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CONSERVATION

The official publication of Alberta Conservation Association

SNOW SURVIVORS

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Seeding the Future

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WILD TRACKS

FALL 2014

Ducks Unlimited Canada
Conserving Canada's Wetlands

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Land conservation is part of our ongoing efforts to address the footprint of our oil sands operations. Shell Buffalo Hills Conservation Ranch in southern Alberta is nearly 6,000 acres of prairie grasslands and wetland habitat critical for wildlife breeding, migration and wintering.

Through collaboration with Ducks Unlimited Canada on initiatives like the Shell Buffalo Hills Conservation Ranch, we are protecting land and wildlife for Canadians.

Conservation

Alberta Conservation Association

Conserving Alberta's Wild Side

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

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Alberta Conservation Association

Conserving Alberta's Wild Side

ab-conservation.com

About Us. Conserving Alberta's wild species and spaces requires commitment and passion, something we have plenty of. For 17 years, we have scaled mountains, navigated wild waters, fought off flies, endured hours in helicopters, and walked three quarters of the way around the planet—studying, assessing, counting and conserving some of Alberta's most common and iconic species and their habitat. Superheroes we are not, but there are times we feel a bit like one when we know we've made a difference.

Our work is possible because of our surrounding community. Many people, organizations and partners support us, including Alberta's hunters and anglers. These individuals and groups have contributed millions of dollars towards thousands of conservation projects.

Together, we conserve the outdoors you know and love today for future generations to enjoy.

Follow us on:

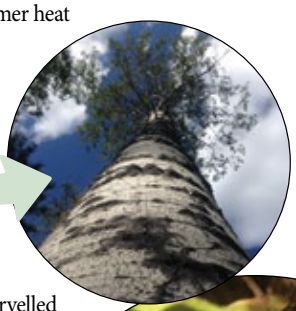
2013/14 Annual Report Snapshot

- 169,988 visitors watched the **peregrine falcon cameras** from June through August 2013.
- 94.1% of employees agreed that they are **satisfied with ACA as a place to work**.
- **56 projects**, received a total of $799,918 through the Grant Eligible Conservation Fund.
- 9 fisheries projects **conducted on 27 waterbodies**; generated information on population status, recreational harvest, distribution, migration and spawning habitat of sport fish.
- 22.1% of ACA's total operating budget was **generated from non-levy sources** ($3,202,730).
- **9,879 calls received** from the public to the RAP toll-free hotline.
- Almost **10,000 people signed up** with AVAMP and reported over **20,000 amphibian observations**.
- **$23,658 raised** in our give campaign to purchase night vison peregrine cameras, GPS collars for wolverines and stock 744 fish.
- Harvested over **200 lbs of silver sagebrush seed** by hand and then planted on native restoration sites.
- **1,979 acres of habitat conserved** (acquisition/land donation) for an additional 8 new Conservation Sites.

View our 2013/14 Annual Report to read more highlights.
Visit **ab-conservation.com/annualreport**.

From the Editor

It's the end of August in Peace River and yellow aspen leaves have already graced the forest floor. We are at the Warrensville site where it is clear that things have turned early, partly due to the extreme summer heat and an early frost. I've met up with Ed Koldychuk from our Peace River office for a two-day whirlwind tour of eight Conservation Sites in his neck of the province. I was excited to swap my indoor environment for the outdoors and explore a place I had not been to since I was a little girl. Upon cresting the hill before the blue bridge into the valley, I knew the visit and familiar environment would conjure up memories of home.



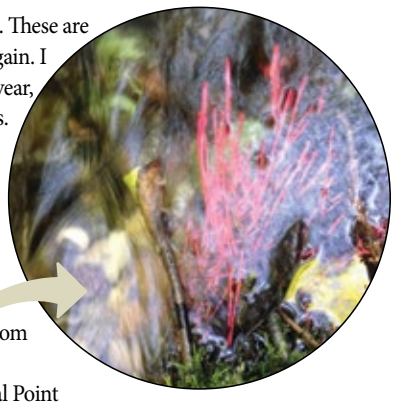
We were lost in the silence on the Rudakevich 1 site, marvelled by the remarkable size of the aspen trees that grow here and the changing foliage. I tried wrapping my arms around one of the trees to see if my hands would touch—they didn't! When we finally spoke, it set off a chain reaction, startling a grouse that embarrassingly made me scream, which sent a deer crashing through the trees.

Along the tour, ripe clusters of high bush cranberries and blueberries enticed us. Clearly we weren't the only ones enjoying the healthy treats. Near the North Rabbit Lake site we spotted a formidable-sized pile of bear scat. Fascinated by pretty much everything, I took a picture! It seemed timely to post the poop on our Facebook page with a message about being bear aware during berry-picking season; who knew it would draw such attention?

I don't know why I didn't take a picture at Deadwood Burn; it must have been the remarkable vista that took my breath away. We stood here a while, absorbed by the vast open space where young plants and shrubs cover the hills, creating a patchwork quilt of colours and a tasty smorgasbord for elk and deer.

It was the smell of cranberries hanging in the air that tugged at me most of all. In an instant I was back in time, out on a cool afternoon after the first frost with my mom, sister, dog Buck and I hiking into the forest to pick cranberries. After a jovial game of pelting my sister with bursting red berries, we would make our way home, pails filled and the smell still clinging to us.

Reassuring rituals, nature's gentle nudge and the sensory feast. These are the reasons why I fall in love with this season over and over again. I invite you to take advantage of this incredibly special time of year, to reacquaint yourself with old memories and create new ones.



Thank you to everyone in our Peace River office and Ed Koldychuk for being such a prepared, gracious guide and for sharing his vast knowledge about the area, the sites, and the landowners and partners we work with.

If you are in the Peace River area and would like to visit the Conservation Sites on this tour, search albertadiscoverguide.com or download the free *Alberta Outdoor Adventure Guide app*. Conservation Sites: Rudakevich I, Rudakevich II, Lac Cardinal Point Uplands, Leddy and Warrensville, Weberville Pond, North Rabbit Lake, Ozanne and Deadwood Burn.

Lisa

—Lisa Monsees, Editor-in-Chief

Letters to the Editor: *Address letters to the Conservation Magazine editor by e-mail, fax or mail. Include your name, address and daytime telephone number. Letters may be edited for clarity and length.*

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citizen moose tracker

Two years ago we launched a moose population monitoring app and recruited the assistance of moose hunters as citizen scientists. The concept followed a suggestion by Todd Zimmerling, President and CEO of Alberta Conservation Association, and a team at the University of Alberta set about developing the app with the cooperation of Alberta Environment and Sustainable Resource Development (ESRD).

by Mark S. Boyce, ACA Chair, University of Alberta

photo: ACA, Kevin Gardiner

Getting the data

We invited hunters who drew a moose tag to note the number of moose that they observed while hunting. To do this each hunter recorded the Wildlife Management Unit (WMU) where they held a license, and for each day that they hunted, the number seen, and the number of hours spent hunting. At the end of the day the hunter entered these data into an app on their smartphone.

A bumpy start

Our trial year, 2012, was a bit of a fiasco because Apple released its new iOS6 operating system on the opening day of moose season, delaying our release by three weeks. Hunters owning an Android-based operating system were able to participate as planned but iPhone users missed the early part of the hunting season. This was significant because the majority of Alberta smartphone users have iPhones. Nevertheless, once up and running we had good participation and large numbers of reported moose. Part of the success of this app can be attributed to the high-tech capabilities of Alberta hunters. The province has the highest proportion of cell phone users (>90%) of anywhere in Canada*.

The first full season with the app, 2013, was revealing with 9,158 hours of moose hunting reported and over 3,500 moose (one third were bulls) observed while hunting. Distribution of those moose was directly proportional to the number harvested in any given WMU. We calculated the number of moose seen per hour hunting to compare it to ESRD data. Hunter success rates were comparable in both study results indicating that number of moose seen per hour correlates to numbers harvested. Thus the moose app is working, giving us an independent measure of moose abundance based on those seen by hunters.

Cost efficiency

Still, the gold standard for estimating moose density is aerial surveys. These surveys are very expensive, and on average a WMU is scheduled for an aerial survey once every 10 years. Although they are effective, the sampling frequency in Alberta has been woefully inadequate for moose management. In fact, this was motivation for the development of our moose app. Ideally we would like to validate the app by showing that population density estimated by aerial survey is correlated with moose reported seen by hunters. Unfortunately we have too few aerial surveys, forcing us to evaluate the method based on the distribution of hunter harvest.

Learning curve

Estimating relative moose density is calculated by the number of moose seen *per hour hunting*. We encountered calculation challenges because in some instances, hunters entered zeroes on days they did not hunt and others failed to indicate how much time they hunted. In 2014, the app was programmed so that hunters can only report moose observations when the number of hours hunted per day has been entered.

Easy participation

Generally hunters found the moose app easy to use, and we had reports that it works great in remote areas where there is no cell phone coverage. When you come within range of a cell phone tower, data are sent directly to our computer. The most common complaint that ESRD received was from hunters who wanted to participate but owned a Blackberry device. Indeed, we have not programmed the app for the old Blackberry platform but the new BB10 Blackberry 10.2.1 devices are now compatible with the Android app.

Hunters contribution

All hunters who successfully drew a moose license for 2014 received a letter from ESRD advising them on how to download the moose app. The app gives moose hunters the opportunity to be citizen scientists and contribute data that enhances wildlife management. ■

** Source: http://www.theglobeandmail.com/report-on-business/if-you-live-in-alberta-you-probably-own-an-iphone-report-shows/article14747161/*

The sun rises along the South Saskatchewan River near Medicine Hat, steadily warming the valley. There we spot a herd of 20 pronghorn waking as the morning sun hits their camp in the silver sagebrush. We breathe in the crisp morning air, now filled with the sweet fragrance of the shrub. It is time to get started with the day's work of harvesting seeds from the silver sagebrush—an iconic symbol of our native Alberta grasslands, cattle ranching and our prairie history.

► *by Brad Downey, ACA*

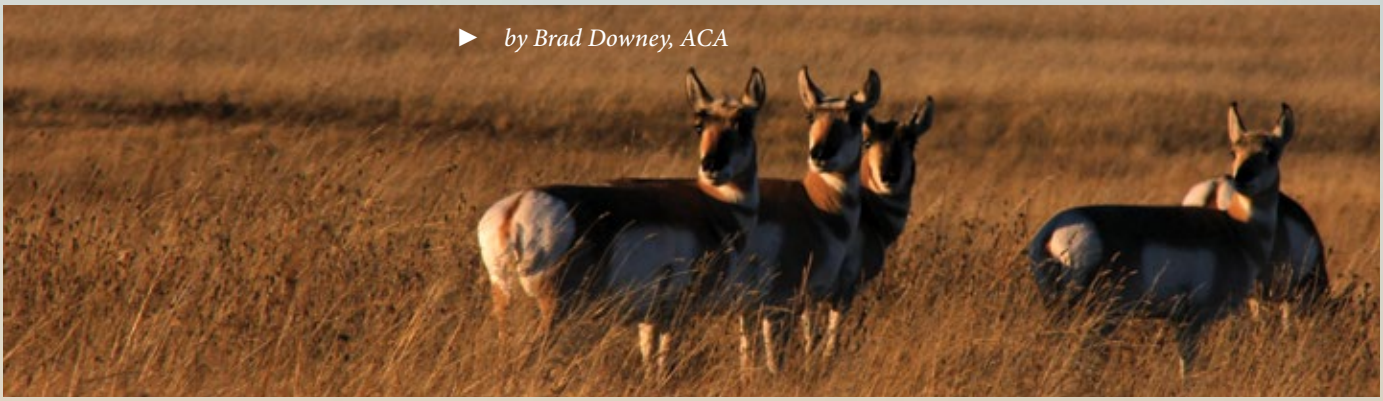


photo: ACA, Paul Jones

SILVER RUSH

SEED HARVESTING PRESERVES SILVER SAGEBRUSH AND GROWS HABITATS.

photo: ACA, Brad Downey

Prime picking

Silver sagebrush (*Artemisia cana*) is a native perennial shrub that grows on the prairies in moist to moderately drained soils. Sagebrush is a valuable food source and provides shelter for nest sites and protection from the elements. Several wildlife species are highly dependent on this plant, including pronghorn and the greater sage grouse, which is listed as *Endangered* in Canada.

Recently, we've taken to harvesting grass and shrub seeds, including silver sagebrush as part of our conservation efforts. Seeds collected from the same ecoregion that developed under the same conditions have the highest chance of success. The harvested seeds are planted on grassland restoration sites, creating richer habitats, healthier wildlife populations and grazing opportunities on previously altered land.

Managing the future

Collecting the seed is relatively easy, but time consuming. To harvest on public land, local authorization is required which can involve several governing bodies and lease holders. Harvesters go out in early to mid-November and strip the seed from the shrubs with their hands into plastic buckets. They must leave at least 50% on the shrub for future silver sagebrush growth in the area. Just like grazing, you want to manage for next year's forage. By leaving half of the seeds behind you secure a future harvest. Best practice allows harvest locations at least one year of rest between subsequent collection sessions.

Once separated, the seed is packaged in large woven bags, left to dry, then stored in a cool dark area. However, because the best time to plant is soon after harvest, storage tends not to be an issue. At the end of November or start of December, seeding simply involves scattering the silver sagebrush seed overtop of the snow. The snow eventually melts, dropping the seed onto the moist ground, simulating optimal growing conditions that occur naturally.

Seeds of success

To date we have seeded 960 acres back to native plants and have another 250 acres identified for the fall of 2014. We noticed that a number of native species have returned since planting including, needle and thread grass, June grass, blue grama grass, northern and western wheat grass, silver sagebrush, pasture sage, common yarrow and scarlet mallow. Point counts for birds have seen an increase from one species using the site when it was cultivated to nine species including 170 sharp-tailed grouse.

Silver sagebrush has been restored at the Silver Sage Conservation Site. You can find directions in the *Discover Alberta's Wild Side: Outdoor Adventure Guide* at albertadiscoverguide.com or download the free *Alberta Outdoor Adventure Guide App*.

Living history

Silver sagebrush is harvested by the Alberta Conservation Association for grassland restoration purposes in Alberta. The seed collected on this trek will be scattered onto grassland restoration sites should be identified through MULTISAR in southeastern Alberta. The goal is to establish healthy grasslands habitat that wildlife and ranchers can depend on, and ultimately, secure part of our living prairie history. ■

Valuable Harvest

- Pure silver sagebrush seed can fetch up to $90 per pound.
- On a typical day, with two to three people picking, it is possible to harvest 60-80 pounds.
- 10% of the harvest will be pure silver sagebrush seed. This can equate to $500-$700, based on seed viability. The other 90% is chaff (dry plant material).
- Each pound of pure seed can contain at least 820,000 seeds.

MULTISAR

Currently MULTISAR is collaborating with ranchers on over 300,000 acres. MULTISAR is a process for multi-species conservation at the landscape level. It is a collaborative effort between government, non-government and landholders, which is succeeding because of the co-operative teamwork of all partners. The MULTISAR program is co-managed by the Alberta Conservation Association, Alberta Environment and Sustainable Resource Development and the Prairie Conservation Forum.

photo: ACA, Brad Downey

Whitetail Done Right

▶ *by Kevin Kossowan*

If there's an Alberta big game animal that one could call 'ubiquitous', the white-tailed deer is it. They're everywhere. In the hunting community they've got to be the most harvested big game animal, which means plenty of whitetail goes into Alberta kitchens every year. From what I've seen though, most of that is in the form of Ukrainian-inspired garlic sausage made by a local meat processor.

It doesn't have to be so.

Steak au Poivre

Dress it properly

But what else can be done? Lots. Assuming you have harvested an animal selected for good eating and not its score, the first task is to not screw it up in the field. A good friend of mine is a local butcher and says that many a carcass will come into the meat shop with gravel or spruce needles in it. Let's not do that.

Do it yourself

So with a good eating, clean animal in hand, I challenge you to spend a couple hours and break it down yourself. It will save you money, and every year your knowledge of what is best to do with a deer will improve. Don't know how? The best method is called 'seam butchery', or literally just separating muscle groups apart, one at a time, until you're left with little to nothing on the bones. If you're unsure, check online for a tutorial.

Quick and easy

Tenderness is achieved by not overcooking the cuts, medium-rare max. Big game meats in general prefer fast cookery methods like grilling or frying in a cast iron pan. Bear in mind that these are wild, active animals with strong muscles and little intramuscular fat.

Who doesn't like steak? I've had white-tailed deer steak more tender and less pungently flavoured, call it gamey, than a grass-fed beef rib eye. Nail the doneness, get some solid flavours into the pan, and you'll change some minds.

Give this a go with tenderloin, loin (often called backstrap), top sirloin, inside or outside round. The only cuts I wouldn't choose here are neck, rib or shank. Let your steaks come up to room temp for a half hour or so. It's very important to get a proper crust on the outside and a nice gradient of doneness inside.

Groceries and gear:

Whitetail steaks of tenderloin, loin, top sirloin, inside or outside round; room temperature
Cracked peppercorns
Salt
1 tbsp good quality butter
Cast iron pan (ideal)

1. Liberally coat the steak in cracked peppercorns and season with salt. Put a cast iron pan on medium heat and add a tablespoon of good quality butter.
2. Cook your peppered steak on the first side roughly three quarters of the way, THEN flip it. This will give you really good colour and caramelization. At rare to med-rare, remove it from the pan and leave it alone while you prep the sauce.

Sauce:

Onion, garlic, shallot, or chives
¼ cup heavy cream
Pinch of salt

1. In the pan, fry off any member of the onion [allium] family - garlic, onion, shallot, chives…
2. Once cooked, add 1/4 cup of heavy cream and a pinch of salt.
3. As soon as it bubbles pull it off the heat.
4. Plate your steak and cover with sauce.

If you want it to look pretty, dress it up with seasonal fresh greenery and florals - in this case I used chervil, pea shoots and chive blossoms.

Get it right and I guarantee you white-tailed deer will mean so much more to you than just sausage. ■

Kevin Kossowan is a local food writer deeply involved in Alberta's urban agriculture and foraging communities. He believes wild foods are critical to our regional food culture. Join us every issue as he celebrates Alberta's regional foods with tips, recipes and fresh ideas.

photos: Kevin Kossowan

The wild table from field to fork

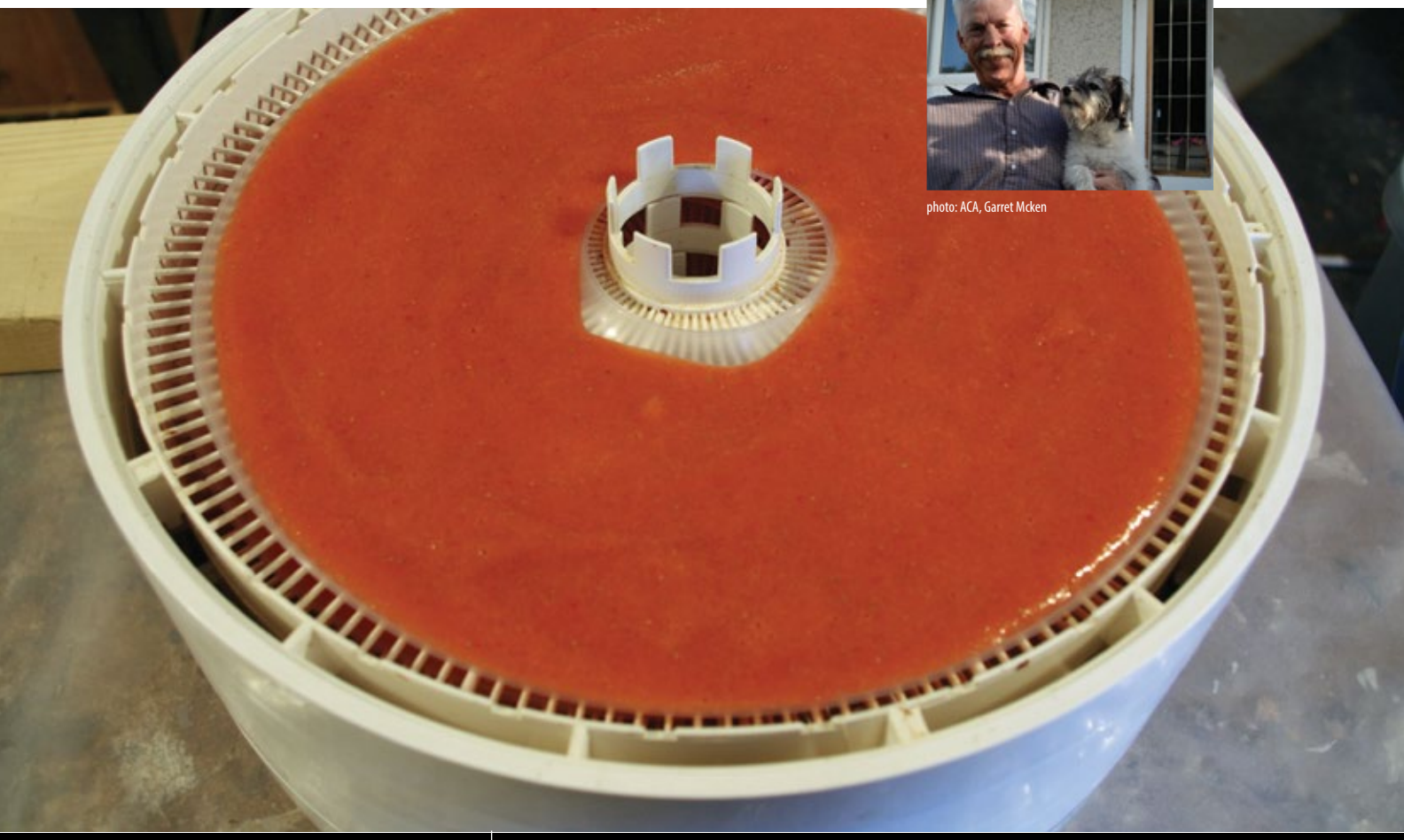
Dried and True

► *by Paul Hvenegaard, ACA*

"The food also keeps all of its original taste...Better still, they do not require additives like sugar or preservatives."

With the exception of electricity, I can't think of a contraption other than the dehydrator that has lent itself better to the world of food preservation. The dehydrator is an appliance that simply extracts existing water from our favourite edibles in a controlled and efficient fashion. The result is preserved food that will last for months, if not years, when stored properly. If folks are interested in affordably preserving a wide variety of food items while maintaining nutritional values and natural flavours, a dehydrator may be just the tool.

photo: ACA, Garret Mcken



Bountiful savings

This method of food preservation allows consumers of nature's bounty to seize opportunities of abundance. Dehydrated food can be enjoyed throughout the year without complicated equipment like pressure canners, or taking up freezer space. By removing only the water, dehydrated food retains its nutrients and vitamins in a concentrated form. The food also keeps its original taste because it hasn't been processed with traditional heat methods which can alter flavour. Better still, they do not require additives like sugar or preservatives.

Savour the possibilities

Practically anything with water can be dehydrated so the options are endless. For example, have you ever checked out the cost of a piece of jerky at the quickie mart? For less than the price of a single piece, five pounds of ground venison can be converted to jerky while having full control of the flavour. Looking for a delicious yet healthy snack item? Fruit roll-ups are truly the way to enjoy your favourite fruits. Dog owners can achieve hero status in the eyes of their pets by producing doggie biscuits with the liver from harvested deer and moose, which tend to be considered less desirable and are often left for scavengers to enjoy.

Whether a person is looking for more flavour, affordability, higher nutrition or simply another preservation technique, a dehydrator is worth considering. The process is fun and your family and pets will let you know how delicious they are.

photos: ACA, Paul Hvenegaard

Here are three of my favourite recipes that have proven desirable by man and beast alike.

Smoky Venison Jerky

Pantry Pickings:

5 lbs coarsely ground venison
3 tbsp kosher salt
2 tbsp fine ground black pepper
1 ½ tbsp Worcestershire sauce
1 tbsp liquid smoke
½ tsp garlic powder
1 tsp onion powder
1 tsp cure
Jerky Gun

1. Mix the ingredients together and load into your jerky gun.
2. Squeeze out some strips onto the dehydrator trays. Avoid allowing strips to touch each other.
3. Run the dehydrator at 76 C for two hours. Flip each piece over and continue for another two to three hours or until desired dryness is achieved.
4. Cool for about an hour and the jerky is ready to enjoy or store.

Real Fruit Roll-Ups

Pantry Pickings:

4 cups of strawberries
2 cups of apple sauce
Dehydrator liner
Non-stick spray

1. Blend one quart of strawberries with two cups of apple sauce until smooth.
2. Spread the sauce equally over two liners lightly coated anti-stick spray.
3. Dehydrate for about six hours or until the puree has dried into a pliable leather.
4. While warm, peel off the trays and cut into squares and simply roll them up - enjoy!

Liver Doggie Treats

Pantry Pickings:

1 ½ lbs of liver
1 cup of flour
1 cup of cornmeal
3 tbsp honey
3 tbsp oil

1. Using a blender, homogenize the liver.
2. Add the flour, cornmeal, honey and oil and blend again.
3. Spread the mixture over a square microwave dish and cook it for about eight minutes on high.
4. Slice the liver cake into flat strips and to whatever size/ shape of dog treat is desired.
5. Put the strips into the dehydrator for about six hours or until rock hard.

Believe me, there is no need to make dog treats look like a bone! Put the strips into the dehydrator for about six hours or until rock hard. ■

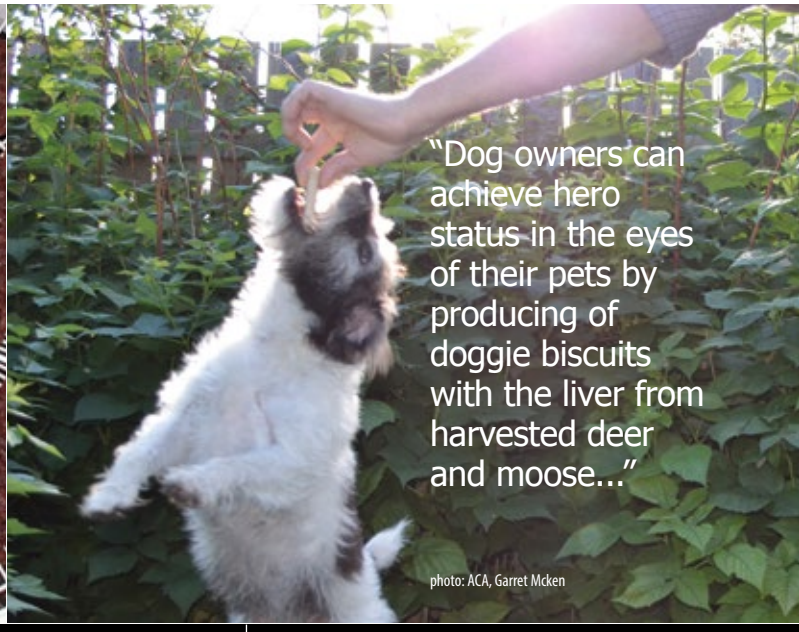


photo: ACA, Garret Mcken

Wake Up Call

Bats Face Fungal Invasion


photo: Mark Brigham

► *by Sue Peters, ACA*

When you buy a hunting or fishing license in Alberta, you contribute to conservation of wildlife. A portion of the levies on these licences goes to Alberta Conservation Association (ACA). We make grants available that support a variety of on-the-ground conservation efforts and research projects, like the *Ecology of Bats Overwintering in the Canadian Prairies* project. ACA's Grant Eligible Conservation Fund, or GECF, has supported this research since 2012. This project was conducted by Drs. Justina Ray and Cori Lausen (Wildlife Conservation Society Canada) and Ph.D. Candidate Brandon Klug (University of Regina).


Brandon Klug examining a big brown bat caught flying around mid-winter in Dinosaur Provincial Park
photo: Dr. Cori Lausen

Bats get a bad rap, but we need them. A unique part of Alberta's biodiversity, they provide cost-free pest control by consuming millions of insects considered a nuisance to farmers, trees, and people enjoying the outdoors. Take a stroll at dusk down a river valley trail and you'll likely see the silhouettes of bats darting overhead—a reminder of their important role in controlling bug populations.

As if being misunderstood wasn't tough enough, Alberta bats may soon have something more to worry about. A fungus that infects hibernating bats known as "white-nose syndrome" is spreading through North American bat colonies. This disease, which leaves a white ring of fungus around the bat's face, has spread from bat to bat at an alarming rate in populations across the northeastern United States. It has killed millions of bats. Now found in eastern Canada, Alberta biologists are hoping white-nose syndrome does not spread to our province.

Going gets tougher

All bats awaken occasionally during hibernation, to seek water, move to another location, or in response to physical disturbance from curious people. White-nose syndrome causes increased awakening of hibernating bats, putting them at risk of using up their limited fat stores before the end of winter. This means they may starve before they emerge in the spring. It's not easy to bulk up on bugs!

Predicting the spread of this fungal disease is difficult for biologists in western North America because they have a limited understanding of winter bat behaviour and ecology. What types of prairie habitats are bats using for hibernation? How do these habitats differ from caves used by bats in the east? Are prairie bats hibernating in groups or individually? Do they typically wake up from hibernation and move around? If so, are they eating and drinking during these mid-hibernation flights? *The Ecology of Bats Overwintering in the Canadian Prairies* GECF project is answering these questions. It will help biologists assess the risk of white-nose syndrome spreading amongst hibernating bats in western Canada.

Perfectly cold and dry

For this project, bat researchers captured and tracked big brown bats (*Eptesicus fuscus*) hibernating in rock crevices (gaps or cracks) in Dinosaur Provincial Park in southern Alberta. Initial results show several behaviours in these bats that may slow down the spread of the fungus. Unlike eastern bats, they hibernate in smaller groups and in drier, colder places like rock crevices instead of caves. They also tend not to move between different groups of hibernating bats during mid-winter flights. However, they are also at greater risk of dehydration than bats in moist caves, a risk increased by white-nose syndrome. Bat researchers in Alberta have the advantage of collecting this information *before* white-nose syndrome arrives. Hopefully, the more we know, the better we can assess the risk to our bat populations to develop management and recovery strategies.

The Alberta government has responded proactively to the risk of white-nose syndrome in our province by closing two popular recreational caving spots—Cadomin Cave and Wapiabi Cave. This could reduce disturbance to bats hibernating there as well as the likelihood of human-to-bat spread of the fungus. ■

WILD ON THE WEB
Government of Alberta announces cave closures to protect Alberta bats. Visit magazine.ab-conservation.com/batcaves.

The GECF program is now known as ACA Conservation, Community and Education Grants and ACA Research Grants. For information on ACA's Grant Programs, visit: www.ab-conservation.com/gecf.

The Kostkas

Appreciation Spurs on Stewards

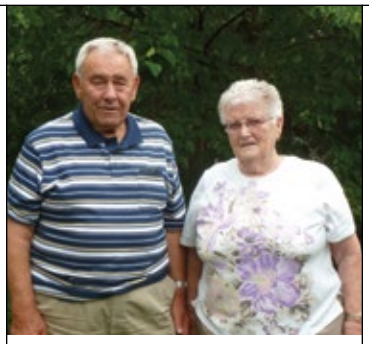
► *by Karen D. Crowdis with Brad Taylor and Randy Lee, ACA*

When you dedicate your life to working the land, the bond created can be near impossible to break. Frank and Ingrid Kostka have such a connection to a particular parcel near Picture Butte, despite having "retired" in 2001. Decades of raising crops and livestock and commitment to land stewardship went relatively unnoticed. Imagine their surprise when the accolades they received were not for years of farming.

Long time connection

Frank's family has been in the Picture Butte area since 1936. He walked the route to the old Barhill School as a child and remembers picking fruit from plum trees where the trout pond is now. Ingrid's family moved from Germany in the 1950s and settled in the same region.

Later on, Frank and Ingrid married and continued their own love affair with the land on their nearby farm. In the 1970s they rented a parcel from the McVinnie family to farm. In 1973, the Government of Alberta purchased 152 acres of McVinnie property which is now the McVinnie Conservation Site (with a stocked, champion-producing trout pond). The Kostkas continued to lease up to 80 acres of that parcel through the government's farm development program. Here they honed their stewardship skills and deepened their relationship with the area, remaining until they retired and moved into town.



Commitment to conservation

Their full-time job farming kept the Kostkas pretty busy every year. Yet farming was not their only involvement with the land. They have an equally long history of stewardship and participation in the development of recreational opportunities in the Picture Butte area. When the 14 km shelterbelt at McVinnie was planted in 1975-6, the Kostkas were instrumental in its maintenance. Additionally, they were active with the Picture Butte Fish and Game Club and released pheasants on the site.

Again the Kostkas were up for a challenge when the 12 acre fish pond at McVinnie was completed with wetland, garbage bins and outhouse. Frank and Ingrid were awarded the maintenance contract, managing those facilities while operating a farm. Even the fish in the pond have fallen under their protective watch. Working with Alberta Fish and Wildlife Division and subsequently Alberta Conservation Association (ACA), the Kostkas closely monitored ground water levels and continue to monitor fish stocking.

Their 30 plus years of working this land wasn't without fun. They have collected some amusing memories along the way. Like the time they found a stolen limousine with keys still in it. If only the car could share its tale.

If you met them on the street, the Kostkas would look like everyone's favourite grandparents. And in a way they are. They are great agents who have gone above and beyond in assisting with the management of this site. From farmers through retirement to being site maintenance contractors, they have cared for the land.

Unlikely recognition

Before overly romanticising the concept of stewardship, consider the flip side. Somebody has to empty the garbage, restock the toilet paper, and – you guessed it – clean the outhouse. Frank and Ingrid have done all of this without complaint.

Although their decades of effort put into the farm, the shelterbelt, and the fish pond passed without fanfare, they continued their stewardship. Because of the Kostkas a tidy outhouse was there for someone in their time of need, and much to the Kostkas' surprise they were thanked for it. An unexpected note of appreciation taped to the back of the outhouse door is not likely to be forgotten. ■

McVinnie

To visit the McVinnie Conservation Site, check out the free *Alberta Outdoor Adventure Guide* app for iPhone. Access the Guide online at **albertadiscoverguide.com**.

Toilet Trivia

Alberta Conservation Association maintains outhouse facilities at several sites across the province. Here are some interesting things to ponder the next time you are use the can.

20 Conservation Sites host 37 outhouses

10% lost in the last five years

- 2 were lost to human activity
- 1 was lost to flooding, but was recovered and repaired
- 1 was blown apart by the wind... that clears up the odour!

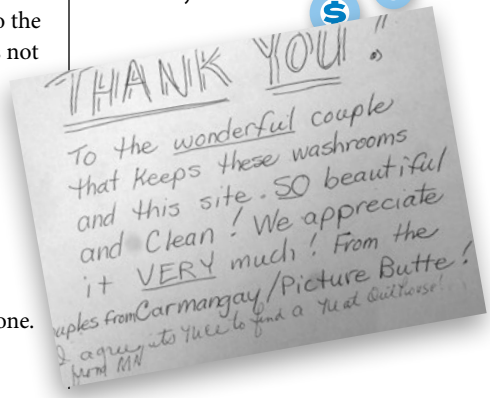
Co$t of the can

$7,000 to $20,000: replacement cost of a can depending on its location and whether the tank has to also be replaced

$1,000 to $7,000: cost *per site* to clean outhouses, averaging $80,000 per year!

$2,000 per year: additional for septic tank pumping

$22,000: annual contribution by ACA toward replacing older outhouses at certain sites, some of which are 20 years old



Rainmakers

Meet the Landowner

"Water is a finite resource [...] and that drives conservation."

Richard Phillips, General Manager, BRID.

Bow River Irrigation District

by Karen D. Crowdis

In southern Alberta, at the turn of the 20th century, the rugged terrain that greeted early settlers to our province didn't look promising. The sun beat down on dry grasses that extended as far as the eye could see in an area susceptible to drought. Waterbodies of any sort would have been merely a mirage. Enter the rainmakers; investors created vast irrigation systems which, over time, transformed the arid landscape into the lush farmland we see today.

Channelling resources

The weather in southern Alberta offers ample sunlight hours but limited precipitation, making the farming equation lopsided. In 1905 a group of English investors sought to earn a profit from redirecting water into an irrigation system. Irrigation success seemed imminent with water delivery starting in 1920, but it wasn't profitable. By 1950 the federal government had taken over the district. A massive rebuild and upgrade began under the Prairie Farm Rehabilitation Administration. In 1968, it became the Bow River Irrigation District (BRID) and operates with a staff of 45 and a dedicated volunteer board to this day.

Feed the people

Consumer demand for varied agricultural produce is the primary driver for the BRID's services; without irrigation, crop diversity would be lost. Consider that 80 per cent of water in Alberta is found in the north, yet 80 per cent of its demand is in the south for irrigation. The reservoirs provide consistent water availability even in times of drought, regulated delivery quantities ensure crop viability.

Valuable asset

"Water is a finite resource [...] and that drives conservation," says BRID General Manager, Richard Phillips. Their efficiency happens in two key areas: on farms and in distribution. Technology such as pivot

Photos: Bow River Irrigation District

"Water is meant to be used; putting it on the land creates new areas for use and recreation."

Harold Unruh, Chair BRID Board of Directors

systems has improved efficiency on the farm, conserving water and making more available for irrigation use. Converting open, unlined canals to buried pipelines virtually eliminates seepage and evaporation enabling BRID to double the number of acres they irrigate without increasing water demand.

"Anyone who uses water in the district is a stakeholder, domestic or recreational," Phillips indicates. Understanding supply – the balance of user need and conservation – is critical. BRID continues to invest in technology advancement and other resources to measure water regularly and accurately, making the most out of every available drop.

Conserving habitat

According to Phillips, the organization is in the business of providing water rather than acquiring land. When necessary, BRID acquires land for canal right of ways, but they do have other land assets. Recently, the organization leased 200 acres of BRID owned land to Alberta Conservation Association (ACA), which expanded the Grantham Lake Conservation Site.

Many BRID members and employees are avid outdoorspeople interested in promoting and preserving wild areas. "When they [BRID staff] see a parcel of land that is not [agriculturally] productive, they often first consider which conservation groups might be able to make it work," commented Harold Unruh, Chair of BRID Board of Directors. "These areas often make good wildlife habitats."

Long haul

That long-term commitment to water and habitat conservation is not lost on ACA. "We appreciate BRID's attitude and cooperation in providing opportunities to conserve wildlife habitat in the District," says Brad Taylor of ACA. Since 1986 the organizations have blended skills to develop, nurture and maintain wildlife conservation areas for everyone's use and benefit. They extend their working relationship well into the future with Grantham Lake.

Add water, they will come

What began as a simple plan to move water to farms had unexpected benefits for wildlife. Phillips notes that habitats have sprung up along the canals owned by BRID, drawing birds and other species to nest and breed here. Like the Grantham Lake site, they offer excellent wildlife viewing opportunities.

BRID encourages recreation activities on their reservoirs, including boating, angling, bird watching and hunting in appropriate areas. These opportunities are available because of the irrigation district.

"Water is meant to be used," says Unruh. "Putting it on the land creates new areas for use and recreation."

There are risks associated with people using reservoirs for recreation, though. Phillips and Unruh warn against the infiltration of invasive mussel species. Because there is no real effective way to treat those species, reservoirs could be irreparably damaged. An outbreak would have devastating economic consequences on farming, destroy the varied fish populations, and have a wide spread impact on everyone who depends on those crops.

Splish, splash

The rainmakers have ensured there are no more mirages, just bountiful produce and spectacular hunting, fishing and bird watching. So go ahead, put on your Speedo, hook up your invasive-species-free boat and jump right in. The water is just fine. ■

WILD ON THE WEB
Find out how to keep your boat free of aquatic invasive species at magazine.ab-conservation.com/cleandraindry

Grantham Lake

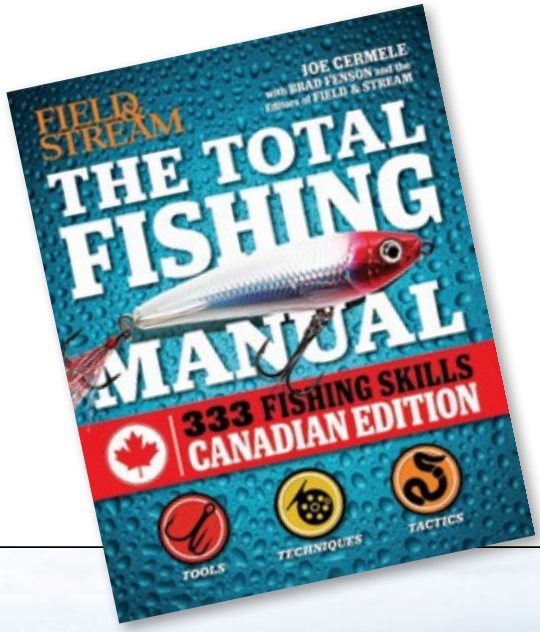
Map Grid **F4** 21

Make a splash at the reservoir and try your hand at fishing, bird watching or hunting. Please remember to be respectful, travel on foot and pack out garbage whether it's yours or someone else's. Ensure your boat is free of invasive species. To enjoy the extended Grantham Lake Conservation Site, visit ACA's *Annual Outdoor Adventure Guide* (**www.albertadiscoverguide.com**) for directions and any visitation restrictions.

Source:
http://environment.gov.ab.ca/info/library/6364.pdf

Waterfowl on Badger Reservoir

Photos: Bow River Irrigation District



Testing the Waters

How a Fishing Manual Improved Catches

Tested by the Sturgess Family

Our boys are hooked on fishing. Scott and Jimmy are happy to spend an afternoon casting, testing every lure in their tackle box, and waiting for the next big nibble. But this summer, we wanted to get them into some fish. So, we applied for walleye tags for Smoke Lake and picked up a copy of *The Total Fishing Manual Canadian Edition*. We knew we needed a quick study on fishing for walleye if our trip was to be a success.

Getting started

Tip #1 of the 333 tools, techniques and tactics in *Total Fishing* started us off on the right foot. Out came the boys' tackle boxes to compare their lures to the 15 greatest lures of all-time and the new classics. Great pictures and colour coding made it easy for the boys to find Red Devils and Curly Tail Grubs in their tackle boxes. We read that in early summer trolling with crankbait can attract female walleye. We went and purchased a Rapala X-Rap and Sebile Magic Swimmer, as well as the recommended Gulp Minnows and 10-pound line.

Total Fishing told us June is an unparalleled time for walleye fishing. The water temperature is just right and there's plenty of forage for hungry walleye. The timing of our trip to Smoke Lake was spot on. What about our technique? Thanks to tip #159, Jimmy's first cast with a jig-and-minnow at the edge of the weeds landed him his first walleye. Tip #156 had us trolling from our canoe to land a second and third, using the same lure on every rod and resetting lines to match productive depths. We did lose a few thinking we needed to set the hook. Then we remembered Tip #166: "Just grab the rod and wind slowly and steadily after the strike."

Reeling them in

After about three hours in the canoe, black clouds rolled in and the boys looked toward land. We thought about calling it a day when the fish *really* started to bite. One hit after another. Bent rods and big smiles as we all reeled in fish. We thought we'd found the sweet spot on the lake. Back at camp, with our catch in the fry pan, we learned from Tip #162 that walleye feed recklessly when a storm rolls in. Their recklessness filled a few more of our tags and hooked the boys more on fishing.

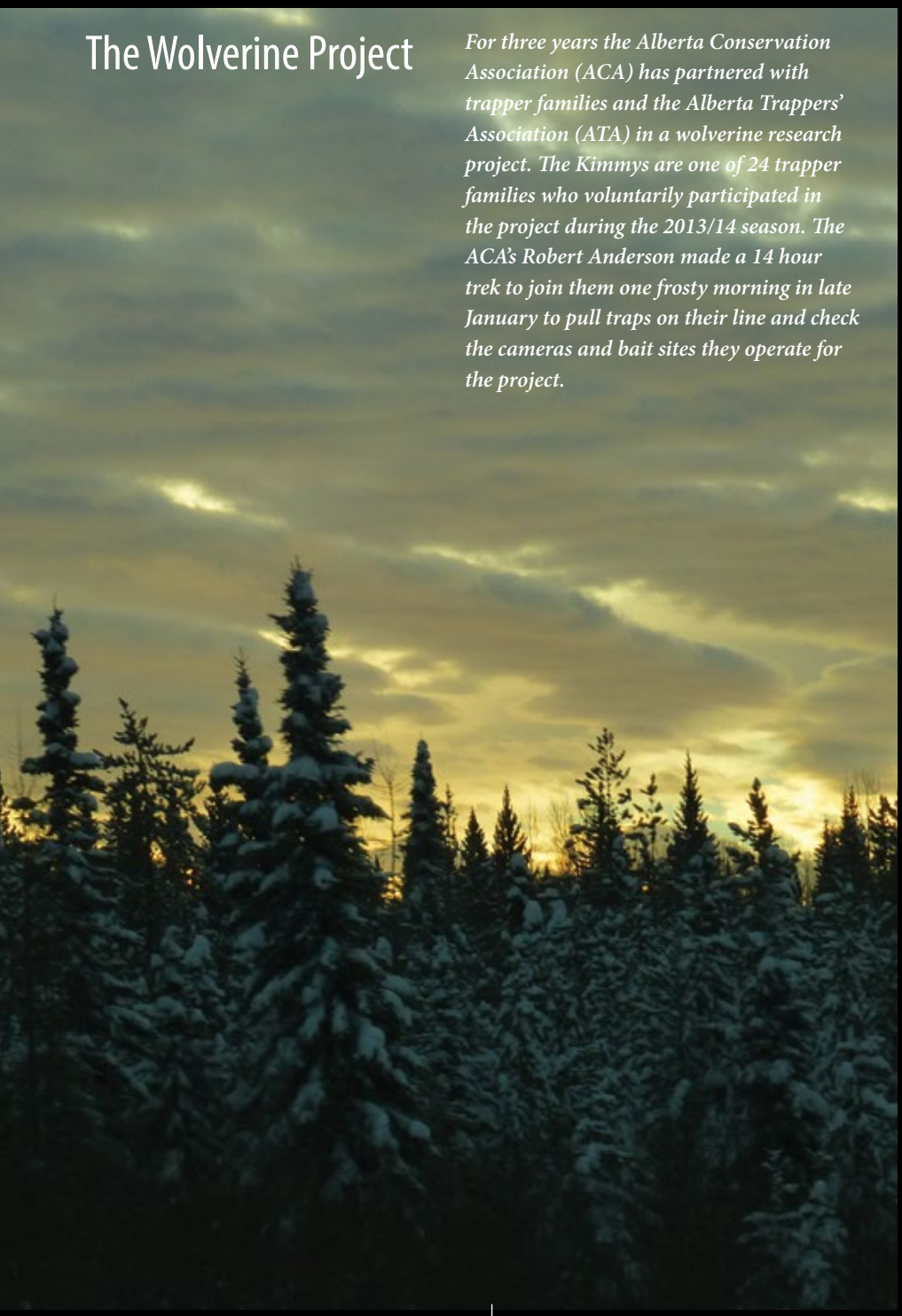
Scott's fight to land a northern pike that was three centimetres short was memorable this year. His goal next summer is to catch a "keeper". To plan that trip, we'll start again at Tip #1 to pick the right lures. Then we'll read about the tools, techniques and tactics for fishing northern pike so that trip will also be a success. ■

photo: Sheila Campbell

Phantoms on Film

The Wolverine Project

For three years the Alberta Conservation Association (ACA) has partnered with trapper families and the Alberta Trappers' Association (ATA) in a wolverine research project. The Kimmys are one of 24 trapper families who voluntarily participated in the project during the 2013/14 season. The ACA's Robert Anderson made a 14 hour trek to join them one frosty morning in late January to pull traps on their line and check the cameras and bait sites they operate for the project.



► *by Robert Anderson, ACA*

I made the long journey north to visit the Kimmy family trapline as part of ACA's commitment to the wolverine project. Although it's been an effort to get here, the trapper citizen scientists on this project have donated far more of their time. They also provide equipment and money for fuel in the interest of making a contribution to our understanding and management of wolverines. Their dedication lasts long after the trapping season closes, too. The Kimmys continue to check the cameras and replenish the bait, making a 650 km road trip followed by a 250 km snowmobile jaunt each time, until the end of March.

Expert witnesses

The Kimmys' trapping area covers a large territory, including remote regions where they might be the only humans to set foot all year. It is great wolverine habitat and Neil Kimmy, who has years of observations under his belt, shares his ideas about why he finds wolverines where he does.

Incorporating local expertise into our wolverine data analysis is invaluable. Understanding their normal behaviours and movements gives us insight into how often they are found in different areas. We then compare those findings to recorded data from across northern Alberta. The combined information reveals patterns that can be used to predict where they are. This will allow us to better assess and understand the trade-offs associated with different land use practices in wolverine range. Ultimately, that is a key part of ensuring a healthy population and a long-term sustainable harvest.

Half way through a three-day trip to the Kimmy trapline and we've come up blank in terms of wolverine photos. At our fourth site, however, we find most of the bait gone and hair in the alligator clips on the run pole. It looks like fisher hair though, which is accompanied by 4,000 photos on the camera. But at the end of the card, captured less than 50 minutes before we arrived….a wolverine! For Neil, the hard work has paid off. It remains to be seen if this wolverine or others come back again next year.

photo: ACA, Jim Potter

Funding and the future

We are fortunate to receive grant money for the project from sources such as Shell's FuellingChange program. Those funds help buy equipment and provide a small cost recovery to each trapper that operates sites until the end of March, time that is not normally spent on the line.

Research equipment is expensive. Each run pole consists of two cameras, memory cards, batteries, and alligator clips to collect hair samples at a cost of $2,000. Donations from corporate sponsors like Daishowa-Marubeni International Ltd. (Peace River Pulp) and a number of ATA members and their associated companies make this project possible. Funding and partner participation are key components for continuing wolverine studies in isolated areas.

The future of the wolverine project is dependent on the interest and influence of ATA members. We've already added significantly to our understanding of Alberta wolverines and where they're found in the province. As long as there is support from the trapper citizen scientists and the other project partners, we'll continue to fill in the gaps for this elusive species. ■

photo: ACA

Phantom Facts

- In 2013/14, there were 47 bait and camera sites within a Boreal region area larger than the United Kingdom (Cold Lake to just south of Grande Prairie and north to the NWT border).
- 27 wolverines were caught on camera, many of them multiple times. ACA's Mike Jokinen's camera has recorded the same male for six years!
- Sightings increased and peaked at 90 in March.
- DNA hair samples were collected from many other species too, including cougar, bobcat, marten and fisher.
- Cool creatures caught on camera include: weasels, flying squirrels, lynx, red fox, grizzly bear, wolf and caribou.

Remote is remote: most Boreal sites are at least 400 km from the nearest Tim Hortons or 600 km from Starbucks and Second Cup!

photo: ACA, Shevell Webb

photo: ACA

SNOW SURVIVORS

► *by Budd Erickson, ACA*

Winter in Canada can be tough for any creature. The blasting snow, crippling temperatures and piercing winds make lost heat more than a discomfort. A small bleeding injury on a cold night can mean certain death. It is amazing wildlife survive at all. But with clever and unique traits, these furry and feathered Albertans have adapted to live in Earth's freezer.

photo: ACA

Lynx

Lynx canadensis

A true Canadian

Like its cousin the Eurasian lynx, the iconic Canada lynx has nicely adapted to persevering through prolonged winters. To survive harsh habitats, a thick and fluffy fur coat is obviously necessary. But it also has a lighter, greyish fur colour that provides camouflage while it hunts and traverses the endless white. In addition to a warm coat, their ear tufts function like sophisticated hearing aids. This is important because it allows them to hear prey even over the howl of blustery winter winds.

Cloud walker

Walking around in deep snow is cumbersome and that extra resistance to each step adds up very quickly. Lynx paws are very large and round with fur on the pads. Spreading their toes on the surface snow creates a snowshoe effect, reducing energy required to travel in a land of ice and snow. How big are their paws exactly? Well, they are often bigger than an adult human hand which is extremely large for an animal with an average weight of about 10 kilograms. The lynx floats atop dunes of snow; retaining full agility and lethal swiftness while contending with an ocean of frozen quicksand. This nimbleness helps them successfully hunt its main food source: the sprightly snowshoe hare. Lynx can consume up to 200 hares every year!

Crafty kitty

Lynx do not dig underground dens; instead, they are opportunistic and choose natural formations. Hollow logs or uprooted trees with wood or plant debris make great homes. Expectant females specifically choose locations with substantial lining material to offer vulnerable newborns more warmth and protection.

Chickadee

Poecile atricapillus

If you can't beat the snow, join it

Come fall the black-capped chickadee stays put, enduring the deep freeze instead of embarking on a journey somewhere tropical. How does a bird that weighs a mere 14 grams avoid becoming a feather-flavoured popsicle during the long cold nights of winter?

The chickadee employs a unique strategy of smashing head first into a snowbank and digs around with its beak making a mini igloo no more than a few inches long. Undisturbed snowbanks contain a lot of trapped air, which provides great insulation. With luck, it will last for regular use. If snowbanks are in short supply due to warm weather or lack of snow, they will also roost in hollows of trees or in dense evergreen groves for protection from the elements.

Chill-axing

Chickadees lower their core body temperate about 10–12 degrees C overnight, reducing the amount of energy needed to stay alive. Short bursts of shivering keeps their temperature from dropping to dangerous levels. Shivering isn't exactly pleasant. Imagine having to endure tiny muscle spasms for months on end because your body is trying not to crystallize.

Like most survivalists, chickadees wear warmer gear. Their soft, thick feathers stand up, trapping air next to the body. The air remains warm, insulating our feathered friend.

Cuddle up

If you are freezing cold, snuggling up with someone is a great way to get warm. Chickadees figured this out too and occasionally huddle up to each other for warmth. They use their escaping body heat to warm each other and even the small enclosed areas they dwell in.

Chickadee Costco

In the late fall they also build food caches. These mini marathoners not only recall where they stashed food, they also remember which ones are already emptied conserving more of their daily bulk-up. During the coldest times, they even select the stores they know have the most energy dense food sources. Chickadees gain more than 10 percent of their body weight every day throughout winter. These fat stores provide the energy for shivering through the night.

photo: Leo Raymaakers

Fisher

Martes pennanti

Shiny winter jacket

When fishers sense the onslaught of frosty air their fur coat becomes dense, glossy, and often up to three inches thick on their back side. Surprisingly, the colour of their coat remains a dark brown or black making them stand out against the brilliant white snow.

Why doesn't the fisher camouflage itself? Consider a male fisher, on average, weighs a little more than 5.5 kilograms. Surely a host of carnivores could make it a quick snack; however they have almost no natural predators. It's extremely rare for another animal to voluntarily engage in claw-to-claw combat with this ferocious and agile weasel.

Snow dancer

Similar to the lynx, the fisher has snowshoe-like paws with one difference—they have heavy-duty hairs filling the gap between the pads on their feet. Reminiscent of a frog's toe webbing, the dense hairs snag on the loose snow. This gives extra grip on the soft terrain allowing quick, accurate movements while treading on the ice-y fluff.

photo: ACA, Mike Jokinen

Acrobatic feet

What truly shines is its special ankle joints that enable them to spin their paws around 180 degrees. This might make them look pretty goofy, but it allows them to climb up and down trees comfortably facing whichever direction they please. They climb down trees head first as if casually strolling along a sidewalk.

It is that ability which gives them a unique advantage over their favourite quarry: the porcupine. They are one of the only known predators that specifically hunt this prickly prey, usually attacking the unprotected face. Should a porcupine attempt to climb a tree to safety, the fisher can overtake and face it head-on from above and attack while simultaneously climbing up a tree backwards. That's right; they are so slick that fishers can hunt while basically moonwalking up a tree. ■

photo: ACA, Mike Uchikura

Wild Outdoor Getaways

Gone ice fishing

► *by Budd Erickson, ACA*

If you have trouble finding a reason to enjoy the outdoors in the winter, an ice fishing adventure might be just what you are looking for. Sixteen lakes are aerated by Alberta Conservation Association (ACA) through the Enhanced Fish Stocking and Lake Aeration program, creating pockets of aquatic life that are hidden beneath the frozen landscape. Ice fishing may seem like a cold and arduous undertaking, but with the proper equipment it can be as comfortable and fun as summer fishing.

Here are some ACA staff favourites.

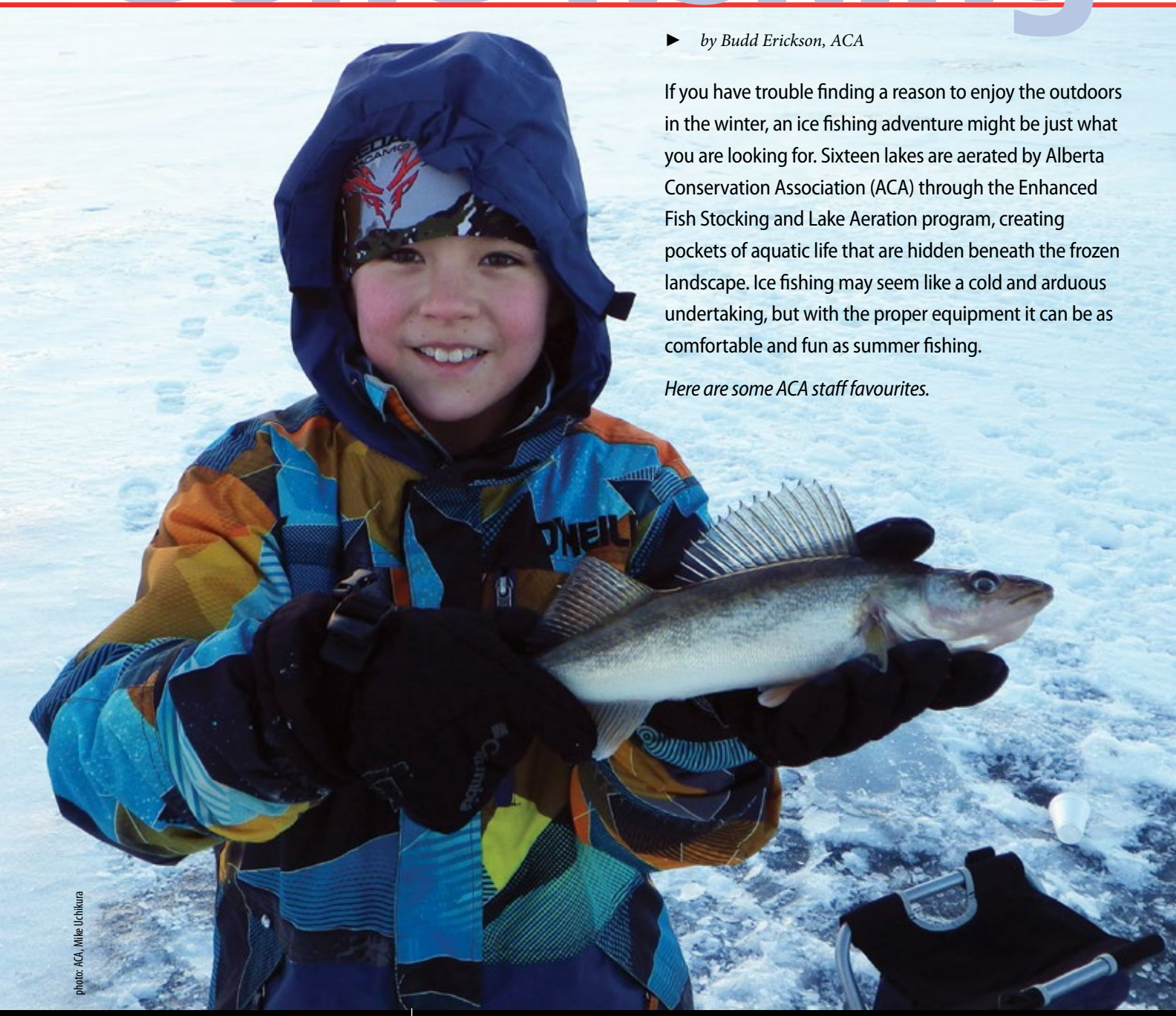


photo: ACA, Mike Uchikura

Birch Lake

Fishermen enjoy this site for its triple stocked waters—rainbow, brook and brown trout all thrive here through the summer and endure the sub-ice habitat in the winter. During the first few months of winter, fishing for brook trout is usually exceptional. Another draw of this fish-filled lake is the size; it's large enough that you will never feel crowded by other anglers. The lake once supported a blue heron colony and today you can spot this majestic bird "fishing" for a meal.

Partners: Alberta Conservation Association, Alberta Environment and Sustainable Resource Development, Braxxon Excavation, Compton Petroleum, North Shore Environmental Consultants, RTC Services Ltd., TAQA North

Directions: This 71 acre site is located 16 km southwest of Caroline. From Red Deer, head south on AB-2A, turn right on AB-592 (west), turn left onto AB-781 (south), right on AB-54 (west), left on Range Road 63, continue 2.3 km onto Township Road 352A, then 1.4 km onto Township Road 351A. Turn right, lake is on the right.

Check it out because: Stocked with three species of trout, large lake, easy access and blue heron viewing in summer.

Spring Lake

One of ACA's more frequented aerated ice fishing destinations, Spring Lake boasts great rainbow trout fishing during the summer and winter. A naturally occurring yellow perch population attracts anglers looking for variety. Spring Lake has an unusual formation—it branches out and forms alcoves, creating more opportunities for anglers to try their luck. Coupled with a decently sized island, there could be four other fishing groups and you wouldn't even see them! This lake is also a convenient fishing spot for Edmonton and area residents as it is located only 50 kilometres west of the city.

Partners: Alberta Conservation Association, Alberta Environment and Sustainable Resource Development, Village of Spring Lake

Directions: From Stony Plain, travel on AB-779, make a right turn on Township Road 524 and continue about 8 km, turn right on Range Road 15, take first left onto Lakeside Drive, destination is on Smith Crescent.

Check it out because: Naturally occurring yellow perch, stocked rainbow trout, convenient location and access, intriguing lake shape.

Sulphur Lake

Sulphur Lake is a prized ice fishing spot; even out of province anglers who were surveyed have rated excursions there as "very satisfying." Its remote location coupled with a rich, true boreal forest setting makes any trip there a surreal experience. Stocked with both rainbow and brook trout by ESRD, there is variation in the catch. The larger-than-average 18–20 inch fish doesn't hurt either. The lake is winter aerated by ACA significantly boosting fish survival. If you are lucky, you might see the resident otters making the trek from their dens to open water.

Partners: Alberta Conservation Association, Alberta Environment and Sustainable Resource Development (ESRD), Alberta Tourism, Parks and Recreation, Daishowa-Marubeni International Ltd

Directions: Located approximately 46 km southwest of Manning, travel southwest on Mackenzie Hwy (AB-35), turn right on Township Road 874 (~11km), turn right on Range Road 251; after 3km, turn left and travel about 22 km, turn right. The lake is about 17 km ahead near Dixonville.

Check it out because: Rainbow and brook trout stocked, above average fish size, remote location, a true boreal forest and wildlife viewing. ■

Discover maps, driving directions to more aerated and stocked lakes with the free *Alberta Outdoor Adventure Guide* app for iPhone. Access the Guide online at **albertadiscoverguide.com**. The website offers the same information as the app. Request a free hard copy at 1-877-969-9091

Always refer to the Alberta hunting and sportfishing regulations.

Grant Deadlines

Alberta Conservation Association is accepting applications for the following grants:

ACA Research Grants funds high quality projects carried out by professional researchers (not students) that inform the effective management of wildlife and fish populations and habitat in Alberta. Applications are accepted from **November 1 - 29, 2014**.

The ACA Grants in Biodiversity for Graduate Students is administered by the University of Alberta. Application deadline is **November 29, 2014**.
This grant is supported by Syncrude Canada Ltd.

ACA Conservation, Community and Education Grants funds hunter, trapper or angler retention and recruitment and/or conservation education in Alberta and non-research activities that help conserve, protect and/or enhance fish, wildlife and/or habitat. Applications accepted **January 2015**.

For more information and to download application forms, go to ab-conservation.com/gecf.

photo: Janet Ng