated closer to cities and towns, where access is improved with parking lots, docks, and picnic areas.

This means families can run out after work to watch their cork bobbers dance.

There are many ways to fish that are joyous and deeply gratifying. Hardy backpackers may hike all day to reach a remote mountain fishing lake. Some charter float planes to access roadless area lakes, and others book expensive fishing lodges with guides, boats, and cabins. But what about working single parents, or new Canadians with minimal outdoor gear, or college students on a tight budget, or grandparents wanting a pleasant day out with their grandchildren?

The ability to zip out to a nearby fish pond for a sunset, where the midges hum and the red-winged blackbirds sing is just the ticket. These local fishing trips provide an escape from the harried pace of city and work life. With their digital devices parked for a while, children can run up and down the shoreline catching leeches and dragonflies, and just maybe even land a magical trout for a delicious and meaningful supper. Such social and family fishing holds great joy and community value. Friends visiting and relaxing around a picnic table at lakeside, while tending a couple of fishing rods, is where fond memories and early childhood adventures are borne. These experiences become possible when they involve nearby ponds and only require a hook, line, and a cup full of worms. Don't sell shoreline fishing for stocked rainbow trout short! This is where the love of outdoors starts and leads to the next generation of conservationists.

Photo: Don Sparrow Lake
Credit: ACA, Colin Eyo


DANGER
KEEP AWAY
FROM FENCE.
WEAK ICE
AND OPEN WATER!

Lake Aeration Project

Photo: Aeration at Swan Lake
Credit: ACA, Dave Jackson

In 1997, ACA inherited a far-reaching lake aeration research and implementation program from the Government of Alberta. ACA staff began installing surface aerators on lakes around the province. This involved having electric pumps to create a spray fountain working over the lake's surface. When water droplets are pulsed into the air, the surface area between water droplets and atmospheric oxygen is increased dramatically. The millions of droplets of oxygen-packed water fall back into the lake and raise the levels of life-giving oxygen for fish. The water agitation also keeps some patches of water open throughout the winter period, allowing some off-gassing of methane and sulphide gas bubbles that are a natural but fish-stressing byproduct of biological decomposition. The net effects of aeration are to prevent winter fish-kills, allowing fish to live multiple years, grow larger, and provide a year-round fishing opportunity.

Aerating lakes is difficult however. An electricity supply is needed, winter maintenance is needed, and safety for mechanisms must be maintained as thin ice and open water areas are present as a result of the aeration. With each hurdle overcome, many fishless lakes have slowly become fish-bearing, thus, enlarging and regionally distributing the "pie."

Aeration has increased the number of fish-bearing lakes and has created year-round fishing opportunities, both through the ice and during summer open water periods. Importantly, many stocked lakes could now overwinter fish through multi-year growth cycles, increasing the chance to catch older, larger fish. The fisheries "pie" was further expanded because improved overwinter survival of fish also means that limited hatchery stock may be used to support other waterbodies instead of continually restocking winterkilled lakes.

The ACA Lake Aeration Program generated quite a range of responses from Alberta anglers. Some saw it as just too tame and not in the spirit of wilderness fishing, and something to be avoided. For others, it was a windfall of local fishing opportunity discovered. Eventually, even the wildland anglers came to realize stocked and aerated ponds helped distribute the fishing pressure and could actually add to backcountry solitude by reducing crowding. Today, aerated ponds are generally well liked, and they are a great example of blending fisheries knowledge, technology, fishing demand, and licence fees to return value to the public.

While the aeration program was a great success with many appreciative anglers, a legal liability arose in what ACA biologists dubbed "Aerationgate." In 2015, an obscure section of Canada's Criminal Code was brought to the attention of ACA management. It stated:

Everyone who makes or causes to be made an opening in ice that is open to or frequented by the public is under legal duty to guard in a manner that is adequate to prevent persons from falling in by accident and is adequate to warn them that the opening exists.

In other words, the bubblers ACA used to create open water holes in frozen lakes was a potential problem. OK, ACA would fence the holes off and provide warning signs.

Still, the lawyers were called into action to get opinions on the adequacy of such protections. The initial opinion might be paraphrased as, "Good try, but we can't be sure that is good enough." To make matters worse, the Criminal Code ominously spelled out the penalty and who was to be punished: "everyone who fails to perform a duty imposed by Section 263 is guilty of manslaughter, if the death of a person results." Because ACA prides itself on safety of their employees and the public, this had to be addressed. This got the Board of Director's attention too, since they were ultimately liable as well.

Furthermore, the legal logic was circular. There could be no defence if someone fell into a hole, as that was proof that the guarding and warnings were inadequate. A second opinion by ACA's legal experts confirmed that the open holes were indefensible. The Board exercised oversight and, after much discussion, confirmed that ACA could not bear the responsibility of such risks and would suspend the 2015/16 aeration season until a resolution could be found. The provincial government was invited to take over aeration for the upcoming winter but could not due to inadequate staffing. Alberta Environment and Parks could not clear aeration through their legal counsel and time was running short. It was beginning to look like a winter without aerated lakes was looming.

Photo: Lake aeration
Credit: ACA

This was when ACA staff started thinking outside of the box, or rather, outside the hole. What if we could aerate in a way that didn't create ice holes? Could we enclose the open water portion? No hole equals no liability. So the biologists set about building a floating dock around the open water then covering that with panels of chain-link fencing to cover the water surface. So far so good. But surface aerators spray water into the air and in extreme cold simply make ice sculptures on the chain link and sink it. So the new question was, "How to prevent ice formation on the chain link?" A change from spray aeration to deep-water bubble aeration was called for, but would it aerate adequately?

New issues arose with the new bubble system and adaptive management by biologists was called for. The bubble systems created new currents under the ice, causing holes to appear in unexpected locations. In response, the bubblers were turned down and oxygen levels fell accordingly. Some lakes suffered partial winterkills. While not perfect, ACA did try to fix the problem instead of just saying no to aeration, and most anglers understood and appreciated the effort.

In 2016, Alberta Environment and Parks developed a provincial aeration policy providing greater legal protection for ACA. Our legal counsel agreed that with increased signage and snow fencing, spray aeration could resume. Since then, the much-loved aeration program has continued with new lakes being added every year or two.

Photos: "Aeration gate" floating dock system at Muir Lake
Credits: ACA, Colin Eyo

Photo: Fiesta Lake
Credit: Erin Dyrland

Lives Awash or Afloat? We Recommend Afloat.

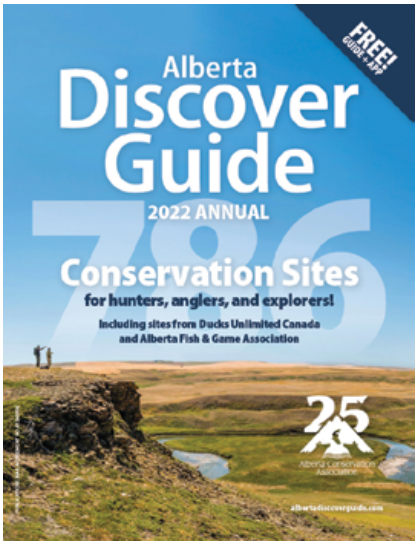
Downer alert, but read on as it gets better quickly. Commuter traffic, gutter cleaning, snow tire change, prescription refill, mammogram, snow shoveling, parent-teacher conferences, phone solicitors—can you feel your blood pressure rising as you review this list? If you said "nope," you are probably a cyborg so let us try a little harder—income tax preparation, colonoscopy, climate change, pension investments—it is almost too unbearable to write and we really don't want to jeopardize your stress level or health. Sadly, the world makes demands on adults that pull us away from living close to the land and leaving us to dwell in a congested society.

This can wind us up like the little rubber bands that propel toy balsa wood airplanes. How do we let go of that propeller and soar gloriously through the air looking lightly down on the world? What we need is to recoup our strength, our resolve, and catch our breath but where to do that? Maybe a car-honking, billboarded, shoulder-bumping environment is not the best. It is easy to say "get outdoors and relax," but it is also easy to say "lace up your figure-skates and do a triple axel." Doing is harder than saying; that's why most newcomers to the great outdoors benefit from some guidance.

Why don't more people avail themselves of those endorphin-rich hits of nature? Traditionally the excuses are: (a) It costs too much, (b) I don't know where to go, and (c) I am too busy. Let's debunk these as the answers are: (a) It is mostly free, (b) There are over 775 wild locations around the province listed in Alberta Conservation Association's (ACA) *Discover Guide,* plus thousands more free parks from city centre to backcountry, (c) Too busy? Listen to yourself! Busyness is the disease for which outdoor idleness is the cure! It is like saying, "My head hurts too badly to take an aspirin." Look inside yourself a little bit, take a chance, grab a picnic meal on the way out of town, and just go take a quiet sit to enjoy whatever nature delivers that day. You never know if a red squirrel chase, a Yellow Warbler nest, or a sneaking white-tailed deer will entertain you. Let your dog go for a big run and sniff, read a book, nap on a blanket, take friends too—there is probably a cell phone in your pocket with a camera on it, so take some photos.

No deep wilderness backpacking is required here, just healing and renewing. If we tune into our bodies, we find interesting curative melodies. Henry David Thoreau once said, "In Wilderness is the salvation of the World." That is a big assertion, but we can be pretty sure the world handles wilderness better than it does most human-constructed environments. Maybe Thoreau's quote could be expanded to, "In Wilderness is the salvation of the world's humans." It starts deep inside us.

Just a guess here, but the three excuses (expense, location, busyness) are probably just that, excuses. The more likely reason for not going into nature is a lack of awareness, unfamiliarity, or failure to grant self-permission, and those really are understandable reasons. However, let this chapter, this book, and the many free ACA programs and areas help you ease into an ongoing relationship with nature. It really will improve your life—now get back to those rain gutters and change those snow tires, but don't forget, there are 775 free wild locations listed by ACA waiting for you to visit.



How ACA Can Lead Us Back to Nature's Garden

In 1969, at the Woodstock Music Festival, Crosby, Stills, Nash & Young belted out their song Woodstock, including a line that said "We've got to get ourselves back to the garden." I don't know if those musicians were naturalists, hunters, anglers, trappers, hikers, or birdwatchers—but I do know they were on to something that many other great thinkers have discovered independently.

In 1993, two great scientists and ecological thinkers, Stephen Kellert from Yale University and Harvard University's E.O. Wilson, provided an Alberta Conservation Association (ACA) wildland rationale when they wrote a well-researched book entitled The *Biophilia Hypothesis.* The central thesis was that we are programmed instinctively to love and be in relationship with natural processes for our foods, medicines, social interactions, and survival. Those life-needs from nature may seem far away when we are in an antiseptic doctor's office, a crowded grocery isle, or seeking out a love interest online. In fact, they ARE quite far away! When we are separated from the activities that 90,000 years of human evolution have selected us to undertake, well, things get twisted. This is where the primeval "garden" of human connectedness to nature needs the open lands ACA provides.

Even our basic physiology and senses of smell, visual observational skills, hearing, taste, as well as sleep rhythms and adrenal excitation systems get jerked around in ways for which we are unprepared. We eat many synthetic products never encountered before 1960, and move faster than a cheetah in enclosed vehicles. We view the world through filtered glass, soap up to strip our natural skin oils each day, and shade out sunlight with chemical skin applications. And we deactivate both our predator escape strategies and our food hunting instincts. This last food item is also a particular focus at ACA, with their cooking videos and emphasis on wild organic protein taken sustainably from the land. Nature's garden can feed our bodies and souls.

By never engaging or exercising, the mental tools idling in our primitive brains can lead to developing neuroses, vitamin deficiencies, cracked dry skin, weak tendons, dulled senses of touch and sight, and plenty of vague worry about things we can't identify. We become out of touch with the world around us and the natural processes that created us. It is like flooring the accelerator of a race car that is not in gear—bad things can happen! We can all benefit by "getting back to the garden," even if by just looking at nature in photographs, windows, and videos to provide some benefits of healthy connectedness.

Thankfully, visiting the gardens of ACA is simple and requires no licence, money, special gear, or specialized knowledge. It does require two things existing in every human though—a willingness to engage and a little time to get outside. Even if one only walks to a nearby woodlot, weed field, public garden, or farmland, nature will find your senses and affect you in a wonderful way. These simple outings are your gateway to a wondrously healthy world of deeper nature and hopefully, will lead you to the wildlands situated near every major town in Alberta. A long list of land stewards, including ACA, provide free and publicly accessible wildlands for all who care to visit. If you choose to hunt or fish, so much the better. What might you find there and when? Here is a monthly calendar of Alberta wonders available on ACA lands:

January – Lake ice skating is available in some clear-blown lakes, a thermos filled with a hot beverage is recommended. The post-holidays period of short, cold days begs for outdoor sunshine on your face and a chance to burn off some holiday pounds. Skiers and snowshoers get out on ACA properties.

February – This is possibly the hardest month and statistically Alberta's coldest. It calls for tea on a camp stove, and a good gazing for the aurora borealis in low light pollution areas. Listen for coyotes and wolves as it's their breeding season.

March – The most fickle month of warmish days followed by bitter blizzards. Still time for sledding and the tail end of ice fishing on some safe lakes. Look for muskrats sitting on ice edges. A good time to tap some birch trees for sap, and maybe look for the medicinal birch fungi called chaga.

April – Early geese are massing on the rivers and sloughs as part of their northward migration. The earliest pintails, blue-winged teals, and mallards hit the potholes in full-colour regalia—time to break out the spotting scopes and telephoto lenses. Witness the bizarre dancing sharp-tailed grouse doing a sunrise ritual. A grouse dancing tour might just be the most unique first date or anniversary present imaginable.

May – Pike fishing starts on Alberta lakes (check regulations for specifics). They are big and hungry at this point. White-tailed fawns are dropped. Black bears are grazing on grasses that have greened up early.

June - The summer solstice on June 21 is perfect for some serious birdwatching and photography. Most songbirds are feeding young or bringing off broods, and waterfowl broods are afloat. It's hard to find a lake or pond without water birds nesting there.

July – This is picnic, river-floating, lake-swimming weather. Days are long and sunny, and the water has warmed up nicely, just in time for the kids getting out of school. Anglers will pursue walleye and perch.

August – If the archery gear is rusty, now is a time to practice up. There are some early bighorn seasons opening middle of the month. Non-trophy tags are easy to come by.

September – Hunters will be hunting waterfowl in comfortable T-shirt weather. Others will make time to harvest bags of beaked hazelnuts and morel mushrooms. Maybe your hunting dog can flush a few ruffed grouse looking for the same things.

October – Mid-province and above you'll find the big game seasons in full swing before the snow is a problem. Further south, millions of waterfowl and cranes are pouring through from the arctic. Viewing or hunting is thrilling. Pronghorn are hunted in October. Last chance to harvest rat root tubers along lakeshores.

November – Southern big game districts are in full swing, southern waterfowl and grouse hunting is excellent.

December – Mark the winter solstice on December 20 with early snowshoeing and cross-country skiing and get into great wild country. Trappers and coyote hunters find animals in prime condition.

Now, who thought Albertans couldn't look forward to winter? Let ACA's maps and resources help guide your outdoor adventures.

Photo: Western Meadowlark
Credit: ACA, Brad Downey

Photo: ACA Grants in Biodiversity,
Drivers of Whitebark Pine Regeneration:
Key to Restoring a Species
Credit: Matthew S. Gelderman

The Good We Do–Grants

An old African proverb declares, "None of us knows as much as all of us together." The desire to conserve plants, wildlife, and wild habitats, and to introduce people to these joys runs in the veins of many grassroots organizations, researchers, and scientists. But where do they get the support for such work? Alberta Conservation Association (ACA) is one organization that funds on-the-ground work through their research and non-research granting programs.

Who wouldn't like to solve the complex quandaries of humans in nature? Wildlife scientists spend their careers conducting research, formulating predictions, explaining the unknown, and addressing difficult wildlife questions. ACA Grants in Biodiversity and ACA Research Grants provide funding to the strongest proposals from graduate students and professional researchers to investigate such areas as fish whirling disease, retaining caribou herds, grizzly bear ecology, alpine butterfly responses to climate change, and techniques to slow chronic wasting disease (CWD).

How else would Alberta elk hunters learn that the traditions of lead cow elk are affecting the migration patterns from the Ya Ha Tinda wintering grounds? That a wood frog's worst enemy is a grass mower and simply raising the cutter blade a few centimetres can mean the difference in viable frog populations

Photo: ACA Research Grants, Identifying habitat requirements for bats in winter
Credit: Wildlife Conservation Society Canada

or chopped up amphibians? Or maybe that lake sturgeon are sluggish, sedentary big fish living in a few key river bends, but occasionally bolting off on a 400-kilometre round trip to Saskatchewan. Good thing there are no dams on that stretch!

The research programs are funded primarily by hunters and anglers, but the blanket of benefits extends to all Albertans. We can be proud that our licence fees add to a powerful force for public good and quality of life. Nobody hunts tiger salamanders, little brown bats, redhorse suckers, long-horned beetles, or magnolia warblers, but we all like to have them around—and that requires funding to understand their needs and threats.

Reinvesting in Wildlife R&D: ACA's Quartet of Granting Programs

Interestingly, support for grants has been a pillar of ACA since the year *before* the establishment of the DAO was approved. Grants are crucial direct-giving back to society. This gift, properly placed, can also stimulate others to add financial, social, and ecological value—multiplying the goals and vision ACA shares. By providing grants, ACA reaches directly into communities across Alberta, helping them to help themselves. Industrial partner Syncrude has underwritten several years' worth of grants in this capacity.

The value of research grants is tremendous, but it took some years before the hunting and angling community fully appreciated the broader gift back to society. Initially, some hunters and anglers called the biodiversity grants the "The bugs n' slugs program." Throughout the business world, research and development (R &D) is part of business operations with five to ten percent of operating capital directed toward improved ways of operating—so why shouldn't conservation operatives do likewise?

Alberta's plants, animals, habitats, rivers, and landscapes face systemic changes—resource demands and threats for which there is not precedent or clear advice on how to respond. The need for targeted research and innovative citizens to respond has never been greater. ACA has taken on the role of collecting proposals, having them evaluated by panels of experts, and then providing funding for the best of the best. Often, ACA approval of funding helps proposal writers gain credibility and accumulate up to five-fold in matching dollars from national and international organizations to extend problem-solving for Alberta's natural resource issues.

ACA Challenge Grant in Biodiversity was the original 1996 fund supporting graduate student research on Alberta flora and fauna. While any student in a research-intensive university around the world could apply, and we have had U.S. and U.K. applicants, the work has to be conducted in Alberta about Alberta issues. As of 2022, over $6 million has gone to support 560 graduate research projects. Biodiversity grants average just over $10,000 each but have a maximum of $20,000 granted. To accommodate graduate school project timing, each funded research project is allowed two years to complete and report on the progress.

The funded projects have included a dizzying range of topics—the effects of wind farms on bats, bull trout spawning grounds, soil microbial effects on plants, marten ecology, and woodland caribou mortality factors.

The purpose of this grant program is three-fold: (1) conduct meaningful research, (2) elevate the level of student preparedness in natural sciences, and (3) create a cadre of exceptional students to populate natural resource organizations such as ACA, the Government of Alberta, Canadian Wildlife Service, private companies, and other environmental non-governmental organizations.

Photo: ACA Conservation, Community, and Education Grants, Taber Fish & Game Association and ACA Youth Fishing Recruitment Day
Credit: Stephanie Roberts

ACA's Research Grants program is a competitive funding stream established in 2002, initially as part of the Grant Eligible Conservation Fund, to support scientists in research-intensive roles. Each year, ACA staff work with the Board of Directors to produce a list of strategic priorities for the year. Established scientists can bring in a broader cadre of experts to help address opportunities and problems in Alberta's outdoor settings. Almost $8 million has been distributed to high-quality research projects in Alberta. Grants generally range from $5,000 to $40,000, and matching funds or in-kind support add value to proposals.

Hundreds of hunting and fishing organizations, youth groups, schools, First Nations, and community organizations have been funded by ACA's non-research grant programs, initially via the Grant Eligible Conservation Fund, and after 2014, via the Community, Conservation, and Education Grants program. This popular funding pool gives out small grants of under $3,000 and larger grants of up to approximately $40,000 to anyone with an idea that either increases awareness of and participation in hunting, fishing, and trapping opportunities and outdoor conservation education in Alberta, or benefits Alberta's wildlife and fish populations, and their habitats. An estimated $15 million has successfully been distributed to our partners in conservation around the province. These funds—and the incalculable in-kind efforts and countless volunteer hours of our grant recipients—have had a massive reach to further ACA's mission and vision. Archery and outdoor education programs in hundreds of schools have been set up and supported, thousands of children have attended camps to become the next generation of outdoors people, habitats for threatened and harvested species have been restored, and management of riparian areas along thousands of kilometres of rivers have been improved across the province, to name a few.

Overall, ACA's three granting programs have provided over $20 million to more than 1,500 research and conservation recipients over the past 25 years.

Overall, ACA's three granting programs have provided over $20 million to more than 1,500 research and conservation recipients over the past 25 years. This ACA legacy has made a great difference in the degree of engagement, student preparedness, innovation, and problem-solving that continues to elevate Alberta's natural resource understanding and stewardship.

One final grant that operates quietly behind the scenes, is an endowment ACA extended to the University of Alberta in 2000 to support a full-time chair in the Faculty of Science—the *ACA Endowed Chair in Fisheries and Wildlife*. This grant funds a higher education position in perpetuity to ensure Alberta remains on the cutting edge of wildlife science. The position has been very successfully occupied by Dr. Mark Boyce since 1999. ACA has consistently supported key research initiatives through the Boyce Lab when pressing Alberta wildlife issues emerge (e.g., CWD, grizzly bear population estimation, trophy sheep harvests).

Dr. Boyce and other supported faculty members primarily at University of Alberta, University of Calgary, and University of Lethbridge have been instrumental in addressing biodiversity and conservation topics in Alberta, as well as preparing a new generation of exceptional biologists. Quite a few scientific staff from ACA, Alberta Environment and Parks, universities, and private consultancies have benefitted from the grant investments ACA has made in professional development.

One indicator of the success of ACA's grants programs is that they have spawned smaller copycat grant programs in Manitoba and Ontario, extending the reach of hunter and angler dollars into public good.

Have you ever tried to use a fire hose to fill a tea cup? That is the dilemma of trying to paint a picture of the overall impact hunter and angler dollars have on understanding the natural world.

It is too great a task to list all the topics of previous decades. This is a *system* of benefit that flows directly to the public from the payments made by hunters and anglers. No other public activity has such a track record—and it is done willingly and with a sense of pride, rightness, and appreciation.

And so it goes, year in and year out. New players come and compete for support and ACA is proud to support the very best proposals as evaluated by a team of experts and citizens. A deep awareness is settling in with Albertans, whether trappers, anglers, hunters, birdwatchers, urbanites, or any combination—what is good for the environment is good for all of us. We all breathe the same air, drink from the same water sources, and admire the same sandhill cranes migrating during the fall. Licence purchasers can puff their chests out just a little more, and those who simply enjoy the environmental improvements can possibly feel a shared concern for the environment with those whose money supports these public benefits.

Photo: ACA Conservation, Community, and Education Grants, Alberta Eastern Slopes Strategic Watershed Action Team 2020
Credit: Trout Unlimited Canada

Photo: ACA Grants in Biodiversity, Causes and Consequences of Individual Heterogeneity in Bighorn Sheep
Credit: Benjamin Larue

Gathering in the “Why” of Alberta Conservation Association

"Why Alberta Conservation Association (ACA)?" It seems a fair question. Perhaps the answer is best delivered in a circling fashion, you know, more *show* and less *tell*. Let's start with a "homework" assignment—one where you consider the future with and without ACA. It's the best kind of assignment, because all it requires is a half hour of thought carried out in a still canoe, listening to the leaves rustle in a tree stand, or in a riverside forest alive with bird chatter. If you *happen* to reel in a fish, add a new bird to a life list, or scope a whitetail during this assignment, no homework credit will be lost. Without ACA, less of these precious experiences would be easily available, fewer citizens would step up to volunteer, more marginal habitat would be lost to clearing, and fewer rare and common species would populate our province. Fishing, hunting, trapping, birdwatching, and enjoying nature in solitude would all suffer.

This hypothetical assignment is to let you visualize and question the state of the "useful wild" in our future. What do we most want Alberta's wildlands to be like in the next 10, 20, or 50 years? Maybe you tree planted or protected an abandoned farm site and enjoy seeing a healthy forest return. Or possibly you shared a child or grandchild's first awestruck glimpse of a black bear ambling through a clearing. Maybe some old friends are moving stiff elderly hips into a comfortable duck blind seat at sunrise while the youngsters handle the decoy arrangements. Or maybe a calmness arises knowing a stable, trusted organization is active in increasing land accessibility, species diversity, stewardship, and appreciation of habitat in Alberta. Your grade for this homework assignment? A+ for realizing there are some rosy future prospects out there, intermixed with the dire warnings of environmental collapse. We all have to sit and think about this because, what optimism we may have doesn't cut through the non-stop media rain of bad news landing around us.

Setting aside the past, and even the present, for half an hour to visualize a positive future doesn't come naturally or frequently enough for most of us. Yet, such future thinking leads to planning, gratitude, and environmental benefit. Counting our realistic opportunities produces optimism, hope, and reassurance for our futures. The word "environmental" need not be a dirty word or linked to any political position. Conservationists come in all political stripes, and working together for shared future can bridge the differences amongst us. In the case of the outdoors, we are all on the same side and there are many paths to the mountaintop. A future with abundant wildlife, widespread public access, clean water, and so much more doesn't just happen—it requires a shared vision.

The outdoor resource users of Alberta have a long history of expressing their wishes to all levels of government as well as at the voting booth. Historically, there was not a well-balanced set of voices and many felt overlooked and unheard. In many ways, ACA has convened these voices through active member group representatives, the public at large, government representation, and emeritus voices. Regular board meetings hear and prioritize the concerns of Alberta's user groups. These strategic and management priorities are clearly shared with government. Everyone is heard. Every single one.

Of all that ACA does, one of the most important, yet underrated, aspects relates to this future of Alberta. The consistency of moving forward makes ACA the structural skeleton on which the power of conservationists can hang the muscle of funding and volunteerism, connective tissues of organizations, nerves of outdoor awareness, and thought to create understanding and gratitude for a functioning future of our working environment. We all know the saying "You can't catch a fish if your line isn't in the water" and ACA ensures that we are casting, trolling, and jigging to connect to conservation benefits. In the short term (jigging for opportunities), ACA professional staff maintain and improve habitats, support hunter and angler participation, and reach into the public with education ranging from science to recipes. In the medium term (trolling), ACA keeps lures out to harvest support from government, private donors, and corporate entities to convert gifts to conservation lands and programs. In the longest term (casting ahead), ACA invests in the future of wildlife understanding and future professional expertise for education, research, community strengthening, and scientific leadership through an extensive four-pronged granting program.

Photo: ACA staff members preforming a habitat sampling at Flatbush 4 Conservation Site
Credit: ACA, Meagan Butler

A young man excitedly tucks his cell phone into his hunting pack, lowers his compound bow out of his tree stand, and strides down the streamside trail toward the family farmhouse, three ruffed grouse flushed wild from the hazel brush beside the trail…

"Grandpa!" he shouts. "You're not going to believe this! I was watching the willows along the creek bed for the whitetail we've been seeing and that big flock of Canada geese was feeding in the wheat field like they do every morning. Suddenly they all spooked and flew right over my stand as a cow moose with twin calves bolted out of the neighboring ACA quarter. They went right down into our creek bottoms crashing willows like crazy! I caught it all on my cell phone and uploaded it to YouTube! Here, let me show you. Then you know what? While I was filming, they spooked that beautiful 4 x 4 whitetail right across the creek 20 meters from my stand. He was just a flash but I could see his muddy tracks in the clear water below me. It's OK though, this was the best morning yet and I still have most of October and all of November left in the season."

Grandpa smiles, leans his chair back against the white spruce he planted when he was a boy, and says "Ain't that something—on Thanksgiving morning no less!" He recalls the muddy creek and how that lonely goose tasted at Thanksgiving when he was younger than his grandson is now. He can't believe how quickly it all passes and how it all comes back as though it happened yesterday. But it clearly didn't happen overnight. His eyes glide over the restored native grasses, clean stream, beaver dam, and the willow draw as the geese settle back into the winter wheat.

Circling back to the question "Why ACA?" The question simply melts away, replaced by the thought "Thank you ACA, for helping to restore my family's lands for my grandchildren." The hope and confidence in the next generations are intertwined with the conservation we put in place today. It is a gift that multiplies and gives and gives and gives.

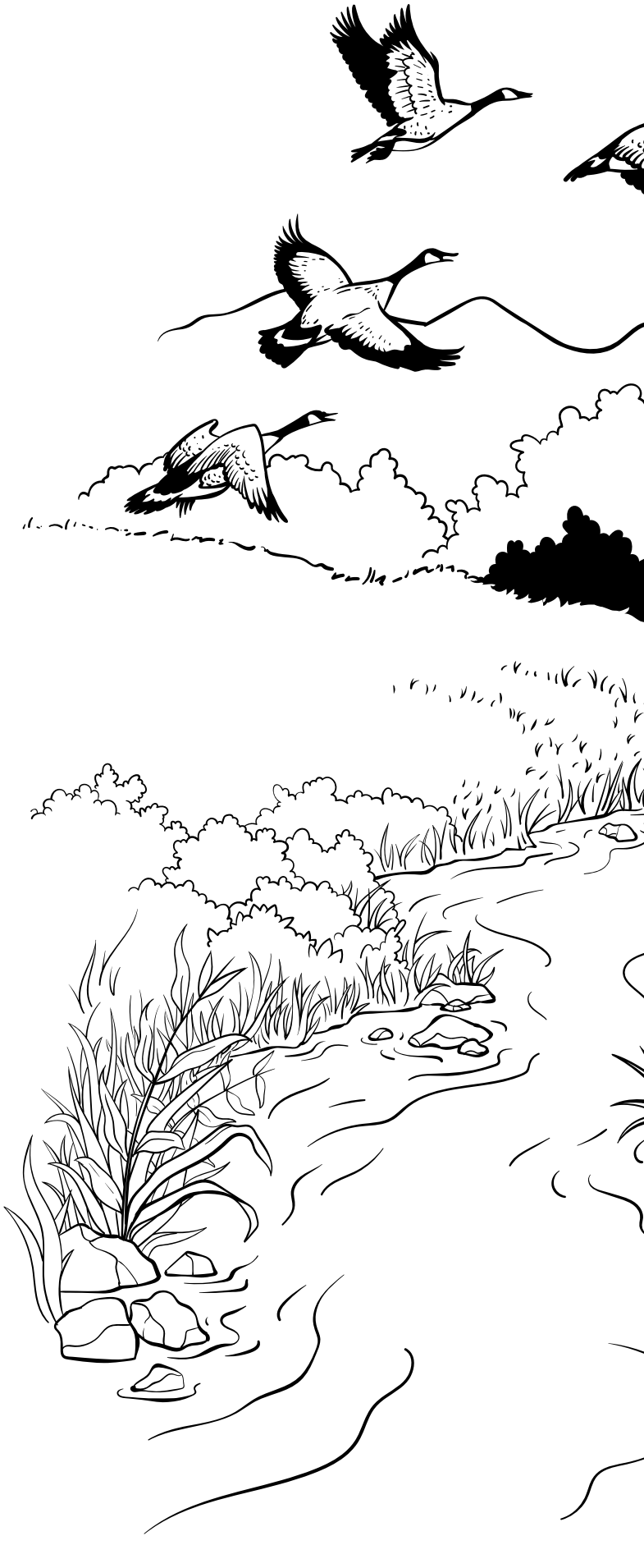


Illustration: Danielle Erickson

Appendix

Credit: ACA, Stephanie Fenson

ACA BOARD OF DIRECTORS MEMBERS 1997 – PRESENT

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Wild Sheep Foundation Alberta

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Jaarno Van der Wielen
Public At Large, Southern Region

Bill Wishart
Public At Large

ACA PROJECTS

Communications Projects

Project Name	Year started
Advertising and Marketing	2003
Internal Communications Needs	2003
Conservation Magazine	2003
Annual Report	2003
Other Publications	2003
Branded Merchandise	2003
Special Events	2003
Website Media and Development	2004
Report Series	2005
On Site Signage	2006
Alberta Discover Guide	2007
CPIC Program	2005
Stakeholder Communications	2008
Annual Operating Plan	2008
Strategic Business Plan	2008
Tradeshows	2008
Grant Reports and Forms	2009
Alberta Discover Guide App	2010
Taber Pheasant Festival	2010
Social Media	2011
Wildlife Cameras	2012
Give Campaign	2013
Launch Moose App	2013
Archery Days	2014
Kids Can Catch	2014
My Meat's Legal	2014
WIN Card Reimbursement	2014
Waterfowl Warmup	2015
Emerging Issues	2016
Final Reports	2016
Harvest Your Own	2016
Phillip J. Currie Dinosaur Museum Display	2018
Migratory GPS Project	2020

Fisheries Projects

Project Name	Year started
Cooperative Fisheries Inventory Program	1997
Kakwa River Bull Trout Study	1997
Bull Trout Investigations in the Belly and Waterton Drainages	1997
Creel Surveys - Hilda Lake, Ethel Lake, Pinehurst Lake, Touchwood Lake, Fork Lake, Elinor	1997
Walleye Recruitment in Prairie Region Reservoirs - 40 Mile Reservoir, Unnamed Reservoir, Chin Reservoir, Crawling Valley Reservoir, Eagle Lake, Keho Lake, McGregor Reservoir, Newell Lake, Rattlesnake Reservoir, Ridge Reservoir, Sherburne Reservoir, Travers Reservoir	1997
Walleye Recruitment in Prairie Region Reservoirs - 40 Mile Reservoir, Badger Reservoir, Chin Reservoir, Crawling Valley Reservoir, Eagle Lake, Keho Lake, McGregor Reservoir, Ridge Reservoir, Newell Lake, Park Lake, Rattlesnake Reservoir, Scope Reservoir, Sherburne Reservoir, Travers Reservoir	1998
Investigation into Northern Pike Status in Prairie Region Reservoirs - Badger Reservoir, Cowoki Lake, Elkwater Lake, Fincastle Reservoir, Hays-Grantham Lakes, Keho Lake, Travers Reservoir	1999
Investigation into Northern Pike Status in Prairie Region Reservoirs - Cochrane Lake, Chestermere Lake, Crawling Valley Reservoir, Keho Lake, Little Bow Reservoir, Murray Reservoir, Newell Lake, Ridge Reservoir, Tilley B Reservoir, Unnamed Reservoir	2000
Investigation into Northern Pike Status in Prairie Region Reservoirs - 12 Mile Coulee Reservoir, Crawling Valley Reservoir, Jensen Reservoir, Keho Lake, Mcgregor Reservoir, Paine Lake, Park Lake, Stafford Reservoir	2001
Lake Aeration	2001
Fish Stocking	2001
Fish surveys, Population Estimates and Monitoring Studies	2001
North Raven River Fences and Fish Project	2001
Southern Reservoir Fish Community Investigations - 40 Mile, CPR, Crawling Valley, Heninger, Horsefly, Keho, McGregor, McQuillan, Ridge	2002
Riparian Habitat Assessment Program	2002
Sport Fish Harvest and Angling Effort	2002
Conducting Small Stream Inventories with Partners	2002

Project Name	Year started
Lentic Stock Assessments on Priority Waterbodies	2002
Medium River Stock Assessments	2002
Small Stream Monitoring	2002
Angler-use Surveys on Priority Lakes	2002
Assessment of Alternate Management Strategies on Sturgeon and Calling Lakes	2002
Stream Crossing Inventories and Studies	2002
Northern Watershed Project	2002
Ross Creek Stream Inventory	2003
Milk River Sauger Genetic Sampling	2003
Bow River Sport Fish Population Monitoring	2003
Assessment of Sport Fish Distribution and Relative Abundance in the Lower Red Deer River	2003
Lower Elbow River Fisheries Study and Arctic Char Removal Project	2003
Upper Bow River Watershed Off-highway Vehicle Stream Crossing Inventory and Assessment	2003
Lynx Creek Bull Trout Monitoring	2003
South Heart River Walleye Movements Study	2003
Kakwa Bull Trout Spawning Frequency	2003
Walleye Recruitment Assessment in Southern Region Reservoirs	2003
Cooperative Fisheries Inventory Program	1997
Al-Pac Cooperative Culvert Assessment	2003
Pembina River Arctic Grayling Stock Assessment	2003
Athabasca River Fish Population Status	2003
North Saskatchewan River / Abraham Lake Bull Trout Telemetry Study	2003
Walleye Stock Assessment and Angler Use on Smoke and Iosegun Lakes	2003
Stock Assessment Program (All Inclusive)	2003
Upper Wapiti River Stock Assessment	2003
Winagami Lake Creel Survey	2003
Wadlin Lake Creel Survey	2003
Simonette & Notikewin Watersheds Off-Road Stream Crossings	2003
Upper Oldman River Drainage Angler Survey	2004
FWINs - Crawling Valley Reservoir, 40 Mile Reservoir, Keho Lake, Ridge Reservoir	2004
Walleye Stock Assessments	2004

Project Name	Year started
Riparian Conservation in: Beaverlodge River, Southern Region, Todd/Beaver Creek, South Heart River, Lesser Slave Lake, Red Deer/ Battle River, Bearberry Creek, Edson River Watersheds	2004
Upper Oldman River Drainage Bull Trout Population Assessment	2007
Wabamun Lake Creel Survey	2004
Investigation into the Magnitude of Sport Fish Movement Through Southern Alberta Reservoirs	2004
Assessment of Crawling Valley Reservoir Walleye Population	2004
Assessment of Trout Populations in High Mountain Lakes in Southwest Alberta	2004
Collapsed Lakes Walleye Monitoring: Touchwood Lake	2004
Fishery Monitoring at Harvest Lakes	2004
Upper Clearwater River Bull Trout Index Site Monitoring	2004
East Slopes Fish Index-Monitoring Program	2004
Southern and East Slopes Foothills Stream Temperature and Water Flow Monitoring Program	2004
Peerless Lake Cluster Stock Assessment and Angler Effort and Harvest	2004
Simonette Watershed Study	2004
Adult Bull Trout Population Monitoring in the Belly River Drainage	2005
South Saskatchewan River Fish Community Assessment (Lower Oldman, Bow, South Saskatchewan Rivers)	2005
Battle River Index of Biological Integrity	2005
Stream Crossing Program (Kakwa Watershed Stream Crossing Assessment Report Completion)	2005
Lesser Slave Lake Angler Survey	2005
North Raven River Stock Assessment	2005
Birch Mountain Road Access Impacts	2005
Arctic Grayling Population Assessment	2005
Sport Fishery Monitoring - Wolf and Pinehurst Lakes	2005
NSR Sturgeon Pop Assessment	2005
Bearberry Creek Fish and Habitat Inventory	2005
Lesser Slave Lake Stock Assessment	2005
Castle River Drainage Cutthroat Trout Population Assessment	2006
Upper Little Smoky River Arctic Grayling Population Assessment	2006
Kakwa River Bull Trout Stock Assessment	2006

Project Name	Year started
Cutthroat Trout Population Assessment in the Upper Oldman Drainage	2006
Fish Stock Assessment and Monitoring: Goosegrass, North Wabasca and Fawcett Lakes	2006
McLeod River Bull Trout Study	2006
Prairie and Canyon creeks Bull and Cutthroat Trout Study	2006
Waiparous Creek Bull Trout and Cutthroat Trout Study	2006
Stream Crossing Program (Marten Hills and Swan River Watersheds)	2006
Limited Harvest Regulation Monitoring	2006
Bow River Angler Pressure Assessment	2006
Fish Condition in Relation to Winter In-stream Flow	2006
FWINs (Bourque, Seibert and Goldfish Lakes)	2006
Stream Crossing Program (Slave Lake)	2006
Kakwa Stream Crossing Assessment Report	2006
Bow River Sport Fish Distribution	2006
Stock Assessment at Goosegrass Lake	2006
Stock Assessment: Kakwa and McLeod rivers, Waiparous, Prairie and Canyon creeks, Little Smoky River, Upper Oldman River	2006
Bull Trout Trapping and Spawning Assessment on Hidden Creek	2007
Winagami Lake Walleye Spawning Inventory	2007
Special Fish Harvest License Monitoring	2007
Northwest Lentic Stock Status Assessment Program	2007
Angler Survey on Sturgeon, Pigeon and Wolf Lakes	2007
Berland Muskeg Rivers Bull Trout Stock Assessment	2007
North Saskatchewan and Ram Rivers Fish Inventory	2007
Walleye Population Assessments in Sturgeon, Gregoire, Hilda, Ethel Lakes	2007
Distribution and Abundance of Migratory Bull Trout in the Upper Oldman River Drainage (2008–2010)	2008
Redd Surveys and Winter Trout Abundance in the Westcastle Wetlands Ecological Reserve	2008
Beaver Creek and Todd Creek Stream Inventory	2008
Wabasca Lake Walleye Movement	2008
Ram River Drainage Bull Trout Spawning Stock Distribution and Abundance	2008
Belly River Stock Assessment	2008

Project Name	Year started
Arctic Grayling Population Fragmentation in Whitecourt Area Drainages and Lower Athabasca Grayling Status	2008
Lentic Angling and Stock Assessment	2008
Trout Stocking Evaluation - Edmonton Area	2008
A Preliminary Investigation of Crossing Structures in the Driftwood River Drainage Basin, Slave Lake, Alberta	2008
North Saskatchewan and Ram Rivers Bull Trout Spawning Stock Assessment	2008
Beaver River Drainage Fish-Based Index of Ecological Integrity	2009
Upper Clearwater River Drainage Bull Trout Population Assessment	2009
Crowsnest River Drainage Sport Fish Population Assessment	2009
Summerkill Prevention Investigation	2009
Arctic Grayling Population Fragmentation in Athabasca River Drainage	2009
Upper McLeod River Bull Trout Population Assessment	2009
Lower Notikewin River Drainage Inventory - Phase 1	2009
South Heart River Riparian Assessment - Phase 1	2009
Gull Lake Winter Angler Survey	2009
Sport Fishery Surveys: Christina, Ethel, Fickle, Grist, Hilda and Shiningbank Lakes, Alberta	2009
Stream Crossing Remediation	2010
Life History Strategies and Demography of Spawning Bull Trout in the Upper Red Deer River Drainage	2010
Spawning and Population Structure of Walleye in Vandersteene Lake	2010
Clearwater Drainage Bull Trout Abundance Assessment	2010
Lentic Sport Fishery Surveys: Floatingstone, Garner, Snipe and Winagami Lakes	2010
Distribution and Abundance of the Migratory Bull Trout Populations in the Castle River Drainage	2011
Clearwater River Core Area Bull Trout Status	2011
Inventory of Sport Fish in the Edson River	2011
Owl River Riparian Habitat Enhancement and Walleye Spawning Habitat Assessment	2011
Distribution and Abundance of Overwintering Habitat for Arctic Grayling in the Christina River	2011
Abundance of Spawning Walleye and Availability of Spawning Habitat in Vandersteene Lake	2011
Sport Fisheries Surveys: Haig, Figure Eight and Sulphur Lakes	2011
Walleye Stock Assessment Program - Moose and Fawcett Lakes	2011
Effect of Size Selectiveness of Sport Fishery Harvest on Walleye	2012
Mikkwa River Arctic Grayling: A Reference Population Survey	2012
Distribution of Bull Trout in the Waterton River Watershed, Alberta	2012
Peace River Sports Fisheries Survey	2012
Owl River Riparian and Walleye Spawning Habitat Protection	2012
Abundance and Distribution of Bull Trout in the Muskeg River Watershed, 2014	2013
Fish Stocking Pond Evaluation	2013
Distribution and Abundance of Sport Fish and Species-at-Risk in the Milk River	2013
Stocked Trout Survival	2014
Swan River Arctic Grayling: A Stock and Watershed Connectivity Survey	2014
Developing Efficiencies in Watershed-Scale Sampling of Bull Trout Populations	2014
Waterton River Tailwater Sport Fish Community Assessment	2014
Owl River Walleye Spawning Assessment	2014
Distribution and Abundance of Sauger and Fish Community Composition in the Milk River	2014
Trends in Distribution and Abundance of Westslope Cutthroat Trout and Sedimentation in the Upper Oldman River Watershed, 2015-2016	2015
Fish Stocking Expansion - New Lakes	2015
Fish Stocking Expansion - New Species/ New Strains	2015
Hasse Lake Sport Fishery Restoration	2015
Adult Arctic Grayling Density	2015
Lake Isle Sport Fishery Restoration	2015
North Saskatchewan River Drainage FSI Data Gaps	2015
Westslope Cutthroat Trout Recovery and Management	2015
Sawn Lake Walleye Fishery Development	2015
Angler Survey on Aerated Lakes	2015
Winter Dissolved Oxygen Conditions of the Whitemud River and Willow Creek Watersheds, Alberta, 2016–2017	2016
Angler Surveys on Mosse and Haig Lakes	2016
Angler Survey on Upper Bow River	2016
Arctic Grayling Adult Density	2016
Angler Survey on Upper Bow River tributaries	2017
Pike and Walleye Fisheries Angler Surveys	2017
East Slopes Trout and Mountain Whitefish Recovery	2017
Peskiko Creek Trout Recovery	2017
Conservation Potential of Fish Passage Barriers for Westslope Cutthroat Trout	2017
Mountain Whitefish Overwintering Habitat	2017
Owl River Walleye Spawning Habitat	2017
Fish Pond Rehabilitation	2018
Angler Survey on Livingstone and Upper Oldman Rivers	2018
Angler Survey on Wapiti and Lower Smoky Rivers	2018
Prussian Carp Distribution in Alberta	2018
Fish Barriers in North-Central Native Trout Recovery Program Drainages	2018
Westslope Cutthroat Trout Population and Habitat Protections - HSP	2018
Ram River Bull Trout Assessment	2018
Westslope Cutthroat Trout Range Expansion	2018
Angler Survey on the Clearwater/North Raven Rivers	2019
Low-Effort Angler Surveys on Graham, Peerless, Vandersteen, and Round Lakes	2019
Angler Survey on the Berland River	2019
East Slopes Fisheries Inventory	2019
Impact of Beaver Dam Management on Sport Fisheries	2019
Enhancing Yellow Perch Fisheries in Joker Lake	2020
Fish Barriers in Bow River Drainage	2020
Fish Stocking Expansion - Yellow Perch Ponds	2021
Fish Stocking Expansion - Channel Catfish Ponds	2021
Effectiveness of Walleye-Pike Fishing Regulations	2021
Owl River Fish Habitat Protection	2022
Assessment of Lower Profile Game Species	2022
Oxygen-Temperature Trends in the Beaverlodge Redwillow River Watershed	2022
Wildhay River Native Trout Inventory	2022
Upper Clearwater River Native Trout Inventory	2022

Land/Habitat Projects

Project Name	Year started
Conservation Site Management	1997
Riparian Conservation Program	1997
Landowner Habitat	1997
Eastern Irrigation District - Partners in Habitat Development	1998
Shoreline Conservation and Education Strategy	2001
Habitat Securement Program	2001
Western Blue Flag Conservation Program	2001
Peace Native Grasslands Conservation/Native Grassland Conservation	2001
Critical Upland Habitat (Prescribed Burns and Mechanical Clearings	2002
ACA Conservation Habitat Sites (BFW)	2003
Upland Habitat Enhancement	2003
Habitat Stewardship	2003
Riparian Habitat Assessment Program	2003
East Slopes (Central) Riparian (including North Raven River, Raven River, Dogpound Ck, Red Deer River, Battle River, Bearberry Ck)	2003
Southern Riparian Conservation (including Beaver Ck, Todd Ck, Drywood Ck, Yarrow Ck, Pincher Ck, Lyndon Ck)	2003
Buck for Wildlife Streambank Fence Renegotiation Strategy	2003
Fisheries Access Site Management	2003
Trout Pond Maintenance	2003
Management Plan Development	2003
BFW Crown Property Management Plans	2003
Special Areas Stewardship	2003
Cavity Nesting Waterfowl Enhancement (and Wetland Stewardship)	2004
Northwest Riparian Conservation (including Beaverlodge River, South Heart/Lesser Slave Lk)	2004
Riparian Review Management Program and Watershed GP Support (Rocky, Cochrane)	2004
Lentic Riparian Recovery Project	2004
Lotic Riparian Recovery Project	2004
Development and Management of Habitat Securement Fund	2004
Cochrane and Area Access Site Assessment	2004
Recreational Access Site Project Maintenance: Cochrane, RMH Area	2004
Trumpeter Swan Staging Wetland Project	2004
Project Resting Swan (Wetland Stewardship)	2004
GIS Identification of Key Wildlife Habitats in the Rocky Mountain House Area	2004
Tawatinaw River Valley Habitat Conservation Strategy	2004
Ungulate Enhancement Program	2004
BFW Project Maintenance	2005
NE Ungulate Habitat Mapping	2005
Project WHDP Maintenance	2006
Project FHDP Maintenance	2006
Nest Tunnel Evaluation and Maintenance	2006
Focal Habitat Identification and Prioritization	2006
Northwest Eco-region Habitat Planning	2006
BFW Crown Properties Spatial Database	2006
Corporate Partners (Securement)	2006
Boreal Habitat Conservation Program (Suncor)	2006
Landowner Habitat and Access	2008
Terrestrial Conservation Offsets (Shell, Total)	2008
Use Respect Ask First	2008
Corporate Partner Habitat Securement, Enhancement and Management Fund	2009
Edson River Riparian Conservation	2013
Owl River Riparian Restoration and Enhancement Project	2013
Recreational Opportunity Enhancement	2016

Wildlife Projects

Project Name	Started
Foothills Grizzly Project	1997
Sharp-Tailed Grouse Habitat Program	1997
Pronghorn Antelope Bibliography	1998
Central East Slopes Elk Study	2000
Native Prairie Stewardship Program	2001
Alberta Volunteer Amphibian Monitoring Program	2001
Alberta Piping Plover Recovery and Program	2001
Restoring Natural Habitat for Wildlife (including Prescribed Burns, Habitat Restoration for Mountain Sheep, Forest Restoration for Upland Birds)	2001
Sage Grouse Initiative	2001
Aerial Ungulate Surveys	2001
Delta Waterfowl/Duck Nest Box	2001
Researching Amphibian Numbers in Alberta	2001
Northern Leopard Frog Reintroduction Project	2001
SW Alberta Grizzly Bear Strategy	2001
Lethbridge Rattlesnake Project	2001
Peregrine Falcon Monitoring and Recovery	2001
North East Slopes Grizzly Bear Management Project	2001
Cross Elk Re-location Project	2001
Sharp-Tailed Grouse Inventory	2001
Habitat Use by Pronghorn Antelope	2001
Eastern Irrigation District Habitat Program: Access Management	2001
Alberta Wildlife Status Reports	2002
MULTISAR (All Inclusive)	2002
Milk River Basin Species at Risk Conservation Strategy	2002
Pronghorn Antelope Habitat Selection	2003
Hay Zama Wetland Monitoring	2003
Yarrow-Castle/Bighorn Sheep	2003
Provincial Sharp-Tailed Grouse Program	2003
Milk River Drainage Wildlife Inventory Program	2003
Southern Headwaters At Risk Project (SHARP)	2003
Buffalo Lake Pair/Brood Study	2003
Antelope as an Ecosystem Indicator	2003
Winter Sage Grouse Monitoring	2002
Caw Ridge Mountain Goat Study	2003

Project Name	Year started
Peace Native Grasslands	2003
Western Spiderwort	2003
Small Mammal Distribution through the Analysis of Owl Pellets	2003
Alberta North Leopard Frog Recovery (NLFR) Program	2004
Resource Selection by Pronghorn Antelope in the Grassland Region	2004
Cavity Nesting Waterfowl Nesting Enhancement Program	2004
Multi-Scale Landscape Management Planning	2004
Data Management - Biodiversity Species Observation Database	2004
Special Areas Habitat Stewardship	2004
Upland Game Bird Program	2005
Wildland Parks Natural Heritage	2005
Resource Selection Function Validation	2005
Mallard Henhouse Project	2005
Buffalo Lake Waterfowl Study	2005
Peregrine Falcon Survey	2005
Foothills Model Forest Grizzly Project Support	2005
Northwestern Alberta Amphibian Survey	2005
Lesser Scaup Reproduction and Survival	2005
Sharp-Tailed Grouse Lek Inventory and Habitat Enhancement	2006
Ungulate Winter Range Restoration	2006
Elk Habitat Planning Tool	2006
Moose RSF Modeling	2006
Cavity Nesting Waterfowl Enhancement and Wetland Stewardship	2006
Index of Elk Reproductive Condition	2006
Elk RSF Model Testing in the Foothills Natural Region	2006
Grassland Elk Scoping	2006
Nest Tunnel Waterfowl Enhancement	2006
Mallard Nest Tunnel Maintenance	2007
SW Montane Elk Project	2007
Petro-Canada Sustainable Grasslands Applied Research Program	2007
Pothole Creek Watershed Group Wildlife Habitat Enhancement	2007
Resource Selection by Bighorn Sheep in Southwest Alberta	2007
Indexing Elk Condition from Fecal Pellet Samples	2007
Wildlife and Fire Interpretive Hike	2008
Upland Habitat Enhancement	2008
Bighorn Sheep Population Demographics	2008
Loggerhead Shrike Survey	2008
Upper North Saskatchewan Fire and Wildlife Interpretive Trail	2008
Sharp-Tailed Grouse Stewardship	2009
Waterfowl Nesting Habitat Enhancement	2009
Elk Sightability in the SW Montane Area	2009
Elk Sightability in the Montane and Foothills Parkland Natural Subregions	2009
Habitat Legacy Partnership	2010
Ruffed Grouse Habitat and Recreation Enhancement	2010
Where the Pronghorn Cross - Mapping and Evaluating Fences in Southern Alberta	2010
WHILDZ (All Inclusive)	2010
Sharp-Tailed Grouse Habitat Inventory	2010
WHILDZ - Mineral Licks in Low Disturbance Areas	2011
WHILDZ - Wolverines	2011
Pronghorn Fence Enhancement Monitoring	2012
WHILDZ - Habitat Resources	2012
Canadian Toad Detection using eDNA	2012
Pronghorn Program Phase III: Facilitating Movement by Pronghorn	2013
Surveying Grizzly and Black Bear Numbers in Priority Landscapes	2014
Pheasant Release Program to Enhance Hunting Opportunities	2014
Upland Bird 4-H Raise and Release Initiative	2014
Demonstration Farm for Restoring Upland Bird Densities and Biodiversity	2014
Wolverine Occupancy in a Changing Landscape	2014
Amphibian Monitoring Using Environmental DNA	2014
Effect of Industrial Disturbance on Wolverine (Boreal Forest)	2014
Pronghorn Resource Enhancement and Monitoring	2014
Upland Game Bird Fall Forecast	2014
Pronghorn Movement Enhancement	2015
Surveying Grizzly and Black Bear Numbers in Priority Landscapes - BMA 1	2017
Snake Hibernaculum Monitoring	2017
MULTISAR - Milk River	2017
MULTISAR - South Saskatchewan	2017
MULTISAR - Taber	2017
Pronghorn as a Grassland Indicator	2017
Pronghorn Road Crossing Enhancement	2017
Habitat Connectivity and Access	2017
Furbearer Trends (ACA/ATA Partnership)	2017
Wolverine Density, Movement, and Denning in the Birch Mountains	2017
Pronghorn Fence Crossing Enhancement	2017
Effect of Industrial Disturbance on Wolverine near Rainbow Lake	2017
SHARP - Species Habitat Assessment and Restoration Partnership	2018
Habitat Connectivity and Access - Taber Irrigation District	2018
Habitat Connectivity and Access - St. Mary's Irrigation District	2018
Habitat Connectivity and Access - Ridge Reservoir	2018
Assessment and Enhancement of Turkeys	2018
MULTISAR - West	2019
Pronghorn Fence Enhancement Partnership	2019
Hunter App to Track Wildlife Sightings	2020
Range Expansion of Wild Turkey into Central Alberta	2021
Landowner Hunting Access Survey	2021
Hunter Perceived Access Survey	2021
Forest Grouse Monitoring Initiative	2021
Wildlife Response to Forest Harvest and Design	2022

Other

Project Name	Year started
Report A Poacher (includes Promotion, Funding, Rewards)	1997
Predator Compensation Program	1997
Shot Livestock Program	1997
Grant Funds	1997
Crop Damage Control	1997