

Nature Alberta

C E L E B R A T I N G O U R N A T U R A L H E R I T A G E



feature article

Tiny Hunter of the Forest



WHAT ARE YOU DOING HERE? SEE "ON THE COVERS" PAGE 3. RICK PRICE



THE FLOWER OF SPRING! SEE THE STORY, PAGE 36.

CHARLES BIRD

*Nature Alberta:
Celebrating our natural heritage*

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WINTER ISSUE. **NOVEMBER 30**

Nature Alberta is composed of natural history clubs from across the province. The aims of the Federation are:

- (a) To encourage among all Albertans, by all means possible, an increase in their knowledge of natural history and understanding of ecological processes;
- (b) To promote an increase in the exchange of information and views among natural history clubs and societies in Alberta;
- (c) To foster and assist in the formation of additional natural history clubs and societies in Alberta;
- (d) To promote the establishment of natural areas and nature reserves, to conserve and protect species, communities or other features of interest;
- (e) To organize, or coordinate symposia, conferences, field meetings, nature camps, research and other activities whether of a similar or dissimilar nature;
- (f) To provide the naturalists of Alberta with a forum in which questions relating to the conservation of the natural environment may be discussed, so that united positions can be developed on them, and to provide the means of translating these positions into appropriate actions.

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Editor's Page

BY BROOK SKAGEN (ASSISTANT EDITOR)

THE CURIOUS LIVES OF CARRION BEETLES

While identifying plants as part of my Important Bird and Biological Area (IBA) Site Survey at the Lake Newell IBA, about 7 km south of the town of Brooks, I stumbled upon a remarkable critter!

As I crouched down to get a closer look at the golden grass swaying in the breeze, a vibrant flash of orange on the path ahead immediately caught my eye. I watched in awe as a stocky black beetle splashed with orange, about an inch long, left the safety of the field, clumsily crawling to a piece of dung along the dirt trail. Unlike anything I have ever seen, I began to frantically snap photos so as to have a means of identifying the peculiar insect later.

THE BRILLIANT ORANGE MARKINGS ON MOST *NICROPHORUS* ADULTS MAY BE APOSEMATIC, POSSIBLY WARNING PREDATORS NOT TO INGEST THE BEETLE DUE TO ITS FOUL TASTE OR TOXICITY. BROOK SKAGEN

After flipping through my insect field guide, I managed to identify the intriguing *Coleoptera* specimen as belonging to the genus *Nicrophorus*, commonly known as a Burying or Carrion Beetle. Alberta is home to 11 of Canada's 14 *Nicrophorus* species, usually found throughout the summer and into late October, all of which can prove quite challenging to differentiate. I didn't dare try and identify the species based on photographs alone, but I was still able to discover plenty of interesting facts about the fascinating invertebrate.

Nearly all species of *Nicrophorus* are black with orange markings and prominently clubbed antennae. True to their name, they have a rather off-putting



THE BURYING BEETLE'S ANTENNAE CONTAIN POWERFUL OLFACTORY (SMELLING) RECEPTORS, ALLOWING IT TO DETECT HYDROGEN SULFIDE AND ORGANIC COMPOUNDS RELEASED AS A CARCASS DECAYS. BROOK SKAGEN

diet of decaying fungi, dung and carrion, helping to fill the important role of decomposition and nutrient cycling in the ecosystem. However, it isn't just their appetizing diet that sets these fascinating beetles apart from most arthropods; they just so happen to make some of the best parents in the natural world, with both the male and female sharing parental responsibilities.

Upon discovering the body of a small vertebrate as a source of food for their young, both adults will burrow underneath the carcass, completely burying it. If not on appropriate ground, the beetles will transport the carcass to a new location for burial. A chamber where the female will lay up to 30 eggs is then excavated, along with a passage leading



EDITOR'S PAGE cont'd...

away from the remains. Within a few days the hatched larvae will move into the carcass through a premade tunnel created by their parents, and will feed on predigested carrion for the beginning of their lives. Within 1 to 2 weeks the larvae will enter the soil to pupate, emerging from the ground as adults in about 2 weeks time. Parent beetles will continue to feed and defend their young into adulthood.

With an immense diversity of wildlife to discover in the province, the small and fascinating can be easily overlooked. Had I not been observing the prairie understory with care, I may never have discovered the Burying Beetle slowly wandering through the grass. The next time I venture out to enjoy the beautiful sights and sounds of the grasslands, I'll be sure to watch my step a little more closely for more of Alberta's curious and bizarre!

Sources:

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On the Covers:



FRONT COVER

"I was thrilled and did not want to miss the opportunity to photograph this event in nature, but at the same time, I did not want to come close to the owl so as not to disturb her." A conundrum to be sure – but it turned out fine, as the photos that Dr. Galal secured testify. See the Feature Story on page 20.



INSIDE FRONT COVER

It's a surprise...it's at Reesor Lake in the Cypress Hills... it's a scrubby-looking Mink. Rick

Price took the photo and thought it was a Mink but was looking for confirmation. A check with Cypress Hills staff confirmed it.

No Spring edition would be complete without an image of the beautiful Prairie Crocus. And since Charlie Bird took the photo AND wrote the "Nature Note" about the Prairie Crocus, we would have to be crazy to not take advantage of the opportunity! See page 36.



INSIDE BACK COVER

A rarity, and a common harbinger of spring: that is what met Bob

and Cynthia Mutch as they hiked the Banff Fenland Trail and Bill Milne Trail this spring. The Mountain Bluebird is one of the earlier birds to set a person's heart all a' flutter and signals that yes, it is definitely time to pack away winter gear. The Barred Owl...well, it's just such a thrill to see one, much less this close!



BACK COVER

A beautiful image all on its own, the fact that it also illustrates the preferred habitat of the American Pika adds to the story it tells. It also reminds us what may appear to be a jumble of messiness to us is actually a perfect

home to others! See the story on page 38.

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LETTERS TO THE EDITOR

Sending the Wrong Message?

I want to send a word of caution about using words in your articles that send, or may send, the opposite message to what you intend.

In Brook's editorial about the mouse and the deer, the words "mangled", "unsightly", and "culprits" to my mind clearly imply that the deer should not have been browsing on the Saskatoon patch. This leads to the question of what they should have been doing in winter. The answer could well be "going extinct", "getting out of the way", or other negative meanings that have no place on a serious wildlife magazine; and indeed, send a contrary message to the one meant.

Again in the article on Sapsuckers, the following appears: "Due to their odd and unsightly foraging behaviour, Sapsuckers have long been viewed as pests. Though the trees are often able to recover, evidence of their sap-loving visitors such as scarring and discoloration remain. The wounds left behind provide an easy point of entry for numerous insects and forest diseases that may lead to the tree's ultimate demise." This whole passage reads as if it was written by a pest control company's PR department; I seriously question the scientific accuracy of the final statement. The whole tone of the passage seems anti-wildlife to me.

I enjoyed your article about the St. Mary's Reservoir, an area of Alberta I am not familiar with, and thought the rest of the magazine was up to its usual high standard.

ANDREW SLATER, CALGARY AB



NATURE TOURS

DISCOVER OUR NATURAL WORLD

FEATURED TRIPS:

ICELAND: NATURE IN THE LAND OF FIRE & ICE

June, 2016

BATHURST INLET, NUNAVUT: A SINGLE-LODGE STAY IN AN ARCTIC OASIS

June, 2016

EAST COAST WILDLIFE SAFARI: AN EXPEDITION CRUISE TO THREE CANADIAN PROVINCES

July, 2016

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November, 2016

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Atlantic Puffin

ALBERTA ISSUES IN BRIEF

Beaver Hills, East of Edmonton, Added to UNESCO World Biosphere Reserve Network

FROM BEAVER HILLS INITIATIVE NEWS RELEASE, MARCH 21, 2016

SHERWOOD PARK, AB – March 21, 2016 - The Beaver Hills Initiative and its members are pleased to announce that the Beaver Hills became a UNESCO (United Nations Educational, Scientific and Cultural Organization) Biosphere Reserve on March 21, 2016. The Beaver Hills joins a global network of over 600 sites that are internationally recognized for their work to ensure ecologically sustainable human and economic development. It is the second biosphere in Alberta and joins 16 other Canadian Biospheres.

“The UNESCO Biosphere designation is basically international recognition for all the work that’s been done in this special area to maintain biodiversity and foster ecologically and socio-culturally sustainable human and economic development in this lived-in and working landscape. We’re looking forward to continuing our work and sharing our research and tools with the public, other biospheres and land use decision makers outside the Beaver Hills,” says Glen Lawrence, Chair of the Beaver Hills Initiative.

Located 20 minutes east of Edmonton, Alberta, the Beaver Hills is a distinct landscape covering 1572 km² of hummocky moraine. The rolling, hummocky hills of the moraine sit about 100 metres higher than the relatively flat lands surrounding it, and it supports a patchwork of valuable

wetlands, small lakes and forested uplands. Popular destinations in the moraine include Elk Island National Park, Miquelon Lake Provincial Park, Cooking Lake-Blackfoot Provincial Recreation Area, Ukrainian Cultural Heritage Village, Ministik Lake Game Bird Sanctuary and the Strathcona Wilderness Centre.

The Beaver Hills Initiative was formed in 2002 after the staff at Elk Island National Park recognized a need for regional collaboration to address development and land use planning within the moraine. Since then the Initiative has grown to over 20 member organizations, which includes four local governments: Strathcona County, Lamont County, Beaver County and Leduc County. In addition, the provincial and federal government, local residents, indigenous organizations, NGOs (non-governmental organizations) and academia comprise the list of member organizations.

As the national contact for the Man and the Biosphere (MAB) program in Canada, the Canadian Commission for UNESCO has provided ongoing strategic guidance for the Beaver Hills Biosphere designation. This internationally recognized area will remain under local jurisdiction, and member organizations will continue working collaboratively for a sustainable region through shared initiative and coordinated action.

The Beaver Hills Initiative would like to thank the public and their members for their support for the Biosphere Nomination. In addition, the Beaver Hills Initiative would like to thank UNESCO for their support and recognizing the Beaver Hills, as a place of unique beauty and value that exemplifies how people and communities can live, work and play in harmony with nature. Visit beaverhills.ca for more information and a list of upcoming summer events where you can help celebrate and learn more about Alberta’s newest UNESCO Biosphere.

UNESCO delegation to visit Peace-Athabasca Delta

UNESCO has agreed to send a monitoring committee to Wood Buffalo National Park to look at cumulative effects of oil, gas and hydro development on the environment, says a northern Alberta First Nation representative.

Site C is already the subject of a UNESCO inquiry into the downstream impacts on the Peace Athabasca Delta, a World Heritage Site. The UNESCO World Heritage Committee has asked Canada not to allow any irreversible impacts from resource projects until the mission has completed its site inspection and report. A UNESCO delegation will be visiting the Peace region in May-June 2016.

State of North America's Birds 2016 Report Now Available

For the first time, the North American Bird Conservation Initiative (NABCI) has released a comprehensive report for all 1,154 of North America's native bird species. According to the report, 432 species are of high concern, including species found in Alberta.

Grassland species were found to be in rapid decline, while Boreal species remained relatively stable overall. However, the following species of Alberta birds have been

added to the NACBI watch list upon review of population sizes, trends, threats and breeding and wintering ranges:

Baird's Sparrow, Bobolink, Canada Warbler, Cape May Warbler, Cassin's Finch, Cerulean Warbler, Chestnut-collared Longspur, Connecticut Warbler, Evening Grosbeak, Greater Sage Grouse, Harris' Sparrow, Horned Grebe, Lesser Yellowlegs, Long-billed Curlew, Marbled Godwit,

McCown's Longspur, Mountain Plover, Olive-sided Flycatcher, Pectoral Sandpiper, Piping Plover, Red-headed Woodpecker, Rufous Hummingbird, Semipalmated Sandpiper, Snowy Plover, Sprague's Pipit, Surf Scoter, White-winged Scoter, Whooping Crane, Willet, Wood Thrush, and Yellow Rail.

You can review the full report here: http://www.stateofthebirds.org/2016/?_hstc=75100365.2c4643e3fe3f545426283025b8e1

Government accepts recommendations to strengthen scientific oversight of environmental monitoring

FROM ALBERTA ENVIRONMENT AND PARKS NEWS RELEASE, APRIL 5, 2016

A new structure is being established to improve the province's environmental monitoring and reporting system.

The new model will replace the Alberta Environmental Monitoring, Evaluation and Reporting Agency (AEMERA), which an independent review has determined is not the right delivery model to ensure effective and accountable oversight of environmental monitoring on behalf of Albertans.

"We are committed to doing the best job we can of monitoring the environmental impacts of industry and resource development as we build a more resilient, diversified economy. Outsourcing this work was not the answer. Moving expertise back into government under the guidance of two panels reporting to a

new provincial Chief Scientist will allow us to strengthen our scientific capacity and be more transparent and credible in our reporting."

Shannon Phillips, Minister of Environment and Parks

The review of AEMERA found that the private model diverted overhead costs away from monitoring, led to confusion around roles and responsibilities, and limited resources.

As part of government's commitment to building standards based on international best practices and a renewed partnership with Indigenous communities, the new structure will improve the province's environmental monitoring and reporting system and will retain an independent science advisory panel and a traditional ecological knowledge advisory panel. The

two panels will advise a new Environment and Parks division led by a Chief Scientist.

The Science Advisory Panel will report directly to Albertans on the province's monitoring and science system. It will provide independent advice to the new Monitoring and Science Division on the collection, analysis and reporting of data. This new division will be led by Dr. Fred Wrona who will be moving over from AEMERA.

The new structure will also integrate traditional ecological knowledge (TEK) through a panel. The TEK panel will work with Indigenous communities to identify approaches that reflect community-based knowledge.

AEMERA was established in 2014 with the mandate of coordinating province-wide environmental monitoring and evaluation.

Nature Conservancy of Canada expands protected land in Alberta's Southern Foothills

FROM NCC NEWS RELEASE, APRIL 13, 2016

The Nature Conservancy of Canada (NCC) has assisted the Waldron Grazing Co-operative in adding the very historic King Ranch to the largest conservation easement in Canadian history. With the acquisition of the ranch, the existing 12,357 hectare (30,535-acre) Waldron conservation project, a conservation easement secured by NCC in 2014, has grown by an additional 1,701 hectares (4,205 acres).

The King Ranch is located along the Cowboy Trail (Highway 22) in the wildlife corridor linking the 28,000-hectare (70,000-acre) Bob Creek Wildland Park (the Whaleback) and the 39,000-hectare (97,000-acre) Porcupine Hills Forest Reserve and in close proximity to other properties with Conservation Easements, including the Waldron Ranch.

Waldron Grazing Co-operative has purchased the property, which was formerly owned by the eccentric multimillionaire King brothers, two men that helped shape ranching in Southern Alberta.

Numerous stories have been written chronicling the legend of the two brothers—Harrold and Maurice—who purchased the land in the 1920s and lived together as perpetual bachelors in the same log cabin on some of Alberta's most valuable land.

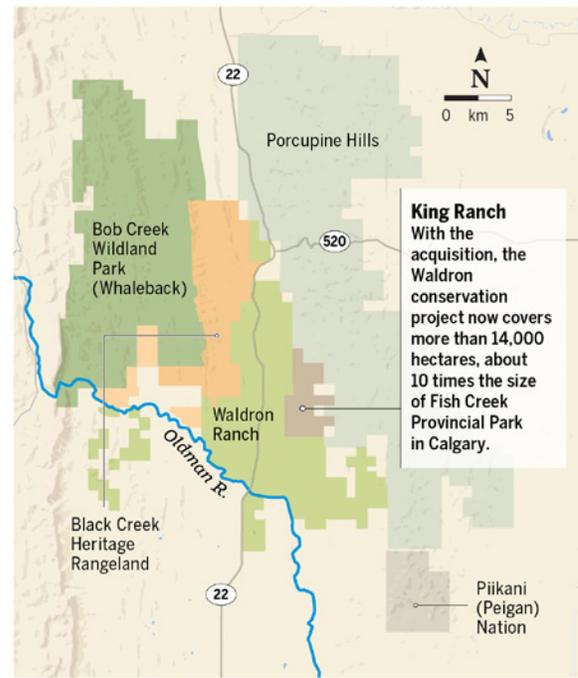
By the time the brothers died in the 1990s the ranch was worth millions, but Harrold and Maurice lived frugally without electricity in self-imposed isolation for the better part of a century. They were known to wear old pants held up by twine, choosing to invest every penny into their beloved ranch.

Many people who knew the brothers are pleased to see the land conserved, allowing their legacy to live on.

The Nature Conservancy of Canada's conservation easement on this significant stretch of working native grassland prevents further development in the area and will assist in the conservation of water quality, flood mitigation, and the maintenance of an important watershed along Alberta's southern foothills. It is also a wildlife corridor that facilitates the movement of large carnivores such as bears and Cougars.

Other species this property supports include elk, Mule Deer, Golden Eagles, Bald Eagles, and Moose. The King Ranch is also home to the [ferruginous hawk](#),

THE WALDRON CONSERVATION PROJECT



SOURCE: NATURE CONSERVANCY OF CANADA
DARREN FRANCEY / CALGARY HERALD

which is on Alberta Species at Risk's Threatened list. Sometimes found in Alberta's prairie region during the summer months, Ferruginous Hawks and burrowing owls are the only birds of prey that use grasslands as their main habitat.

The property is also habitat for COSEWIC's Endangered [Limber Pine](#), a five-needled pine that can live up to 1,000 years and whose seeds provide important food for bears, small mammals, and birds.

This project was supported by private donors, the Waldron shareholders, funding from the Government of Alberta, and funding from the Government of Canada through the Natural Areas Conservation Program. A portion of this project was also donated to NCC under the Government of Canada's Ecological Gifts Program.

Government of Canada announces new investments in Banff National Park

FROM PARKS CANADA NEWS RELEASE, MARCH 17, 2016

The Minister of the Environment and Climate Change, Catherine McKenna, today announced over \$39 million in funding for Banff National Park to invest in the recovery of Species at Risk and improve the ecological integrity of the forest ecosystems.

The Government of Canada remains committed to preserve and promote our national, provincial and territorial Parks.

They are an important part of local economies across the country.

This major investment will support the Mountain Park Fire Restoration project, which works to improve the ecological integrity of the forest ecosystems, as well as the recovery of the Whitebark and Limber pine. The funding will also be used to rehabilitate the animal underpasses on

the Trans-Canada Highway, and improve the authentic experiential programs that will give an opportunity for visitors to learn and understand first-hand about Métis peoples and their traditional trades.

The Government of Canada will take action now, to give our children and grandchildren a country even more beautiful, sustainable, and prosperous than the one we have now.

Government makes Report A Poacher line available to protect public lands from abuse

FROM ALBERTA ENVIRONMENT AND PARKS NEWS RELEASE MAY 19, 2016

Anyone who witnesses serious public lands abuse can now phone the 24-hour Report A Poacher line (1-800-642-3800) to notify an officer.

The line is being added to heighten enforcement efforts through government's multi-agency approach to address public lands abuses. The Report A Poacher line will complement government's suite of enforcement, awareness and compliance tools.

This May long weekend and over the summer, government will deploy additional resources on public lands, particularly in areas where there is greater need for enforcement of bans and restrictions.

Fish and Wildlife Officers, Conservation Officers and Seasonal Park Rangers supported by Lands Officers, Forest Officers and the RCMP will all be working together to protect Alberta's public lands and parks.

"We encourage all Albertans to respect the land and comply with any bans or restrictions in place to avoid enforcement actions resulting in fines or other legal consequences. Albertans love their natural areas and have a right to enjoy them undamaged now and into the future."

Shannon Phillips, Minister of Environment and Parks

"Alberta's landscapes and wildlife habitats are important to all Albertans, and everyone can



help protect them by reporting serious public lands abuses to the 24-hour line."

Kathleen Ganley, Minister of Justice and Solicitor General

While the majority of people are responsible users of public land, there are instances every year of random campers leaving garbage or abandoning furniture and other items on the landscape. Mud-bogging and ripping through streams and other waterways also damages the land as well as fish habitat.

BOOK REVIEW

Mountains to Metropolis: The Elbow River Watershed

“The Elbow River watershed is at that critical ‘watershed’ point in time... Why should we care? Because each of us lives in a watershed.” Diane Coleman’s new book, *Mountains to Metropolis: The Elbow River Watershed*, takes us on an engaging journey through the physical watershed and its human history to its present watershed moment.

The narrative follows the river and its watershed from its mountain headwaters on the east slopes of the Rocky Mountains, through the foothills forests to the agricultural plains and finally the City of Calgary, bursting to expand up into the watershed.

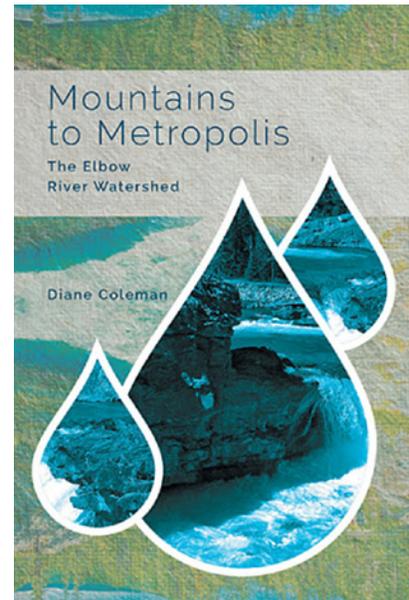
Coleman is a geographer by training, with an extensive environmental background. Using her own experience living and hiking in the watershed as the running narrative, she also provides detailed background information in sidebars (on everything from mountain-building to butterflies challenged by warming climates to Alberta’s FITFIR water allocation system), and amply illustrates her text with photographs, maps and drawings of the watershed.

The result is a compelling story with as much detail as the reader wishes to delve into. She includes descriptions of the Elbow’s near-pristine alpine source at Rae Glacier, the subalpine forests and meadows further down,

the magic of hiking the great foothills ridges and the foray farther down into the “industrial zone” of the watershed, where evidence of oil and gas operations, forest extraction and cattle grazing are more than evident and recreation users of every sort abound. In the central watershed, the history of the tiny hamlet of Bragg Creek is detailed. Below this, agriculture, acreages and the Tsuu T’ina Nation occupy the breadth of the watershed.

One fascinating chapter describes its military history: it hosted the second largest military training camp in Canada before the first World War, provided training for British Commonwealth Air Training Plan pilots for the second World War from its own airfield, and supported Canadian Forces Base Calgary until its closure in 1998. In the lower watershed, the river played a large role in the development of Calgary and still does, as the watershed harbours the world-famous Calgary Stampede and is a source of current controversy over flood prevention and mitigation, following the 2013 flood disaster. At the mouth of the Elbow sits historic Fort Calgary, where the city began its momentous history.

Coleman points out that watersheds are integrated units of water, land, flora, fauna, land use and climate,



Diane Coleman; 2015. Friesen Press, Victoria BC. 245p.

and that they function best when all parts are healthy. In the Elbow’s case, this small and beautiful watershed is presently under pressure for industrial, urban and recreational development, and this is a time when good decisions need to be made. In order for that to happen, as in every watershed, knowledge of the watershed is critical: she quotes Alberta author and statesman, Grant McEwan as saying “Change begins with a sense of stewardship which itself grows out of understanding.” She provides a list of simple individual initiatives which will have a positive impact on the watershed and ends with the admonition, “throwing even one stone into a river will change something in that river. So pick up your stone and get started.”

This is a well-written and -researched book with an engaging and compelling message, well worth the read. Whether you are a resident, a visitor, a hiker, a naturalist, an armchair adventurer, or simply someone with an interest in learning about water and watersheds, you will enjoy this book.

Nature Alberta NEWS



The Price of Success is Hard Work

A PROGRESS REPORT FROM BRIAN ILNICKI, NATURE ALBERTA EXECUTIVE DIRECTOR

Welcome to spring! I hope that you have been able to get outside and are enjoying the many opportunities that Alberta's diverse landscapes have to offer. It was only a year ago that Nature Alberta and Land Stewardship Centre formed a strategic partnership with a focus on providing a more cost-effective model of administrative, operational and strategic program planning support for both organizations. I wanted to provide you with a few highlights

and some of our key program accomplishments as a result of efforts over the past year, and give you a sense of our plans as we move into the remaining calendar year.

Nature Alberta has been delivering the Living by Water (LBW) program since 2002; completing more than 870 homesite consultations at over 30 lakes throughout the province. While this level of effort has been tremendous, and we have engaged with hundreds of individuals who are passionate about lake stewardship and lake health, we felt that it was time to take a hard look at the current LBW program and explore some options for an updated approach. To enhance LBW, we are excited to announce that Nature Alberta is partnering with Watersheds Canada to pilot the Love Your Lake program in Alberta in combination with an improved homesite consultation process. LBW staff have been actively pursuing partnerships and meeting with local municipalities, summer villages and lake stewardship groups to plan for the upcoming season. In addition to a refreshed LBW program, we are in the final stages of completing the writing, editing and design for the redevelopment of *On the Living Edge: Your Guide to Waterfront Living*, which has been a cornerstone resource for lakeside

residents, the LBW program and many of our partner programs. Look for this publication to become available over the coming months.

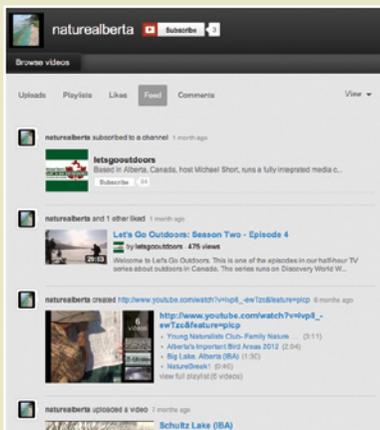
The Nature Kids program also continues to flourish. We concluded our 2015 *Family Nature Night* series, hosting six summer events and our first ever winter *Family Nature Night* in December. Interest in *Family Nature Nights* has grown steadily, with average attendance increasing by over 100% per event and lots of interest to expand these events beyond the Edmonton area. To help meet the growing demand for Nature Kids program materials, staff are launching *Nature Kids in a Backpack* later this year. Nature Kids in a Backpack will build on our highly successful past programming and will package our Action Awards, ID kits and other resource materials into backpacks that can be shipped to nature clubs and community-based organizations across Alberta to provide start-up ideas for nature-based programming in the local community. If you are interested in finding out more about starting a Nature Kids club in your local area or about Nature Kids in a Backpack, contact the Nature Alberta office and we would be happy to provide you with the information you need.

In early February, in partnership with Nature Canada, we hosted our second Important Bird Areas (IBA) workshop. Nearly 40 individuals, including IBA caretakers, volunteer

Nature Alberta & YouTube

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youtube.com/naturealberta



stewards, government staff and representatives from conservation organizations, were in attendance. As a direct result, Nature Alberta staff have been working on many of the action items identified and on ways to advance the IBA program in Alberta including working with governments to ensure IBAs are recognized by planning departments, and to better connect with and support IBA caretakers.

On the communications and outreach front we have experienced remarkable growth in our online and social media connections and interactions. Using a coordinated approach that includes Twitter, Facebook, LinkedIn, Instagram, the Nature Alberta website and e-newsletter, we are continuing to strengthen the bonds of a community that is connected by their love of Alberta's natural heritage. Stay connected with us as

we continue to refine content and expand our social media reach.

In closing, I often say that we didn't have a 'how-to' manual to refer to when we first undertook this unique partnership over a year ago. However, while we've all experienced a steep learning curve, with the strong support of the Board of Directors, our amazing staff and the many committed Nature Alberta members, this new operational framework has become established and we are starting to see the results. I am excited for the future and I look forward to continuing to meet with many of you over the coming months as we work together to be a strong voice for the greater appreciation and conservation of Alberta's natural environment.

SINCERELY, BRIAN ILNICKI

Big Lake Makes Bird Guide

NA Club Member, the Big Lake Environment Support Society (BLESS) is getting \$5,000 to create a pocket guide for the birds of Lois Hole Centennial Provincial Park.

Like the group's plant guide to Lois Hole Park, this book will be a simple identification guide meant to promote use of the park, said BLESS treasurer Miles Constable. It would likely include writings and photos from local birders.

There is other good news for a local natural area. The biggest grant was \$12,200 to help the Grey Nuns White Spruce Park Working Group continue its efforts to enhance the white spruce forest off Ray Gibbon Drive. The group has previously done small test plots in the forest to see if they could get more young trees to grow in the forest, said group member and retired forester Peter Murphy. Now that they know more about the forest, they're planning to do something big.

The group is now growing some 10,000 White Spruce trees at a nursery near Smoky Lake, Murphy said. This grant will let them reforest lands south of the main White Spruce stand over the next two years, and to create five more test sites within the forest.

Committee chair Brent Korobanik said it was "unfortunate" that the committee was not able to allocate all the grant dollars it had available this year, as the unused cash (\$16,331.75) now goes back into the city's coffers. He was also concerned that just seven groups applied for grants this year - well below the average of ten.



Nature Alberta & Nature Canada Partner Up to Protect Cats & Birds

Nature Alberta has recently partnered up with Nature Canada to aid in the delivery of the "Keep Cats Safe & Save Bird Lives" campaign. The 3-year campaign, launched on February 29, 2016, encourages pet owners to "Take the Pledge" and keep their cats from roaming freely outdoors,

helping to keep both their pets and local birds safe.

It is estimated that any where from 105- 308 million birds in Canada are destroyed by cats annually.

To learn more about the Cats & Birds campaign, or to "Take the Pledge" yourself, visit: <http://catsandbirds.ca/>

The Wolves of Jasper National Park

BY DICK DEKKER, PHD., WILDLIFE ECOLOGIST



ISTOCKPHOTO.COM

Should there be a protective no-trapping buffer zone around the park's east boundary?

On December 10, 2015, after several days of vain effort, a helicopter crew chartered by Parks Canada managed to drop their cannon-fired nets on two Wolves fleeing over snow-covered Summit Lake in the upper Rocky River valley of Jasper National Park.

The objective of the chase was to equip the captured animals with neck collars and GPS radio telemetry. Released again after treatment, these Wolves were expected to rejoin their local pack and relay their territorial whereabouts electronically to

a biologist in the Jasper Park warden office. Unfortunately, both transmitters failed.

About two months after capture, one of the collared Wolves was caught in a snare set by an Alberta trapper outside the east boundary of the park. Apparently, this Wolf, probably in the company of its pack, had travelled from the upper Rocky River down to the lower Athabasca valley, a distance of some fifty kilometres, plus a further 15 kilometres to the park's east boundary. Thus, the initial objective of recording the range of this Wolf had been partially met.

The snaring of this park Wolf became public knowledge after the trapper handed over the Wolf's collar to the provincial Fish & Wildlife officer stationed in Hinton, who, in turn, notified the Jasper warden office. The details given were that the animal had been caught west of Hinton. Earlier that winter, a radio-collared park Cougar also died in a snare west of Hinton, outside the national park.

As it so happens, someone working under contract to CN Rail found a trapper's bait site near Brule, west of Hinton, just a

few hundred metres away from Jasper Park's east boundary. The site contained the carcass of a traffic-killed Elk, chickens, and other unspecified meat and bone offal.

Carrion bait sites are in general use by trappers operating in the Alberta foothill forests along the east slopes of Jasper and Banff National Parks. The baits are maintained over the long term with highway fatalities of hoofed animals or the remains of farmed bison and other meat. Dumped at the site over extended periods, scavengers, including Wolves, get used to a free meal. When the fur season opens, the trapper sets any number of steel snares across all access trails through the bushes leading to the bait. Entire packs of Wolves are caught in this way, as well as a range of non-target animals.

Besides the collared park Wolf, rumour has it that five other Wolves were caught at the Brule bait site, which could mean that the entire six-member Rocky River pack ended up dead.

On March 16, 2016, a report about the death of the collared park Wolf was carried in Jasper's weekly newspaper, the *Fitzhugh*, under the title "Environmentalists call for buffer zone outside Jasper park."

The article quoted Jill Seaton, long-term president of the Jasper Environmental Association.

On behalf of her organisation, Jill writes an informative website on park wildlife. She and fellow conservationists would welcome a buffer zone along the east

boundary of the park, particularly at strategic points such as the lower end of the Athabasca valley.

From the perspective of the Alberta Fish & Wildlife Department, the provincial harvest of furbearers is a traditional activity. The average number of Wolves trapped annually along the east boundaries of Banff and Jasper National Parks was 74 over the past five years. Trapping Wolves had become all the more lucrative after bounties of 250-500 dollars on dead Wolves were offered by several rural counties, livestock groups, and hunting clubs.

Details on the widespread bounty campaign were outlined in a research paper by Dr Gilbert Proulx and Dwight Rodtka (2015). In another published study, Gilbert Proulx and six co-authors presented photo evidence that the use of snares often results in extended suffering of Wolves that are left to die over days and even weeks.

The *Fitzhugh* article quoted the vice-president of the Alberta Trappers Association. "We got too many Wolves because of the mild winter, and the reality is that we need to harvest predators to get things a little more balanced." He characterized trappers as humane and respectful of the animals.

The paradox of trappers is that they kill what they love. Their usual defence is that predators need to be thinned out, otherwise they would die of starvation anyhow.

The current policy of Parks Canada regarding the establishment of a no-trapping zone around Jasper Park is to maintain open contact with provincial trappers in the interest of their continued cooperation if collared park animals happen to be caught.



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THE CASE FOR A BUFFER ZONE AT ROCK LAKE, ALBERTA

The north boundary of Jasper National Park cuts arbitrarily across Rock Creek just four kilometres above its outflow into pristine Rock Lake, which is about sixty road kilometres northwest of Hinton. The one-kilometre-wide valley floor between the boundary and the lake is a rich mosaic of beaver ponds and marshy meadows, while the open hillsides on the west side of the valley are the traditional wintering grounds for the local Elk herd.

Just west of the lake is the starting point for an ancient horse trail that leads into the vast hinterlands of Jasper Park. In 1965, when Irma and I first made a back-packing camping trip up that little-used trail, we had to bushwhack across the low watershed divide between Rock Creek and Willow Creek that run in opposite directions. While Rock Creek flows north, meandering Willow Creek flows south until it joins the turbulent Snake Indian River, a tributary of the mighty Athabasca.

At that time, Jasper Park wardens lived all year in their district, no matter how remote, and we were told by park headquarters that the Willow Creek warden would be at

home. In response to our enquiries, we had been informed that his district was the only place known where Wolves had returned after the decade-long Wolf poisoning campaign conducted by the Alberta government in the 1950s.

The Willow Creek warden -- a crusty old-timer -- was happy to answer our questions and said that he saw eight Wolves on frozen Rock Lake last winter, when he snowshoed the 12 km trail to his backcountry cabin. However, the next day, he had received a radio message from a local trapper that seven Wolves had taken his poisoned bait set out on the lake.

To our great relief, some Wolves had apparently survived, for Irma and I were delighted to come across their fresh tracks on muddy sections of the hiking trail.

Four years later, the Willow Creek district became the focus of a Wolf study by Ludwig Carbyn, who began a Ph.D. project for the University of Toronto, supervised by the late Canadian Wolf expert, professor Douglas Pimlott. Guided by the new and keenly interested Willow Creek warden, Lu was shown two wolf dens that had recently been occupied. After these home sites were abandoned, Lu and I happened to find another wolf den, which remained in seasonal use for the next eight years.

In 1973, when Lu left to study Wolves in other Canadian national parks, I had the Willow Creek district again to myself. Between early June and late October, and occasionally during winter, I made half a dozen visits each year.

Camping in a little pup tent away from the main hiking trail, I observed the wolves through binoculars from a viewpoint on the edge of an open montane meadow. No doubt, the Wolves were aware of me but they became habituated to my silent presence. Especially at night, I worried about the bears that were attracted by food scraps the Wolves had cached.

In those early years, well before the routine application of radio telemetry in wildlife research, Lu and I had to depend on snow tracking to find out where the Willow Creek Wolves were ranging. It turned out that their hunting circuit included Rock Lake, where the pack would be vulnerable to provincial trappers and hunters. To counteract that risk, we thought that a four kilometre protective buffer zone, extending from the current park boundary, would make sense. Such an adjustment seemed all the more logical since the lower Rock Creek bottom lands represent a natural extension of the adjacent habitat inside the park boundary. Unfortunately, up to this day, although many people now see the same need for a buffer zone upstream from Rock Lake, no such initiative has been taken.

Dick Dekker's long term observations on wolves in Jasper National Park are described in his books.

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SNAGS ARE CREATED AS A RESULT OF LIGHTNING, WIND, FROST, FIRE, SELF-THINNING OR INFECTION. CONIFER SNAGS GENERALLY REMAIN LONGER THAN DECIDUOUS ONES. BROOK SKAGEN

More than Just a Stump

BY BROOK SKAGEN

Even in death, trees continue to fill a critical ecological niche for the various flora and fauna of Alberta's forests. To us the hollowed trunks of snags (upright deceased or decaying trees) or tumbled logs may not look like a cozy home, but to many forest organisms these structures are invaluable and necessary for their survival.



Snags, also called “wildlife trees”, are a necessity of life for many forest insects. It is estimated that anywhere from 20-50% of forest-dwelling beetles are saproxylic, meaning they depend on the dead and decaying wood associated with mature forest habitats to complete their life cycle. Not only do these organisms contribute greatly to the species richness of a forest ecosystem, they are also deadwood pioneers, as they are the first to colonize a snag or fallen log through a series of successional stages. Wood-

boring beetles such as the Spruce Sawyer are the first to arrive at a tree after death, and facilitate the mechanical breakdown of the tree. A diverse community of fungi, fungi-consumers (fungivores) and decomposers (saprovores) then utilize openings made by the “pioneer” beetles to access the decaying phloem, and predaceous insects soon follow. Many species are found exclusively in standing snags, while others rely solely on logs lying on the forest floor; some prefer decaying wood, and others stick to recently-fallen trees.

Though saproxylic organisms form a diverse group, they all rely on the timber of dead or dying trees for their survival. In turn, these insects are an important source of food for many forest birds and other small vertebrates.

Approximately 35 species of Alberta birds, or 20-40% of the birds in a given forest, are cavity nesters, relying on deadwood for foraging, nesting and raising young, or as temporary shelter from the elements and predation. Primary cavity nesters, such as

woodpeckers, sapsuckers, and even chickadees and nuthatches are capable of excavating their own holes for nesting and cover, though some prefer to use natural pre-existing cavities. Secondary cavity nesters such as the Common Goldeneye, Merlin, Tree Swallow and Mountain

Bluebird are unable to create their own chambers, relying solely on natural cavities and the handiwork of primary cavity nesters for suitable nesting sites.

Both primary and secondary cavity nesters provide important ecological services. The majority

of these species are insectivores, naturally regulating populations of forest insects and preventing the outbreak of their associated diseases. Cavity excavators quicken the breakdown of decaying trees and facilitate nutrient cycling within the ecosystem, as they leave the tree's interior exposed to fungi and other decomposers.

Mammals such as raccoons, mice, martens, fishers, skunks and bears, along with honeybees, butterflies and other forest pollinators also utilize snags or downed woody debris for cover to evade predation, shelter from inclement weather, or as dens for hibernation. Many bryophytes prefer deadwood as a growth medium, and saplings often emerge from the shaded microhabitats in the remnants of their predecessors. Woodland hawks (*Accipiter* species) use snags as a vantage point while hunting or as a perch to rest. Deadwood is just as important to aquatic ecosystems, as young fish hide under fallen branches overhanging stream banks, and amphibians use woody debris as cover to retain skin moisture and as sites for breeding and foraging.

Snags are a crucial component of a healthy ecosystem in Alberta's green zone. Not only do they help support populations of forest dwellers year-round, but they also improve the biodiversity, structure, and functionality of

NOT ALL SNAGS ARE EQUAL- DIFFERENT SPECIES OF WILDLIFE PREFER SNAGS OF A CERTAIN DIAMETER, HEIGHT, AND AGE, DEPENDING ON THEIR USE. BROOK SKAGEN





THOUGH IT USUALLY NESTS ON THE GROUND, THE TOWNSEND'S SOLITAIRE WILL SOMETIMES NEST ON DECAYING STUMPS. BROOK SKAGEN

forested ecosystems. Though it might not seem like much at first glance, a rotting log can provide insects with shelter, birds with food, mammals with cover and flora with nutrients, filling a spectrum of important ecological roles. A snag allows a tree's legacy to continue long after death, and is certainly more than just a stump!

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THE RETENTION OF SNAGS AND FALLEN DEBRIS IS ESSENTIAL FOR MAINTAINING A HEALTHY ECOSYSTEM. BROOK SKAGEN



Eyes on IBAs

The Conservation Railroad

BY BROOK SKAGEN, NATURE ALBERTA IBA INTERN

As I slowly drove the lonely Highway 555, raindrops dancing down my windshield, I began to wonder if I would ever find the bird I desperately sought.

I was right in the heart of the Cavendish Railline Important Bird and Biodiversity Area (IBA), the Loggerhead Shrike “capital” of the prairies, yet the handsome masked bird was nowhere to be found. As I continued to scan the golden sea and rolling hills along the roadside, the silhouette of a robin-sized bird perched atop the lone poplar tree peeked my curiosity- I *had* to investigate.

Sloshing through the dew-soaked field of brome grass and shrubs to get a better view, I ascended a steep man-made slope, the top covered with gravel, grasses and scattered lumber. Watching my step I noticed a railway tie embedded in the soil, a remnant of the path’s past life. “*Caw-caw,*

*teeyoo-teeyoo,
tcheck-tchek...*”

the exuberant song of a Brown Thrasher filled the humid air, its vibrant brown plumage revealing itself only briefly from within the thicket of buffaloberry. Peering out towards the poplar, I began to make out the details of the robin-sized songbird on top of the highest branch. It’s ashen-grey plumage blended into the surrounding overcast, sharply contrasted by a black “mask” and wing bars - I had found my first Loggerhead Shrike of the journey! By morning’s end I would come to see many more perched atop the telephone wires and fence posts along the roadside.

Located along southeastern Alberta’s Highway 555, the Cavendish Railline IBA is unlike any other. The 36km by 1km stretch of land follows a forgotten Canadian Pacific Railway (CPR) line through a diverse prairie



THE CPR LINE RUNNING THROUGH THE IBA WAS BUILT SOMETIME BEFORE 1922, AND STRETCHED FROM EMPRESS SK TO CALGARY. IT HAS SINCE BEEN ABANDONED, THOUGH REMNANTS OF THE TRACK SUCH AS GRAVEL AND THIS RAIL TIE REMAIN. BROOK SKAGEN



*Brook Skagen
Nature Alberta IBA intern*



THE SLOPES AND ADJACENT DITCHES OF THE RAIL LINE SUPPORT A WIDE DIVERSITY OF VEGETATION. BROOK SKAGEN

landscape near the small community of Buffalo. Exotics such as Smooth Brome (*Bromus inermis*) and Crested Wheatgrass (*Agropyron cristatum*) blanket the right-of-way, while native prairie, crops, and shrubs of Thorny Buffaloberry (*Shepherdia argentea*), Snowberry (*Symphoricarpos albus*) and willows dot the surrounding landscape. The rich plant life supports grassland birds such as the Brown Thrasher, Clay-colored Sparrow, Mourning Dove, and the Loggerhead Shrike. The Cavendish Railline IBA contains the densest breeding population of Loggerhead Shrikes in the province, and was designated



A SEA OF EXOTIC GRASSES AND SHRUBBERY SURROUNDS THE OLD CAVENDISH RAIL LINE.

BROOK SKAGEN

as an Important Bird and Biological Area (IBA) for supporting a nationally-significant breeding population of Loggerhead Shrike with 70 pairs observed in 1993- at least 2% of the nationally-threatened Canadian prairie population. The rare Western Hognose Snake has also been observed in the area.

The Prairie Loggerhead Shrike (*Lanius ludovicianus excubitorides*) is one of 2 subspecies of Loggerhead Shrike in Canada, distributed throughout the plains of southern Alberta, Saskatchewan and Manitoba, and is recognized as a sensitive species in the province. The only true predatory songbirds, shrikes prey on grassland birds such as Horned Larks and Vesper Sparrows, as well as juvenile ground squirrels, mice, voles and various invertebrates. Lacking the talons of other birds of prey, shrikes will often utilize thorns or barbed wire to pierce their prey, and as a result are aptly nicknamed "Butcher Birds". Smaller prey such as beetles are usually consumed right away, while larger prey may be stored in "pantries" along fence lines or between branches for future use. Well-grazed pastures with dispersed thorny shrubs provide excellent hunting and nesting opportunities for the bird, and are the preferred habitat of the Loggerhead Shrike.

Populations of the Loggerhead Shrike in Alberta have declined



A LOGGERHEAD SHRIKE SURVEYS THE GROUND BELOW FOR PREY. BROOK SKAGEN

over 20% since 1998, for reasons not fully understood, though the cumulative effects of many environmental threats such as wintering and breeding habitat loss due to cultivation, pesticide use, and climate change are likely contributors. Habitat conservation initiatives such as the IBA program may

prove invaluable for the shrike's survival in the decades to come.

The back roads and tiny towns of Alberta's prairie never cease to surprise me, instilling in me a true sense of awe and wonder with every new path travelled. Though boarded buildings, fallen fence lines and remnants of a railway once essential to communities

**BROWN THRASHERS HOLD AN ABOUNDING
REPERTOIRE OF SONGS, CAPABLE OF
PRODUCING AND MIMICKING AS MANY AS
1,100 SONGS AND PHRASES. BROOK SKAGEN**

now nearly abandoned may not seem like much to the few passersby, the once-thriving towns and villages are filled with hidden stories waiting to be told by the resilient structures and people who remain. The Cavendish Railline IBA is no exception- the once thriving railroad is now home to one of Alberta's most unique wildlife species, hidden by patches of thorns and swaying grass. My first visit to the Cavendish IBA was a real joy, and I am eager to explore more of Alberta's roads less travelled.

Happy Birding!

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FEATURE ARTICLE

Tiny Hunter of the Forest

BY SHARIF GALAL

Spring is at the door! Do you have any doubt? I can smell it everywhere. The aroma of the damp leaves after snow melts, the scent of the fog over the mud early in the morning, and if you look closely at the trees, you will see the growing buds. All signs of spring are here!

I saw some tunnels in my backyard yesterday, possibly ground hogs? I don't know, but it looks like they just came out of their dens. If you listen carefully, you can hear the movement of other little critters under the leaves that piled here last fall and I was too lazy to clean them. They are just getting active for a new season, writing a new chapter of the book of life. Some may have just come out of hibernation looking for calories to fuel their lean tired bodies.

It is a beautiful morning as every reader can tell. I had just gotten out of bed before the sunrise, had made coffee and was sipping and thinking of what I am going to do today. It was early April and the weather was just amazing.

I took my camera and headed out of the city, driving toward the beautiful Rocky Mountains that were still covered with snow. I walked through an unpaved trail in a local park,

looking for anything that is worth photographing. For a moment, I stood at a large rock, appreciating the incredible beauty of our pristine landscapes in Alberta. I heard from some local people that there was an owl roaming this place recently and during the time I was listening to any voice that could lead me to where the bird might be hiding, when a little ball of feathers came blasting out of the trees next to me, headed



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straight towards some sort of critters under the leaves.

I instinctively pointed my camera toward it and started taking a series of photos but unfortunately, the light was still low to get a good quality picture. The little bird flew to a nearby tree but it seems that she had an unsuccessful attempt because there was nothing in her talons.

At this moment, I was not quite sure what kind of owl it was. It was a little tiny bird the size of a soda can. I initially assumed that it could be a Northern Saw-whet or Pigmy Owl. The sun started to come up and I could see more details, but the bird had just flown into the bushes. Some trees still have snowflakes swirled around the branches here and there, drifting on a late winter breeze. I heard nearby Ravens croaking so I drew my eyes upward to the sky; at the same time, I overheard some calls of chickadees and other song birds. An owl expert and a good friend of mine Dr. Wayne Lynch told me one day that if you see chickadees or song birds occasionally scatter wildly in the morning, an owl may be nearby. It seems they were annoyed by the presence of the same owl.

As I started to unfold my tripod, a soft shadow floated just in front of me and plummeted into the leaves; a moment later, the owl showed up with a rodent in her talons. I can now see her; it is a Northern Pigmy Owl. I could see the vole in her talons too; surprisingly it is a big one,



probably the same size of the owl itself. I remained silent for a moment, trying to slow down my heart beats. I was thrilled and did not want to miss the opportunity to photograph this event in nature, but at the same time, I did not want to come closer to the owl so as not to disturb her. How did the owl know that a vole was hidden there? Did it see a twitch or hear a muffled squeak? I was quite impressed to witness that in nature.

Luckily, I managed to snap some photos before the owl lifted itself with the hunt and perched on a tree in front of me. At that moment, the light was perfect and everything worked well toward getting the photo that I was dreaming of. The owl was on tree branch hanging the prey on thorns. I came to know later that they are famous for doing such.

I could now see the morphology of this owl through my lens. It has asymmetrically-placed ears as well as flattened facial discs around the eyes. It also has a pair of spots on the back of the neck that look a little like eyes, called false eyes.



Scientists think these markings may help fool attackers into thinking the owl is watching them.

According to Cornell lab of Ornithology, Northern Pygmy Owl numbers are difficult to estimate because the birds are uncommon and hard to count with standardized surveys compared to other species of owls. In Alberta, the most common owl is the Great Horned Owl but for the Northern Pigmy Owl, there is not much data available. According to the North American Breeding Bird Survey, their populations have been fairly constant over the last half-century, with possibly a small decline between 1966 and 2014. Forest management practices that remove dead wood can reduce habitat quality for them. Pygmy owls rely on other species to excavate holes for them, which makes them indirectly dependent on populations of woodpeckers.



Although not much larger than House Sparrows, they sometimes take prey up to three times their own size, as indicated by Cornell Lab.

In general, Pygmy Owls mostly feed on small birds, such as warblers, chickadees and sparrows, as well as small rodents and mammals, including moles, chipmunks and voles. However, they occasionally attack prey much larger than themselves, such as quail and young rabbits. It is also reported

that they eat different insects and small lizards.

A published study by Kevin C. Hanna and Alberta Wildlife to look at the status of Northern Pygmy Owl in Alberta showed that this owl species has been classified as being “Status Undetermined” in Alberta and the estimates of both population size and density are quite unclear; the rapid harvesting of older, structurally complex forest in both the foothills and boreal regions of Alberta are of concern, as these habitats are preferred by Northern Pygmy Owls.

So far, there is no known migratory movements of this owl. The Northern Pygmy Owl is believed to be largely sedentary. Except for winter downslope movements and juvenile dispersals there are no further records of movements for this owl. Further studies are needed.

Credits

- 1 Cornell Lab of Ornithology
- 2 Kevin C. Hanna, Status of northern pygmy owl in Alberta



FACT SHEET

MALES: grayish-brown with fine white spotting

FEMALES: tend to be slightly darker than males

HEIGHT: 6 - 7.1 in

WEIGHT: Males 62g, Females 72g

WINGSPAN: 15.0 in

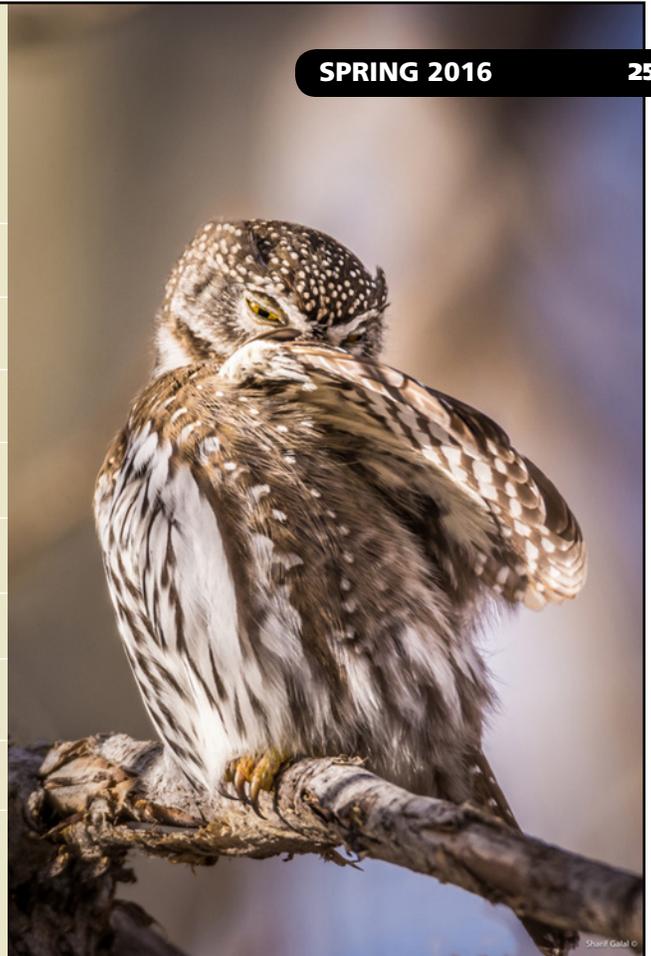
CLUTCH SIZE: 2–7 eggs

DISTRIBUTION: Western Canada, USA and Mexico

NESTLING PERIOD: 23 days

EGG DESCRIPTION: White and glossy.

CONDITION AT HATCHING: Covered in white down, with eyes closed.



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First Hand: Grieving Marmot

BY OWENSLATERPHOTOGRAPHY.COM

While scientists struggle to objectively test and quantify animal intelligence, thoughts and feelings, I think most people will agree that intuitively animals are capable of many of the attributes that previously were thought to separate us from the rest of the animal world.

A recent example for me was when I came across a Hoary Marmot that had been killed on a road. The adult female was still lying on the pavement, so to limit the potential of other animals meeting the same fate, I moved the body a short distance away. As I was about to leave I noticed a young marmot watching me from a nearby rock crevice.

I moved back to not interfere and watched as the young pup approached its deceased mother. The 3-month old pup tentatively approached the body and after an initial assessment it frantically tried to pull its mother into the burrow.

With the body weighing several times more than the pup, it wasn't strong enough to get it completely inside the burrow and after several minutes of trying, it gave up. However, instead of leaving, it started licking its mother's face and intently staring at her.

This was repeated a few more times before the pup stopped and came out of the burrow to sit next to the body. Over the next several minutes it rested on the mother

while glancing down at her. It sniffed her paws and laid on her chest. About an hour after the pup had found its mother, it turned away from the body and slowly moved off to another burrow.

As I left the area I starting thinking more about what I had just witnessed. I realize that my observations are subjective and I can't say with any scientific certainty that the marmot was grieving the loss of its mother. However, what is scientifically known is that the portion of the brain responsible for intense emotions and grief is present in all mammals, not just in humans. Scientists have reported mourning in other social animals including elephants, great apes, dolphins and domestic dogs to name a few. Furthermore, recent research involving the Prairie Vole, a small rodent that forms strong, monogamous bonding with a mate, demonstrates that they enter a grief-like state at the loss of their partner and can even succumb to depression during this period of loss.

Hoary Marmots are also highly social rodents. Pups spend the first two years with their parents and siblings before they go off and form their own families. They are known to recognize individuals, greet and groom each other, engage in play behaviour and spend the winter hibernating

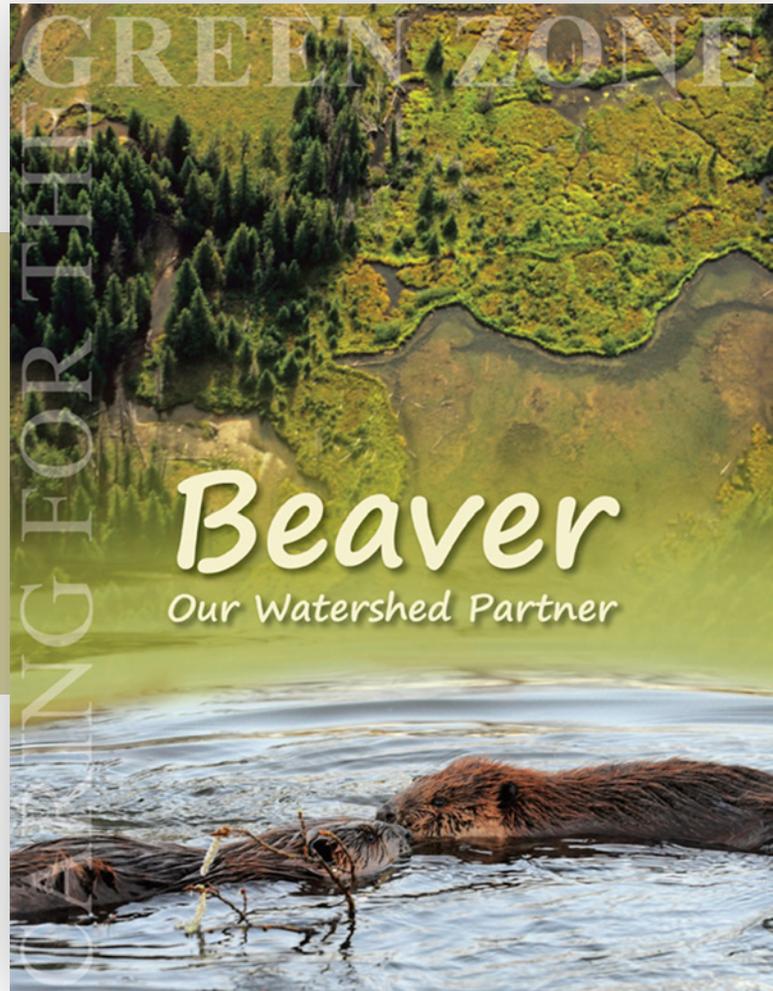


as a family. Therefore, intuitively, it just makes sense that they would experience some level of mourning at the loss of a close family member. Proving it scientifically will be difficult, but I'm willing to give them the benefit of the doubt.

What do you think?



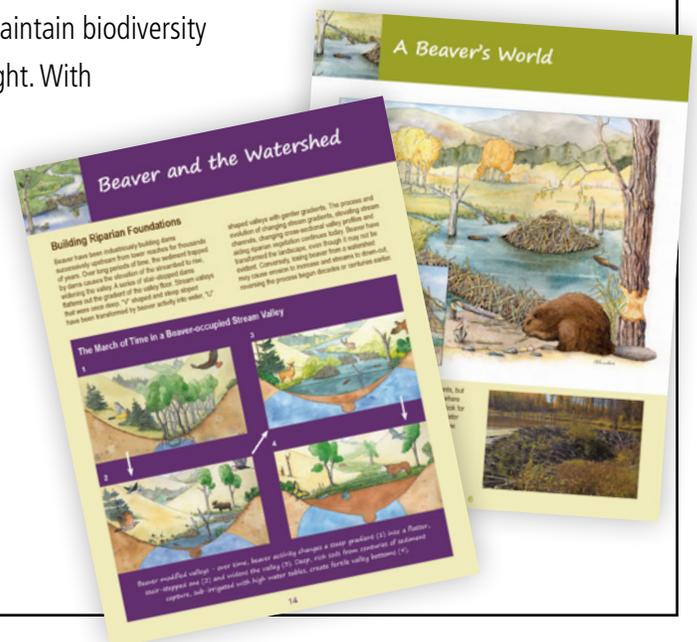
THIS IS IT!



Cows and Fish has just completed a document on beaver – and what a document it is! Finally an all-inclusive yet succinct and gorgeously-illustrated article.

It was written to create better understanding and awareness around beaver and their activities, so we can take advantage of beavers and their ability to help restore streams, maintain biodiversity and help us adapt to climate change, especially floods and drought. With understanding might come better tolerance for beaver and expanded populations in our watersheds.

The document is available as a PDF off the Cows and Fish website (www.cowsandfish.org) and paper copies are also available.



First Hand: Robins Fishing

BY ROBERT SCRIBA

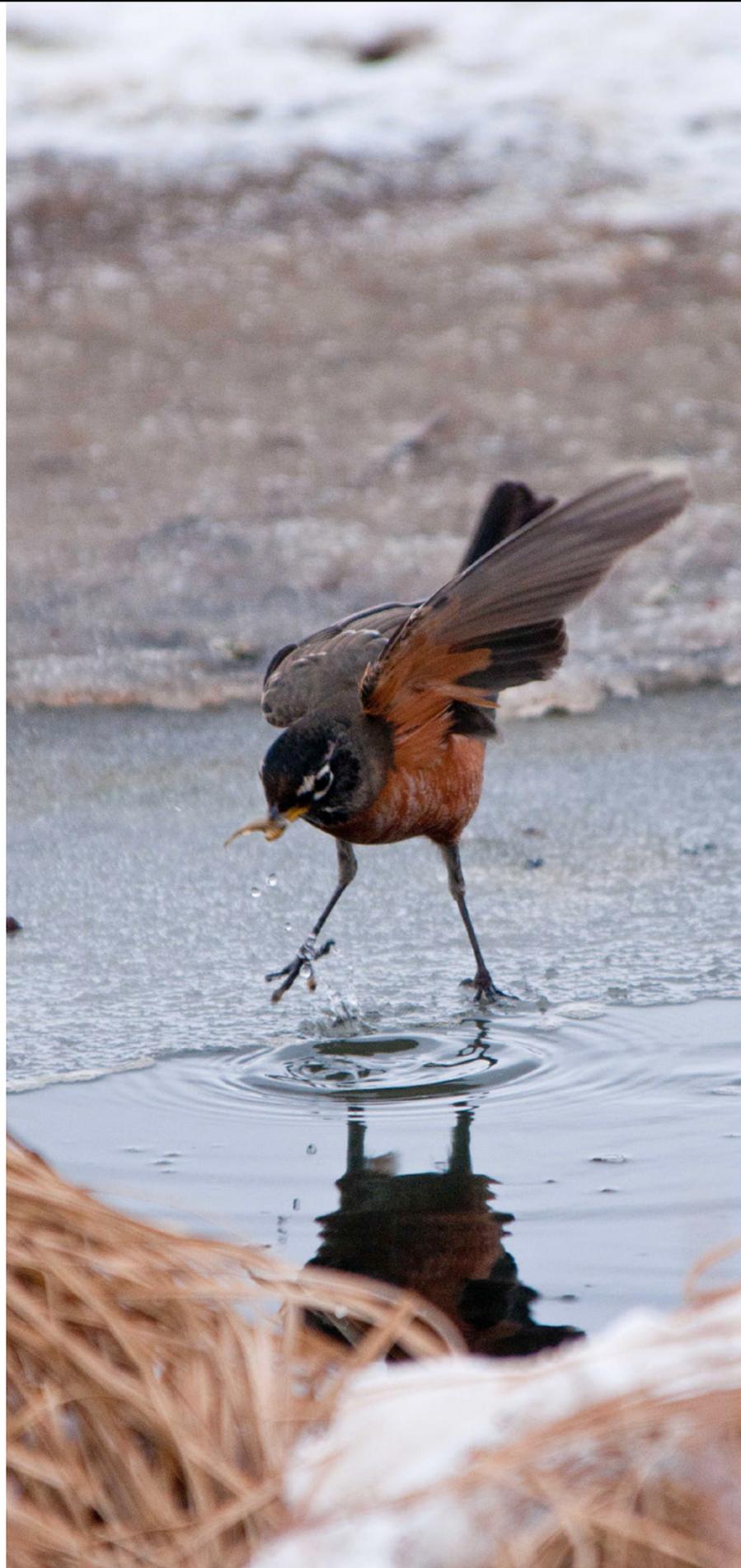
No matter how much time I spend in the wilderness, there is always something to surprise me.

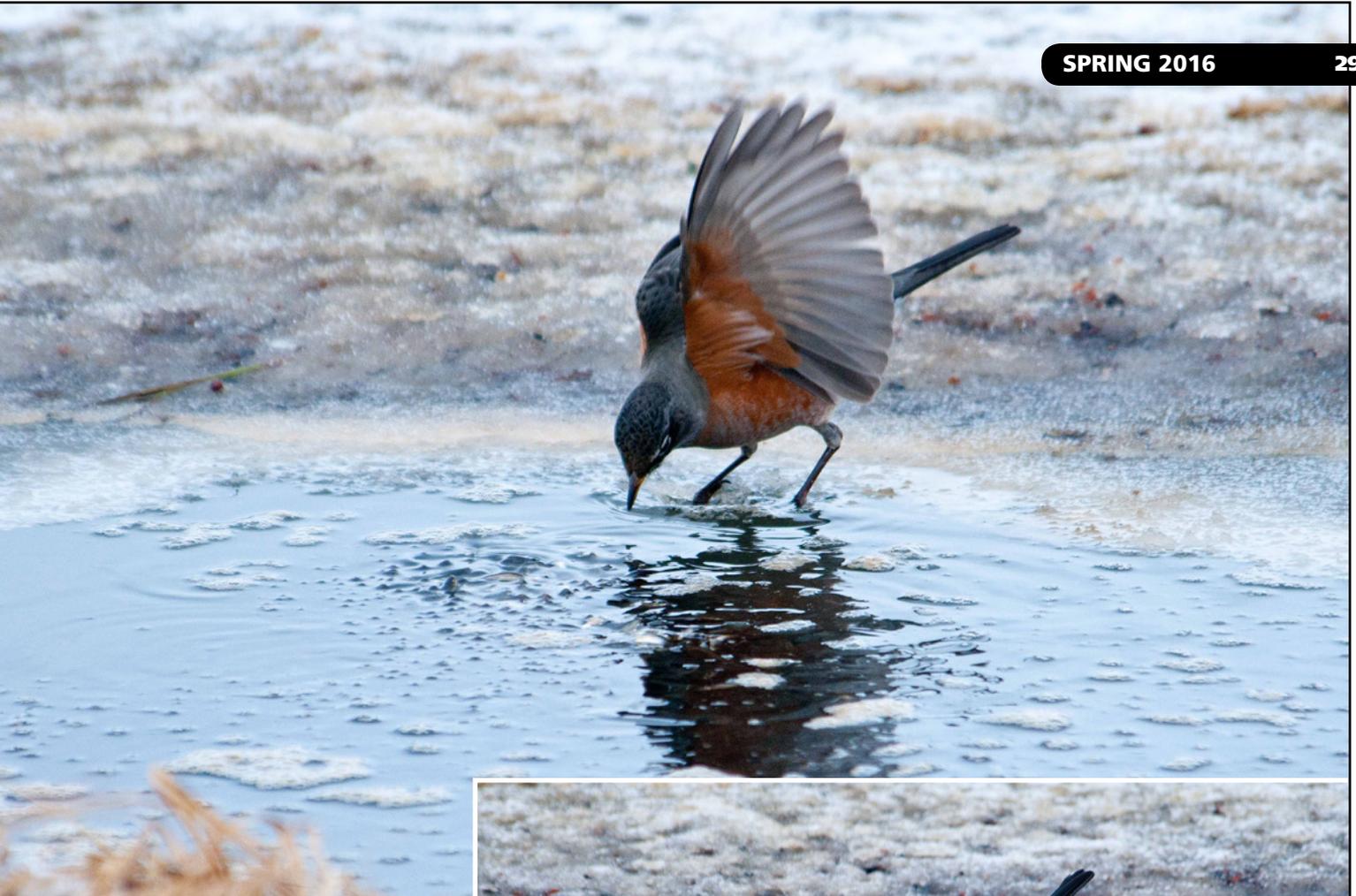
Today, after a hot tip from The Edmonton Nature Club blog, I head over to Hermitage Park, located in North-East Edmonton. I find a few trees festooned with bird feeders being mobbed by woodpeckers, Dark-eyed Juncos and Black-capped Chickadees. They are being monitored by a gentleman sitting in his old pickup truck.

I watch for a while but this is not what I came here for. When I ask, he offers to lead me to the destination I am curious about. "Just wander down there where that magpie is landing," he points. Along the edge of a small, frozen flood-water lake is a thin sliver of open water. "That's where you will find them. Don't wander out onto the ice," he cautions.

I grab my camera, tripod and binoculars and wander toward the waters edge. Sure enough, sitting in a dead snag is an American Robin. This is January 31, the dead of winter in Edmonton, Alberta. It is -1 C., snowing lightly, and robins are not supposed to be hanging out in this part of the world at this time of year.

I sit down and snap a couple of photos of the perched robin then notice more of the red-breasted birds emerging from the forest around me and landing at waters edge. As I watch, they seem to be worming, like they do in summer time. They are hopping along the ice edge, cocking their heads to listen, then pull something from the water. Who knew that robins enjoy ice-fishing and are very good at it!?





I sit for over an hour watching in amazement as robin after robin appear and pluck tiny fish from the water. At times the open water boils with hundreds of small fish called stickle-backs. The birds are very adept at flipping the fish head-first and down the hatch they vanish.

I don't know why there is a sliver of open water along the edge of the little lake in mid winter. Magpies also know about the fishing hole but are too shy to come near as I sit there.

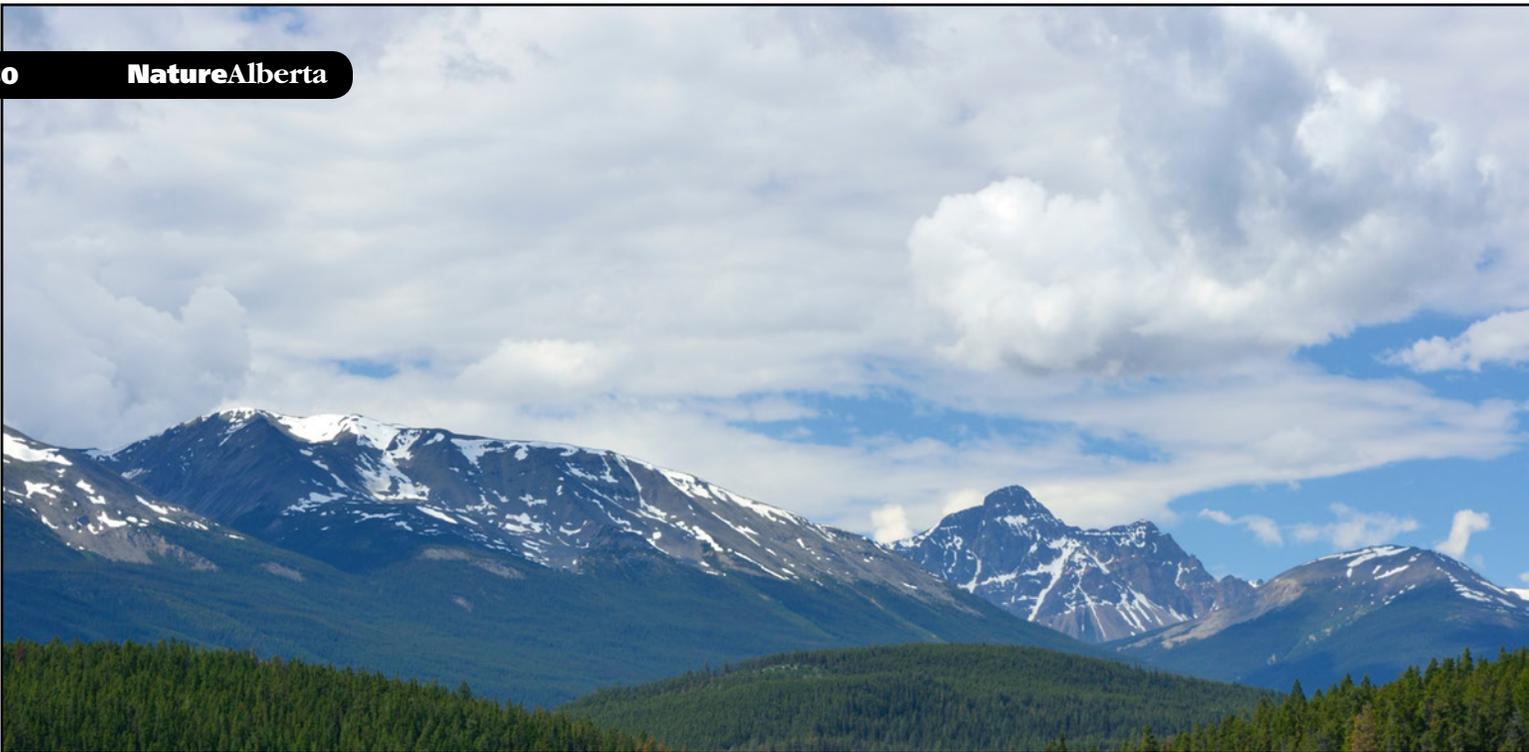
As I am leaving, the bird-watcher is driving past and asked, "How did you make



out? I have been watching the robins fishing here for five or six years." he tells me.

Every trip to the park or the wilderness, no matter

where, can bring us very special surprises. Not everything can be explained and all rules can be broken by Mother Nature's critters.



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Of Lizards, Oil and Velcro

BY LORNE FITCH, P. BIOL.



An old Anglican hymn begins with “All things bright and beautiful” and is followed by “All creatures great and small”.

It sounds like a rousing tribute to biodiversity, and could be if it didn't digress into religious overtones. Beyond the Christian proselytizing, it is a good start on a message to keep habitats “bright and beautiful” (and presumably intact) for every species, “great and small”.

Our actions, though, speak louder than our words when it comes to biodiversity protection. We tend to fixate on the charismatic megafauna, like Grizzly Bears, although the reality is we haven't done much yet to protect them. There are critters in demand for hunting, fishing or viewing, like Elk, Rainbow Trout or Bighorn Sheep that get a lot of attention. But what if you suffer the misfortune to be Hare-footed Locoweed, or a Plains Spadefoot Toad or a Baird's Sparrow? It's easy to fall through the cracks if you aren't a species that is visible, “useful”

and numerous. Why spend time, money and energy on something of dubious value, which is rarely encountered, some would ask?

The answer is found in the profound words of Aldo Leopold: “The first rule of intelligent tinkering is don't throw away any of the pieces.”

All species in Alberta fit into an intricate web – one we barely fathom, let alone understand. E. O. Wilson, the renowned ecologist remarked, “The diversity of life forms is so numerous that we have yet to identify most of them is the greatest wonder of this planet.” So it might be considered a mark of ignorance to ask, especially of one small species, cryptically colored and sparsely distributed, what is it worth?

The diminutive Short-horned Lizard is one of those species and one of those “pieces” Aldo Leopold advised us to keep.

No doubt Short-horned Lizards would command more respect from us if they went on a steroid diet. As it is they resemble, with their horns and spines, a thumb-sized Stegosaurus. But this creature is not in the category of “Nature, red in tooth and claw” as expressed by Tennyson. No, the Short-horned Lizard is more of the camouflaged, concealed, inconspicuous type, going about its business out of sight and mostly out of mind of most of us.

These lizards are mostly out of mind (and sight) because they eke out a living in a place most of us don't tend to visit - the grasslands of southeastern Alberta. This is a place universally hot and dry in the summer, bitterly cold in winter, windswept all the time and subject to the most climatic variability and extremes of any part of the Canadian prairies.

To the uninitiated, without a sense of exploration, the grasslands have a hypnotically similar horizon and a scale which initially defies description. A Short-horned Lizard, standing a couple of centimeters above the earth, likely doesn't find the view intimidating at all.

Short-horned Lizards, Alberta's only lizard, are sparsely distributed throughout the grasslands, in small, isolated populations. They are at the northern extremity of their range, which extends to Mexico. To find them one must search the coulees and badlands, often along the edges of the canyons. Be warned, if there is something harder to locate than a needle in a haystack, it is a lizard on the prairie. They don't merely blend with the background; they disappear into it with an invisibility cloak.

Look amid the junipers growing on the dark shales of the outcrops of the Bearpaw formation. There might be some lizard affinity for these shales that were the muddy sediments deposited by the Bearpaw Sea, part of the northern expansion of the Western Interior Seaway that divided North America in half during the end of the Cretaceous Period. In these shales are found the remains of lizard ancestors, including a species of crocodile up to 12 meters long. Today's lizards have shrunk substantially from their ancient, and mercifully extinct, cousin.

The diet of today's Short-horned Lizards has shrunk as well, to

one of almost exclusively ants. Ants contain formic acid, the ultimate, natural "hot" sauce. Eating ants doesn't seem to stimulate aggressive predatory behavior; rather, lizards are "sit and wait" predators. That's probably best since their gait can be described as a waddle, based on a flattened body form atop very short legs. Despite their little legs, they can have home ranges up to a couple of kilometers in size, although most are much smaller.

One of the downsides of being tiny, cryptically-coloured and in the category of non-charismatic microfauna is not many people study you. Happily, the Short-horned Lizard researchers from the University of Calgary have uncovered some of the life history of the species. What is problematic is the status of these creatures is largely unknown in the province. The last status report was done in 2004 and is much out of date given land use activities within the range of lizards. In it the authors pointed out only one third of the historical locations were occupied. For example, lizards used to exist along the South Saskatchewan River in the vicinity of Medicine Hat, maybe within the city limits. None are found there now.

Badlands south of Manyberries are the epicenter of Alberta's Short-horned Lizard populations. It is the misfortune of lizards that the area is also underlain by oil and gas; the footprint of wellsites, roads and pipelines is extensive. Although most

habitats are grazed by cattle, this activity seems benign. It is the industrial footprint along with increased traffic from these developments that is a major source of mortality. Wellsites destroy suitable habitats, especially the juniper-dune complexes, favored by lizards. Roads and tracks left by vehicles are used as travel lanes; these turn into death lanes as it would be virtually impossible to see a relatively immobile lizard from the cab of a truck, even if you were looking for one.

Some of this impact on Short-horned Lizards might be mitigated by better industrial site location, and is, but the cumulative effect of so much, too much activity can't be good for the health of the lizard population. The complementary issue in making the correct decisions (for lizards) on locations for industrial activity is an understanding of all of their habitat requirements.

Early research by the University of Calgary provided a generic picture of places where lizards were captured. The leap from where a creature is captured to an understanding of the total habitat picture, spatially and temporally, is long and fraught with uncertainty.

One of the nagging questions from the earlier research was where do lizards go in the winter. Florida was ruled out quickly. They must hibernate, but where? Knowing where these spots are, or the type of

spot most likely to be used, is a crucial component in addressing a land use referral for new industrial activity. This is especially so in winter when no lizards can be found on the surface to signal use of an area.

So, how do you trail a lizard, following its movements, or in many cases lack of movement, to discern home range, including the elusive winter den site? Technology, in the form of tiny transmitters about the size of your little fingernail, provided the answer. Securing these transmitters to the lizards called for trial, some error and much innovation on the part of Larry Powell, the University of Calgary's "lizard" researcher. Tiny strips of Velcro were first glued (with surgical glue) to the lizard; an accompanying piece of Velcro was then epoxied to the transmitter. That arrangement allowed lizards, if they became snagged on vegetation to wriggle free. In practice, the arrangement worked relatively well but it became apparent that simply gluing the transmitter to the lizard was a more workable solution and didn't harm them or impede their movements.

Initially ten lizards waddled off into the great beyond with transmitters betraying their locations. The results confirmed some suspicions about lizard ecology, habits and habitat. Lizards live their lives mostly within an area about 60 meters in diameter. That estimation of home range helps one understand the implications of



NATURE CONSERVANCY CANADA

a wellsite normally 100 square meters in extent; that is roughly four lizard home ranges.

Research is often hubris; setting off into the unknown, seeking the unexpected and then being subject to flaws in design and materials that torpedo the effort. In this case the batteries began to fail in the transmitters, prematurely. The secret winter spots remained...well, a secret.

A local rancher, skeptical about our ability to track something so small and slow retorted, "Well hell, with those little legs how far do you think they'd get?" He'd already eliminated Florida from the list of overwinter spots for Short-horned Lizards. Wildlife research often isn't the easiest concept to convey to the public, or to get support for the effort.

Subsequent work (with better batteries and a revised timetable) added dramatically to the understanding of the secret lives of lizards. The hypothesis about overwinter sites, that lizards found natural cavities or crevices in rock outcrops as hibernacula to avoid freezing temperatures, was proven false. Preparation for winter is much less elaborate. They hibernate in loose soil on south facing slopes, no more than 10cm

beneath the surface. That's not much deeper than their overall body length.

What this means is this dinky little critter, with its somewhat comical array of spikes and horns, has evolved the ability to withstand freezing to survive in the prairie's extreme winter environment. Not a bad trick and an impressive secret. We complain over minor temperature fluctuations and tend to die if our body temperature varies more than four degrees C. Conversely, Short-horned Lizards can survive variances that drop their body temperature from 32 degrees C to below freezing. That's cool, not only in a temperature sense.

Although this cleared up some of the ecological mysteries of Short-horned Lizards, it doesn't help a biologist trying to make a decision on a land use referral over a wellsite in lizard territory. All it means is that lizards could be hibernating anywhere with soil conditions suitable for burrowing. That's not much to go on to create a critical winter habitat map. As the axiom goes, we cannot take care of that which we cannot see.

It's hard to envision a positive future for Short-horned Lizards, caught as they are in

the tightening vice of ever increasing land use activity and decreasing vigor for biodiversity protection. The species was finally categorized as “Endangered” in 2006 after a number of years of discussion.

What these designations really mean is Short-horned Lizards fall into a nether world of grey for an imperiled species where a recovery strategy takes years to plan and longer to implement. It isn't clear whether pushing lizards into a category of “Endangered” has pressured industrial development to have a lighter footprint, or no footprint at all.

With so many of Alberta's fish, wildlife and plant species on the brink, there doesn't seem to be the time or budget to monitor them all or, in many cases, to halt the slide into oblivion. The glacial speed of the process can mean a progression of “e” words beginning with endangered and moving through extirpation to extinction.

Two decades have passed since alarm bells for Short-horned Lizards started ringing. Yet, a wellsite, access road or pipeline could appear, almost overnight, based on a few months of planning and a short administrative period for approval.

In Alberta, the province where development never sleeps, the political response to conservation is a Rip Van Winkle trance of inaction. In the case of Short-horned Lizards

it would seem if you're small, you're sunk, irrespective of whether you form one of the “pieces” Aldo Leopold told us not to discard. Just when some would weep and cause the gods to arch their eyebrows in disbelief at the failure to steward things that are “small”, the lizards have caught a break.

Enter science and the advocacy of the Fish and Wildlife Division. With data from research on populations, a “Protective Notation” has been applied to over 16,000 acres of existing, and potential short-horned lizard habitat in an area designated the Manyberries Badlands Sensitive Area. This bit of administrative colouring flags crown lands, sending a message to industry to shift activity elsewhere or develop a more sensitive footprint. For the epicentre of Short-horned Lizards in Alberta this is good news.

Elsewhere guidelines are in place that buffer habitat year round and provide more direction to industry about avoiding harmful interactions with lizards and their habitats. One would hope this makes industry more circumspect about their activity, more cautious in planning and more sensitive in how they undertake their work. These are, however, just guidelines with moral persuasion rather than a regulatory stick behind them.

Short-horned Lizards are harmless little creatures. They don't ask for much, a few acres of prairie badlands to call home. If anything they should

command a little respect with their diet of acid-laden ants and somehow managing to survive freezing. Any adaptation to survive the worst the prairie can dish out seems miraculous and something worthy of more study and of protection.

Edward Abbey, an essayist and novelist must have been thinking about Short-horned Lizards when he said:

“Anything that lives where it would seem that nothing could live, enduring extremes of heat and cold, sunlight and storm, parching aridity and sudden cloud bursts, among burnt rocks and shifting sands, any such creature, beast, bird or flower testifies to the grandest heroism inherent in all forms of life.”

It seems an irony they have survived so much but may not survive our expropriation of their habitats and our immense footprint. Considering it has taken millennia for short-horned lizards to figure out a survival strategy that works, to have them wink out on our watch seems particularly callous and careless.

Aldo Leopold admonished us with— “The last word in ignorance is the man who says of an animal or plant: What good is it?” So far, our answer is Short-horned Lizards are part of the grasslands and we need to keep them.



Beaver Hills Is a UNESCO Biosphere!

The Beaver Hills Initiative and its members are pleased to announce that the Beaver Hills became a UNESCO Biosphere Reserve on March 21, 2016. The Beaver Hills joins a global network of over 600 sites that are internationally recognized for their work to ensure ecologically sustainable human and economic development. It is the second biosphere in Alberta and joins 16 other Canadian Biospheres.

"The UNESCO Biosphere designation is basically international recognition for all the work that's been done in this special area to maintain biodiversity and foster ecologically and socio-culturally sustainable human and economic development in this lived-in and working landscape. We're looking forward to continuing our work and sharing our research and tools with the public, other biospheres and land use decision makers outside the Beaver Hills," says Glen Lawrence, Chair of the Beaver Hills Initiative.

Located 20 minutes east of Edmonton, Alberta, the Beaver Hills is a distinct landscape covering 1572 km² of hummocky moraine. The rolling, hummocky hills of the moraine sit about 100 metres higher than the relatively flat lands surrounding it, and it supports a patchwork of valuable wetlands, small lakes and forested uplands. Popular destinations in the moraine include Elk Island National Park, Miquelon Lake Provincial Park, Cooking Lake-Blackfoot Provincial Recreation Area, Ukrainian Cultural Heritage Village, Ministik Lake Game Bird Sanctuary and the Strathcona Wilderness Centre. The Beaver Hills Initiative was formed in 2002 after the staff at Elk Island National Park recognized a need for regional collaboration to address development and land use planning within the moraine.

Visit beaverhills.ca for more information and a list of upcoming summer events where you can help celebrate and learn more about Alberta's newest UNESCO Biosphere.

Charley's Nature Note: Prairie Crocus (*Anemone patens*)

BY CHARLES BIRD

While hiking in the JJ Collett Natural Area on Saturday (April 3) morning, I found and photographed a clump of the native flower, the Prairie Crocus. This is one of a small group of plants where the flowers come before the leaves, then the leaves shrivel up and are gone by early summer.

This appears to be an adaptation to allow the plants access to soil minerals before other plants get going, and to protect the plants from summer and fall grazing.

The Prairie Crocus is the provincial emblem of Manitoba and the State flower of South Dakota, but it could have just as well been that for Saskatchewan and Alberta as well, as it is common in all of the Prairie Provinces. It is one of the first plants to bloom in the spring and is thus a real joy to see. It is characteristic of native short-grass and mixed-grass prairie and is often found on south-facing hillsides. This is perhaps so as much of the level ground has been broken for cultivation and the plants destroyed, whereas a hillside may have been too steep for cultivation.

A member of the Ranunculus or Buttercup family, the Prairie Crocus has 5-7 large, showy, blue-purple-white sepals and no petals. There are numerous yellow stamens. A cluster of long, plumose achenes replaces the flowers. The plants are covered with silky hairs. Several long petioled divided leaves develop after the flowers.

You can read more about it in the classic "Flora of Alberta" written by Ezra Moss and revised by John Packer. Or you can find it illustrated and described in the various wildflower books which cover the prairies and parklands. I particularly like the coverage in Kathleen Wilkinson's "Wildflowers of Alberta".

The crocus is another of nature's many treasures to admire, photograph, and protect for future generations.



The J.J. Collett Natural Area is one of our natural gems here in Alberta. Situated NE of Lacombe and SE of Morningside, it is a section of rolling sandy aspen parkland with a strong admixture of white spruce. It is part of the Alberta Environment and Parks system, but is looked after by a Foundation of volunteer workers. There is a network of nine hiking trails, starting from a parking lot on the south side. It even has a website – <http://www.jjcollett.com/> which, in my opinion is outstanding and well worth visiting.



Dr. Charles "Charley" Bird is a university professor, publisher of 300+ scholarly articles, long-time advocate for Alberta conservation issues, active with Federation of Alberta Naturalists (Nature Alberta) and in particular with his local group, Buffalo Lake Naturalists Society (a Nature Alberta Corporate Club). In 1978, he received Nature Alberta's Lorain Goulden Award. Charley's interests and expertise are broad indeed, but especially butterflies and moths; he was the lead author for Alberta Butterflies, published in 1995.

Up Close Naturally: Chipmunks

BY MARGOT HERVIEUX

Whenever I'm out for a walk, I listen for the sounds of scurrying in the bushes. Often these sounds are made by birds or small creatures that I can't spot, but often they are made by the very busy Least Chipmunk.

Chipmunks are members of the squirrel family. There are three species in Alberta but the most common is the Least Chipmunk. All chipmunks can be recognized by the stripes on their body and head and, as its name implies, the Least Chipmunk is small, growing to about 24cm (9.5in) long, including the tail.

You can find Least Chipmunks in a variety of habitats but they are most common in poplar forests and along water courses where there are lots of shrubs. They use a network of pathways and fallen logs as they dart through their territories searching for food and avoiding predators.

Chipmunk burrows are as complex as their trail systems. Beneath the ground they connect sleeping and storage chambers with multiple secret entrances. As they dig their tunnels they carry away the dirt and spread it in the forest to hide any signs of excavation.

Seeds are a major food item for chipmunks and their storerooms

have been found to contain thousands of seeds. They take apart the heads of dandelions and other flowers, pull down grass stems, and collect all sorts of berries. Least Chipmunks are fond of saskatoons and I have often seen them up in the branches harvesting the fruit. They also eat leaves and buds and won't ignore a passing insect.

Females also dig a nursery chamber where they raise four to six babies each year. The naked young are usually born in late May and after five weeks are ready to explore their world. By August they have been weaned and if they are lucky they may live as long as five years.

Like all small mammals, chipmunks need places to hide from a wide variety of predators. Foxes, Coyotes, weasels and hawks all have them on the menu and chipmunks are also easy prey for house cats.



PHIL ARMITAGE/WIKIPEDIA COMMONS

Chipmunk burrows are also important for winter survival. Unlike their ground squirrel and woodchuck cousins, chipmunks don't hibernate but they do spend many months in a state of deep sleep or torpor. Their metabolism slows down but they wake up every so often to feed briefly from their stores and use their bathroom chamber.

Chipmunks are one of the few small mammals that we have a chance of seeing on a regular basis but you still have to be alert to spot one. Their life depends on their secret nature but, fortunately, they pause often enough to let us get to know them.



Margot also writes a column for the Peace Country Sun, archived copies of which are available at www.peacecountrysun.com.

Wildlife! Starring... American Pikas, Farmers of the Alpine

BY JESSIE ZGURSKI

PIKA APPEARANCE AND TAXONOMY

American Pikas, with their round ears, short legs, and dark button eyes, are the very embodiment of “cute.” In fact, the American Pika is the only animal I’ve seen described as “adorable” in a formal scientific paper.

Physically, they resemble large, round hamsters, and although they are rodent-like in appearance, pikas are actually lagomorphs and are therefore more closely related to rabbits and hares than to rodents.

“Lagomorpha” is the order of mammals that contains the rabbits, hares, and pikas. All lagomorphs differ from rodents in having a pair of small teeth (called “peg teeth”) behind the front incisors.

Only one species of pika (the American Pika) can be found in Alberta. American Pikas are also found in the mountains of the southern half of British Columbia, as well as the mountains of Montana, Idaho, Washington, Oregon, Colorado, Utah, New Mexico, California, and Nevada.

There is another species of pika (the Collared Pika) in North America which is found in the mountains of the far northwest corner of British Columbia, the western Northwest Territories, the Yukon, and Alaska. The ranges of the two species do not overlap, and there is an approximately 800 km-wide zone of central British Columbia where no pikas are found at all.

FINDING AND WATCHING PIKAS

In Alberta, American Pikas can be found in the Rocky Mountains, including all three mountain national parks (Waterton Lakes, Banff, and Jasper), Kananaskis country and the Crowsnest Pass area. As pikas are frequently active during the day and are vocal, wildlife watchers and photographers can usually find them by searching in the right places.

American Pikas prefer a very specific habitat – subalpine and alpine boulderfields surrounded by vegetation. Pikas generally prefer boulderfields with large boulders (> 1 m long). Pikas use boulder piles

as shelter because they do not dig burrows as many rodents do. Additionally, due to their thick fur, American Pikas are prone to heatstroke and they often retreat under rocks to cool off after short bursts of activity. They will also flee under boulders to hide from predators. Hence, pikas are rarely found far from boulderfields.

American Pikas can be difficult to see because they tend to blend in very well with the rock piles they inhabit. However, pikas do vocalize frequently, which makes finding them a little easier. A good way to find pikas is to find the appropriate habitat, sit down, stay still, and listen for a single-syllable, high-pitched “eep!” noise. This so-called ‘short call’ is the most frequently-made noise by American Pikas, and it likely serves as a sign of territory ownership. American Pikas are territorial and will chase and fight other pikas in defense of their territory. However, chases and conflicts can be avoided if a pika vocalizes frequently to warn other pikas to stay away. Even so, I have seen many pikas chasing



A PIKA AT LAKE AGNES. JESSIE ZGURSKI

each other across boulderfields. Male and female American Pikas on territories next to each other may also ‘duet,’ or give short calls back and forth to each other. However, beyond this, there is little contact among even mated pairs of American Pikas. They are largely asocial animals. Female American Pikas even stop interacting with their young very shortly after they are weaned.

I have found that pikas will go about their daily business when I am present as long as I stay still and quiet and am not too close to them. They can be very interesting to watch as they gather food, graze, vocalize, and chase each

other. They will also frequently rest on top of rocks, a behaviour that has been referred to as “musing.”

In Alberta, other animals that frequently inhabit the same habitats as pikas include Hoary Marmots, Golden-mantled Ground

Squirrels, Bushy-tailed Wood Rats (“pack rats”), and Ermines. Pikas largely ignore the rodents they share their habitats with, but the presence of an Ermine can alarm pikas, as Ermines are efficient pika predators.



**A PIKA STRAYS FROM THE SHELTER OF BOULDERS
TO GRAB SOME LUNCH.** JESSIE ZGURSKI

My favourite place to look for American Pikas is the boulderfield by Lower Rowe Lake in Waterton Lakes National Park. I can usually find a few of them there, although I sometimes don't see any. Hoary Marmots and Golden-mantled Ground Squirrels are usually present there as well. Getting to Lower Rowe Lake involves an approximately 4 km (one way) moderate hike through subalpine forest and a few open areas with a stunning diversity of wildflowers. In Waterton, American Pikas are also frequently present on the boulderfield by Goat Lake, which involves a 6.3 km (one way) hike, the last 2.5 km of which are quite strenuous.

American Pikas also appear to be quite abundant in appropriate habitat in Banff and Jasper National Parks. A good place to see them in Banff is around Lake Agnes, which is just behind the Lake Agnes tea house. This backcountry tea house is about 3.5 km from Lake Louise. The pikas around Lake Agnes seem used to hikers and I've had pikas there travel right across my shoes. In Jasper National Park, they can be found in the boulderfields around Medicine Lake, which is on the road to Maligne Lake. Additionally, pikas are frequently seen on Whistler's Mountain, which can be reached by a SkyTram (gondola).

Pikas can be seen at any time of the day, but they are most likely to be active during the morning and evening, especially during hot days. Like many animals, pikas spend a lot of time resting in the shade during the afternoon on hot days.

PREPARING FOR WINTER

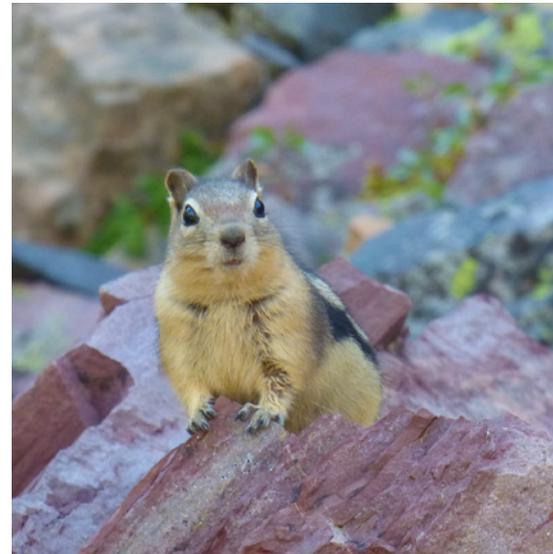
American Pikas are very busy creatures during the summer. This is because they do not hibernate and must prepare a cache of vegetation (a "haypile") to feed on during the winter. An American Pika may gather up to 28 kg of vegetation during a summer, although the final cache will weigh less once the plants have dried. When gathering food to cache (a behaviour called "haying"), a pika will take a large mouthful of vegetation and will place it on its haypile, which will typically be under boulders near the centre of the pika's territory. During summer, an American Pika will spend a lot of time going back and forth between a meadow and its haypile, stockpiling hay for winter. Some American Pikas will 'cheat' while haying and will pilfer from other pikas' haypiles. Generally, American pikas do not like to travel more than 20 m or so from boulderfields while haying.

During summer, pikas also graze, or immediately consume food instead of caching it. When pikas graze, they will generally take a small piece of vegetation and eat it on the spot. They do not use their paws to hold food as rodents often do. They also do not travel as far from talus to graze as they will to hay. Most pikas graze within a few meters of boulderfields.

Some articles note that American Pikas place their hay in the open to dry it before they store it in a permanent location under the boulders. This is not true. American Pikas leave their hay



HOARY MARMOT. JESSIE ZGURSKI



GOLDEN-MANTLED GROUND SQUIRREL. JESSIE ZGURSKI

wherever they first deposited it, which will frequently be under a large overhanging rock that prevents the hay from blowing away. During peak haying time (July to the end of August), American Pikas spend about 55 % of their surface time haying. Once fall arrives, pikas stop haying, but will still graze on vegetation. They begin to rely on their haypiles once the landscape is covered in snow, although they will also eat lichen.

American Pikas frequently cache plants that they do not graze on and, in fact, may be toxic to them. Why would

they do this? Some fascinating research has shown that the toxic plants pikas often cache are more resistant to degradation than other plants. Additionally, the toxins in many plants will degrade over time, meaning that plants cached in summer will be edible by winter. For example, the plant species *Acomastylis rossii* (Mountain Aven) is not grazed on by American Pikas, but it is cached.

Mountain Avens contain high levels of chemicals called phenolics that deter herbivores like pikas. However, after the Mountain Avens are cached by pikas, the concentrations of phenolics in them starts to decline, and pikas start to eat them during winter once the concentration of phenolics has become low. In addition, extracts of Mountain Aven phenolics actually inhibit bacterial growth, so plants with high levels of phenolics degrade more slowly than other plants. By caching plants high in phenolics, pikas can ensure they have a late winter food supply. Pikas also cache plants with lower levels of phenolics, but these are eaten earlier during the winter.

CONCLUSION

The cute and active American Pika has delighted many hikers in the western mountains. They are one of my favourite animals to watch and photograph, and I am always on the lookout for them when visiting any of Alberta's mountainous areas. Their sensitivity to heat and vulnerability to predators means that they are rarely found far



from boulderfields, and their preference for such a specific habitat type makes them easy to locate. Additionally, because they must gather large caches of food for winter, they are usually active during the summer and therefore very fascinating to watch.

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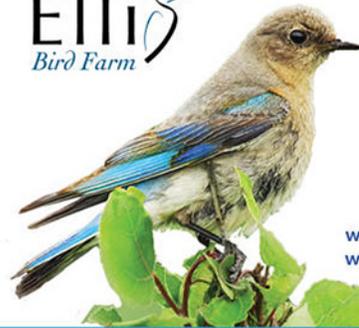


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CELESTIAL HAPPENINGS

Starry Nights

Summer: June to August

BY JOHN MCFAUL

FEATURED CONSTELLATIONS: APUS, OCTANS AND TRIANGULUM AUSTRALE

During the summer season, the late evenings and early mornings of the northern hemisphere leave little time for the starry creatures to tell their stories before they must fade away as Apollo's chariot once more commands the celestial stage. However, it is the time for the constellations of the southern hemisphere to enjoy longer nights.

Many of these constellations were first described and mapped by brave European sailors who sailed the southern seas in the 16th to 18th centuries. Unlike the northern sky with the distinct star Polaris to guide explorers, the southern sky does not have any bright stars to mark the South Pole. This honour is given to the faint star sigma Octantis in the constellation Octans.

Octans was one of the 14 constellations invented by the French astronomer Nicolas Louis de La Caille as a result of his 1750 trip to South Africa to determine planetary distances. The octant was the precursor to the sextant. Both instruments were used by sailors as navigational aids.

Another instrument of navigation is the triangle. It can be used to determine the direction of travel

between two points. Triangulum Australe, the southern triangle, was first mapped by the Flemish cartographer Petrus Plancius on a celestial globe in 1598. Interestingly gamma Trianguli Australis has been determined to contain an overabundance of the element europium. This is one of the least abundant elements in the universe. It is used as a constituent of the red phosphorus dot of TV screens.

The constellation Apus was also created by Petrus Plancius. It pays homage to a bird-of-paradise that bedazzled early Dutch explorers. The name is in reference to an early belief that this bird had no feet as specimens of this bird available to western scientists often had their feet and wings removed. The original Apus had its tail clipped by La Caille so that he could use the stars to form part of the constellation Octans.

CELESTIAL HAPPENINGS

Sun: Rise – June 1 (5:11 MDT), July 1 (5:10 MDT), August 1 (5:50 MDT)
Set – June 1 (21:54 MDT), July 1 (22:06 MDT), August 1 (21:29 MDT)
Summer Solstice: Monday, June 20, 2016 at 4:34 PM in Edmonton.

Moon: Full – June 20, July 19, August 18
New – June 4, July 4, August 2

Planets: **Mercury** may be seen very low in the NE sky shortly before sunset near the end of June. Afterwards it will be hidden by the glare of the sun until August. At that time it might appear just above the western horizon from about August 4th to 11th just after sunset. A thin crescent moon will be just to the left of Mercury on August 4th.

Venus is to be found very low in the western sky just after sunset from the middle of July through to the end of August. On August 27th Jupiter and Venus will be quite close together, but this conjunction may not be visible as they will set before the sky darkens.

Mars will be best seen about 15 degrees above the southern horizon in the late evening through this time period. From August 20th to 26th it will be seen to gradually pass from west to east of the red star Antares in the constellation Scorpius.

Jupiter will descend lower in the western sky as the summer progresses. The moon will be close by on June 11th, July 15th and August 11th.

Saturn reaches opposition on June 3rd where it is opposite the sun from earth. It can then be seen throughout the night. As summer progresses Saturn will slowly move westward against the background stars until it forms a nice grouping with Mars and Antares. The moon will join this group on August 11th.

Meteor Shower: Delta Aquirids (July 29th, 20/hour in a dark sky),
Perseids (August 12th, 50/hour)

The rate of meteors observed is for dark skies well away from city lights and with no Moon.



"If people concentrated on the really important things in life, there'd be a shortage of fishing poles." - Doug Larson



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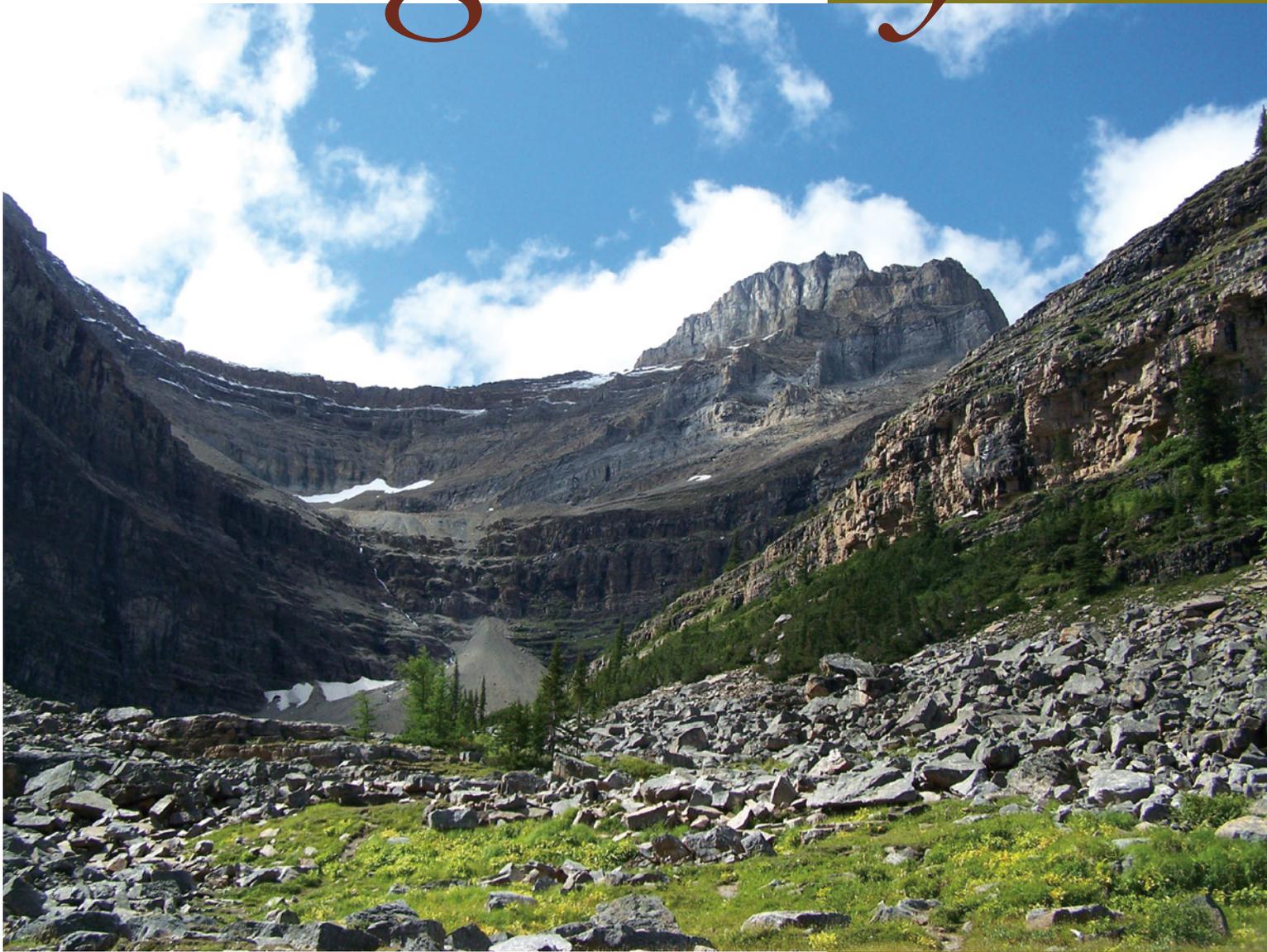
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BLUEBIRD IN KANANASKIS;
SEE "ON THE COVERS" ON
PAGE 3. ROBERT MUTCH**



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TYPICAL PIKA HABITAT; SEE THE STORY PAGE 38. JESSIE ZGURSKI



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