

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



WOODLAND CARIBOU; FEATURE STORY STARTS [PAGE 22](#). 3BL MEDIA

feature article

‘A Modest Proposal’ for Alberta’s Caribou?



A MALE MOUNTAIN BLUEBIRD;
SEE THE STORY, [PAGE 42](#). STEVE WAINER



JUMPING SPIDER;
SEE THE STORY [PAGE 32](#). WIKIMEDIA

Contents

NATURE ALBERTA VOLUME 49, NUMBER 1 – 2, SPRING/SUMMER 2019

Editor's Page BY BROOK SKAGEN.....	2
Letters to the Editor	4
Alberta Issues in Brief.....	6
Book Review: Intertwined Histories: Plants in Their Social Contexts.....	7
From the President BY LINDA HOWITT-TAYLOR	8
Book Review: New Birding Trails Guidebook for S.E. Alberta	9
In Memoriam: Fred Schutz.....	10
Lending a Helping Hand: Abandoned Farmyards BY MYRNA PEARMAN.....	12
Eyes on IBAs: Conserving Birds for Alberta's Watersheds BY BROOK SKAGEN	16
How Birds Find Their Way During Migration and Homing BY JIM BROHMAN	18
FEATURE ARTICLE – 'A Modest Proposal' for Alberta's Caribou? BY LORNE FITCH	22
First Hand: The Prodigal Duckling BY GLEN HVENEGAARD	30
Up Close Naturally: Along Came a Spider BY MARGOT HERVIEUX.....	32
Organisms Underfoot! The Importance of Biological Soil Crusts BY VARINA CRISFIELD	34
Charley's Nature Note: Nuts! BY CHARLEY BIRD	36
Nature Kids BY ZOE MACDOUGALL.....	37
Celestial Happenings BY JOHN MCFAUL	40
Nature Trivia	41
Clubs Page	42
Book Review: This was our Valley	44

PUBLISHED QUARTERLY BY NATURE ALBERTA,
11759 GROAT ROAD, EDMONTON, AB T5M 3K6
PHONE 780.427.8124 **FAX** 780.422.2663
EMAIL na@naturealberta.ca

EDITOR: **DENNIS BARESCO** ASSISTANT EDITOR: **BROOK SKAGEN**
EMAIL: na@naturealberta.ca
CIRCULATION: **JAYNE CARRE**
LAYOUT: **BROKEN ARROW SOLUTIONS INC.**

THANKS TO THE PROOFREADERS WHO ASSISTED IN PRODUCING THIS ISSUE:
SANDRA FOSS, TED HINDMARCH, SARAH LEETE, VAL SCHOLEFIELD.
MANY THANKS TO THIS ISSUE'S CONTRIBUTORS

WANT TO SUBMIT ARTICLES OR PHOTOS?

GUIDELINES ARE AVAILABLE ON
THE NATURE ALBERTA WEBSITE:
WWW.NATUREALBERTA.CA

NATURE ALBERTA DEADLINES ARE:

SPRING ISSUE: **FEBRUARY 28**
SUMMER ISSUE: **MAY 31**
FALL ISSUE: **AUGUST 31**
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.

BOARD OF DIRECTORS

PRESIDENT: Linda Howitt-Taylor

VICE PRESIDENT: Vacant

SECRETARY: Rannee Lui

TREASURER: Janice Yu

PAST PRESIDENT: Lu Carbyn

APPOINTED DIRECTORS: Lu Carbyn, Linda Howitt-Taylor, Brian Joubert, Richard Schneider

ELECTED DIRECTORS: Kim MacKenzie (ANPC); Claudia Lipski, (BLN); Wayne and Joan Walker (CFNS); Leonard Shrimpton (ENC);

Elizabeth Watts (FEIS); Angela Turner (GN); Jennifer Okrainic (LLBBS);

Ted Nanninga (LNS); Margot Hervieux (PPN); Tony Blake (RDRN)

STAFF: Brian Ilnicki (Exec. Dir.)

CORPORATE MEMBER CLUBS

Alberta Native Plant Council, Box 52099, Garneau P.O. Edmonton, AB
T6G 2T5

Buffalo Lake Naturalists, Box 1802, Stettler, AB T0C 2L0

Edmonton Nature Club, Box 1111, Edmonton, AB T5J 2M1

Friends of Elk Island Society, Box 70, 9929 – 63 Ave, Edmonton AB, T6E 0G9

Grasslands Naturalists, Box 2491, Medicine Hat, AB T1A 8G8

Lac La Biche Birding Society, Box 1270, Lac La Biche, AB T0A 2C0

Lethbridge Naturalists Society, Box 1691, Lethbridge, AB T1J 4K4

Nature Calgary (CFNS), Box 981, Calgary, AB T2P 2K4

Peace Parkland Naturalists, Box 1451, Grande Prairie, AB T8V 4Z2

Red Deer River Naturalists, Box 785, Red Deer, AB T4N 5H2

AFFILIATES:

Alberta Amphibian and Reptile

Conservancy

Alberta Lake Management Society

Alberta Lepidopterists' Guild

Alberta Mycological Society

Beaverhill Bird Observatory

Beaver River Naturalist Society

Bighill Creek Preservation Society

Big Lake Environmental Support Society

BowKan Birders

Calgary Area Nestbox Monitor Society

Calgary Bird Banding Society

Cochrane Environmental Action

Committee

Crooked Creek Conservancy Society

Crowsnest Conservation Society

Edmonton Native Plant Group

Ellis Bird Farm

Fort Saskatchewan Naturalist Society

Friends of Blackfoot Society

Friends of Jasper National Park

Friends of Little Beaver Lake Society

Grant MacEwan Mountain Club

J.J. Collett Natural Area Foundation

Kimiwan Lake Naturalists

Lesser Slave Lake Bird Observatory

Little Creeks and Rough Fescue

Appreciation Society

Purple Martin Conservancy

Riverlot 56 Natural Area Society

Stewards of Alberta's Protected Areas

Association

The Wagner Natural Area Society

Vermilion River Naturalists

Weaselhead/Glenmore Park

Preservation Society

Wizard Lake Watershed and Lake

Stewardship Assoc.

CELEBRATE NATURE ALBERTA

50 YEARS IN 2020!



EDITORIAL DISCLAIMER

The opinions expressed by the authors in this publication do not necessarily reflect those of the editor and the Federation of Alberta Naturalists. The editor reserves the right to edit, reject or withdraw articles submitted. While due care will be taken of all manuscripts, photos or artwork submitted, FAN cannot be held responsible for any loss or damage to such articles.



Editor's Page

BY BROOK SKAGEN, ASSISTANT EDITOR

The Amazing Vocal Repertoire of the European Starling

Perhaps no bird is as notorious as the European Starling (*Sturnus vulgaris*), its iridescent sheen a common sight in the backdrop of every backyard, city street, and country road of North America. From 100 individuals introduced in Central Park, NY just 130 years ago, a population 200 million strong has since spread across the continent.

As a Wildlife Biologist I'm not fond of exotic species, though I'll tip my hat where it is due: not only is the European

Starling one of the avian world's most successful colonizers, but it is also an incredibly talented vocalist - particularly when it comes to covers. I couldn't help but highlight its talent.

An individual starling may learn the songs of 20 differing species. When combined with the starling's own series of complex vocalizations, individual repertoires can reach over 60 distinct phrases. Dialects of mimicked sounds vary by region. In Lethbridge's Oldman River valley, for

example, I have heard the calls of Sora, Greater Yellowlegs, Western Wood-pewee, Long-billed Curlew, American Kestrel, Gray Catbird, California Quail, Least and Yellow-bellied Flycatchers, among many more, imitated from the tops of cottonwood trees. Mimicked sounds are learned both from other starlings and from the other species directly.

Not all birds are mimicked equally: those with simpler, less varied calls, such as flickers, Crows, Robins, and flycatchers are imitated most frequently, though starlings are capable of mimicking the melodies of more talented singers such as the Western Meadowlark. Not only can starlings learn the sounds of wild birds, but they can also mimic alarms, machinery, and even the human voice.

UNLIKE MOST BIRDS, THE EUROPEAN STARLING'S PLUMAGE CHANGES FROM SPOTTED-WHITE IN THE WINTER TO IRIDESCENT BLACK IN THE SUMMER WITHOUT REPLACING ITS FEATHERS. IN A PROCESS CALLED "WEAR-MOLT", THE SPOTTED TIPS OF ITS WINTER PLUMAGE WEAR AWAY, RESULTING IN A DARK AND GLOSSY APPEARANCE. WIKIMEDIA 2019



ANOTHER BENEFIT OF STARLINGS

European Starlings do more than just amaze us with their repertoire...they are also voracious eaters of insects during nesting season.

With as many as five broods per season and four to six mouths to feed in each brood, both adults are kept very busy – to say the least! – bringing those youngsters their daily sustenance.

They especially like the caterpillars that descend from trees during the day and end up on the road. It's an easy-to-gather meal, as long as they watch out for vehicles (at which they seem particularly adept!).

Mimicry is typically used in the avian world to discourage the settlement of other species in an area. Many of us have heard the faint "Kreeee" of a Red-tailed Hawk as flocks of Blue Jays arrive at a quickly vacated feeder. However, there is no evidence of starlings mimicking for this purpose. The exact reason for this behavior remains unknown, but is believed to be related to pair formation, with the male demonstrating the longest and most varied songs thought to be the ideal mate.

Sources:

Cabe, P.R. 1993. European Starling (*Sturnus vulgaris*). In the Birds of North America (Online Database). Cornell Lab of Ornithology, Ithica, NY USA.

Hindmarsh, A.M. 1984. Vocal Mimicry in Starlings. Behavior 90(4):302-324.

On the Covers:



FRONT COVER

Will the Canadian quarter be the final tribute to the coming extinction of caribou? Or will some future government finally have the common sense and morality to ensure this mammal's survival? Lorne Fitch gives us a "modest proposal" on how we might go about dealing with caribou. The story begins on [page 22](#).



INSIDE FRONT COVER

Bluebird trail monitors are busy throughout Alberta, but it is a relaxing, fun and even thrilling busyness! This particular Mountain Bluebird, taken by Steve Wainer, is one of the reasons for that. See Don Stiles' story on [page 42](#).



People tend to view spiders with a fair amount of suspicion, if not outright horror. Large, hairy spiders are particularly fearful. Jumping Spiders (pictured) tend to startle us, even though they are fascinating creatures. Despite our fears, they are, arguably, one of the most important animals there is. Read Margot Hervieux's article on [page 32](#) to get a glimpse into the lives of a few of them.



INSIDE BACK COVER

This may not look like anything interesting at first glance, but in fact it, and places like it, are home to a great many animals that find an "abandoned farmyard" makes for a perfect place to set up a season's residence. It is only abandoned by humans! See Myrna Pearman's story, beginning on [page 12](#). Then you too may go searching old farms to see what you can see!



Ian Wallis wrote on May 30, 2019: "Today a lot of the Pin Cushion Cactus came out. Most of the rest will be out tomorrow or the day following. The flowers are only really nice on the day they come out. Here's a pic of what I just saw. Location – East along public access to Ross Creek Coulee" [in Medicine Hat].



BACK COVER

Myrna Pearman says: "These little guys/gals, along with at least one more sibling, are cross foxes. Cross foxes are a partially melanistic colour variant of the Red Fox, distinguished by a long dark stripe that runs down their back, intersecting with another stripe to form a cross over their shoulders. This is the first time I've ever seen cross fox kits. Adorable!"

Want to Switch?

Switch your subscription from hard copy to the full COLOUR e-version and get even GREATER enjoyment of *Nature Alberta* while REDUCING paper use.

Phone today: (780) 427.8124; or

Email us: na@naturealberta.ca or wildhavn@memlane.com

LETTERS TO THE EDITOR

American versus European Common Reed

Your article on the *Phragmites* grass in the Winter 2019 issue of *Nature Alberta* (page 5) does not tell the whole story.

Ontario botanists Paul M. Catling and Gisele Mitrow reviewed the status of *Phragmites australis* thoroughly in an article in CBA/ABC Bulletin 44 (2), September 2011, pp. 52-61, entitled "Major invasive alien plants of natural habitats in Canada" (www.cba-abc.ca/Bulletin_44_2.pdf).

There are indeed native and introduced forms of Common Reed, *Phragmites australis*: the native subspecies, American Common Reed (*Phragmites australis* subspecies *americanus*) and the introduced European

Common Reed (subspecies *australis*). The situation with regard to European Common Reed has been studied extensively in Ontario because there it is an aggressive invader, spreading particularly along roadside ditches, often with the aid of road maintenance equipment (note the human factor!).

The two subspecies can be distinguished using the following key:

Lower stem red or reddish purple; larger lower glume 4.1-7.6 mm long...subsp. *americanus*

Lower stem yellow or yellow-brown; larger lower glume 2.8-4.4 mm long...subsp. *australis*

(The glumes are the papery bracts at the base of the flowers.)

In addition, European Common Reed is a much taller plant, reaching 5 m in height, whereas American Common Reed does not get much above 3 m.

European Common Reed is a problematic ecological weed because it replaces native vegetation, reducing community biodiversity, and it can be an agricultural weed when it blocks drainage systems.

Catling and Mitrow's 2010 map shows subspecies *australis* as absent from Alberta but predicts that it will have spread across western Canada by 2030. The Canadensys Vascan database

THE NATIVE *PHRAGMITES AUSTRALIS* SUBSPECIES *AMERICANUS*, TAKEN ON THE SHORES AT GARNER LAKE PROVINCIAL PARK. PATSY COTTERILL



THE INTRODUCED *PHRAGMITES AUSTRALIS AUSTRALIS*. PATSY COTTERILL



THE SIMILAR REED CANARYGRASS (*PHALARIS ARUNDINACEA*), TAKEN AT NISKU. PATSY COTTERILL



shows it as doubtfully present in Alberta, so that even if there are a few documented occurrences that have escaped the database it is clearly not common in the province.

The native *Phragmites australis*, which is reported to occur all across Canada, is relatively rare in the Edmonton area in my experience. The few populations I have checked using the key (including two

roadside populations close to wetlands) have all been the native subspecies, subsp. *americanus*.

Hence, I would caution anyone contemplating taking a hatchet to a patch of these striking grasses to be careful to get the right ID. These grasses make excellent habitat for waterfowl and we would not want to slaughter the innocents!

Care should be taken also to distinguish Common Reed from the somewhat similar

Reed Canarygrass (*Phalaris arundinacea*), which is much more common locally and can also be aggressive but is considered native.

Really, the picture is more complicated and much more fascinating than I have painted, and Catling and Mitrow's paper is well worth a read.

Sincerely,

PATSY COTTERILL



OOPS!

PHOTO BY RUSS AMY

The photo of the Common Redpoll on the inside front cover of the Winter 2019 edition was taken by Russ Amy, not Carolyn Sandstrom. Our apologies to Russ; it truly was a gorgeous photo!



ALBERTA ISSUES IN BRIEF

Promise for Recovery: Westslope Cutthroat Trout Action Plan

ALBERTA WILDERNESS COMMITTEE PRESS RELEASE MAY 16, 2019

Conservation groups are acknowledging the federal government for the long overdue release of a draft plan to recover Westslope Cutthroat Trout in Alberta. The plan would significantly increase the amount of habitat protected for this threatened species.

"This plan recognizes that Westslope Cutthroat Trout depend on cold and clean water from healthy watersheds, by expanding their critical habitat to include upstream creek channels and riparian areas," said Joanna Skrajny, Alberta Wilderness Association Conservation Specialist. "This is just the beginning of what Westslope Cutthroat Trout need to survive and recover, it's encouraging to see the plan also recognize that more habitat protection is needed."

Dave Mayhood, an aquatic ecologist and President of Timberwolf Wilderness Society added: "This new document marks a significant advance over the previous recovery strategy. It now understands that upstream and terrestrial connections are part of critical habitat. It better identifies the true extent of remnant populations based on better science. But it fails to fully recognize the entire catchment as critical habitat and fails to accept well-established population targets needed to recover the species. We'll be pushing hard for these and several other improvements during the comment period."

"This plan was supposed to have been completed 4 years ago. During this time, we have continued

to witness the degradation of Westslope Cutthroat Trout populations and habitat," said Lesley Peterson, Provincial Biologist with Trout Unlimited Canada. "This plan is critical as it helps organizations such as Trout Unlimited to work with the government and take concrete action on Westslope Cutthroat Trout recovery."

FOR MORE INFORMATION:

JOANNA SKRAJNY, ALBERTA WILDERNESS ASSOCIATION, 403.283.2025

DAVE MAYHOOD, TIMBERWOLF WILDERNESS SOCIETY, 403.714.8865

LESLEY PETERSON, TROUT UNLIMITED CANADA, 403.875.3264



New Wildland Protected Area

The newly established *Kitaskino Nuwenënë Wildland* will preserve more than 160,000 hectares of land just south of Wood Buffalo National Park, protecting the Peace-Athabasca watershed and increasing ecological integrity and habitat for species at risk such as Woodland Caribou and the Ronald Lake Bison herd. Kitaskino

Nuwenënë means "our land" in both Cree and Dene.

Initially proposed by Mikisew Cree First Nation, the wildland will safeguard their way of life while addressing concerns raised in a 2016 UNESCO report on Wood Buffalo National Park. It adds to the largest contiguous area of boreal protected land in the world.

By voluntarily relinquishing oilsands and mining leases in response to Indigenous Peoples'

concerns, industry champions Teck, Cenovus Energy and Imperial played a vital role in securing the land base for the new wildland.

Previously proposed as the Biodiversity Stewardship Area, the new wildland is the result of months of collaborative discussion between Indigenous groups, industry and other stakeholders, and federal and provincial governments, as well as public consultation.



THE RONALD LAKE BISON HERD IN THE NEWLY ESTABLISHED KITASKINO NUWENĒNÉ WILDLAND.

AB ENVIRONMENT

BOOK REVIEW

Intertwined Histories: Plants in Their Social Contexts

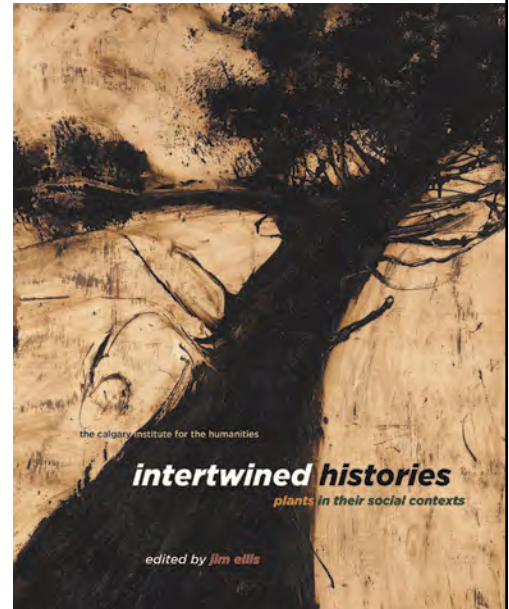
How do we understand the boundaries of individual creatures? What are the systems of interdependency that bind all living creatures together?

Plants were among the first to colonize the planet. They created the soil and the atmosphere that made life possible for animals. They are some of the largest and oldest life forms on Earth. In spite of their primacy, Western cultures have traditionally regarded plants as the lowest life forms, lacking mobility, sensation, and communication. But recent research argues that plants move and respond to their environment,

communicate with each other, and form partnerships with other species.

Art, poetry, and essays by cultural anthropologists, experimental plant biologists, philosophers, botanists and foresters expose the complex interactions of the vibrant living world around us and give us a lens through which we can explore our intertwined histories.

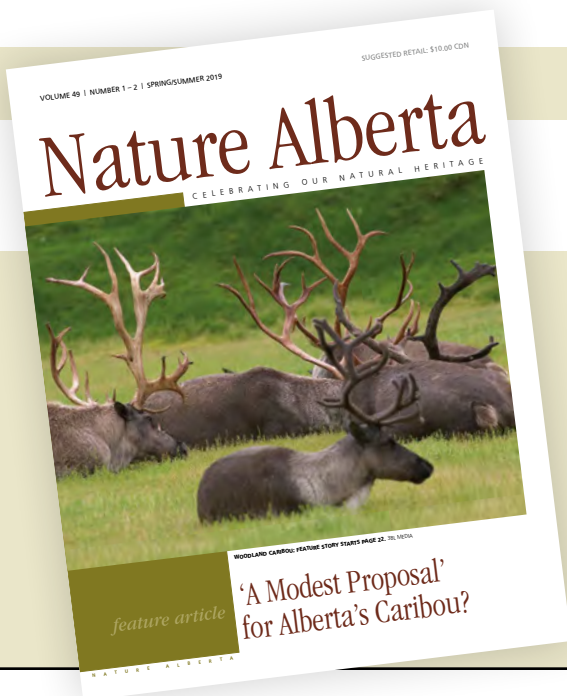
With Contributions By: Nikki Anguish, J. C. Cahill, Jim Ellis, Erina Harris, M. N. Hutchinson, Ciara McKeown, Andrew Mathews, Wes Olson, Laura St. Pierre, Nancy Tousley, Patricia Viera, Jennifer Wanner, Katherine Ylitalo



Jim Ellis (Editor)

Paperback; \$29.99 CAD; 120 pages, 34 illustrations; Review by Calgary Institute for the Humanities

Jim Ellis is a professor of English and Director of the Calgary Institute for the Humanities at the University of Calgary. He has written widely on literature, art and film, and is the editor of *Calgary: City of Animals* and *Water Rites: Reimagining Water in the West*.



Spring/Summer?

You may notice that this edition is labeled "Spring/Summer (#1-2)". The reason is that the Fall issue is tentatively going to introduce the new Nature Alberta (the organization) as we introduce our 50th year of dedicated service. We hope it will only be the beginning of a second half-century of serving the many naturalists, as well as anyone who cares about the future of the natural world, throughout Alberta.

Worry not: Subscribers to the magazine will automatically have their subscription increased by one issue.

FROM THE PRESIDENT

From a President's Perspective...

BY LINDA HOWITT-TAYLOR

I was asked recently to give a talk about Nature Alberta, to describe what we stand for (ie what is our Vision and Mission) and why does it matter. I can tell people what the written Vision is and what the Mission is of the organization as written into our governance documents, but putting it into words that ring true, words that have meaning and context is often more difficult.

I frequently re-state the written statements with my own interpretation, hoping that I don't misrepresent who we are or fail the intentions of our founders and elders. The easy part is sharing why these statements matter. It matters that natural habitat and availability of sources of shelter and food are changing in all corners of the province.

The shift in climate is causing stress to species in ways that have never been witnessed before. It matters, to me at least, that I can wake to a "trilling" morning gifted with a symphony of sound by animal neighbours, birds, mammals, and insects alike and that they accept my moving in and around them as I spy on them in my efforts to get to know them. It matters that the crocus raise their fuzzy heads almost before the snow melts and that Buffalo Beans

follow with the warming sun. It matters that pollinators make their magic ensuring our plants continue to thrive. It matters that communities of people also thrive in healthy environments. It matters that the systems set in place over eons continue to function well not just for the sake of beauty or entertainment but for the sake of all of us on this precious planet.

Making the Vision a reality, having it come alive in Alberta, lies within the hearts of all our Clubs and their members. These are the ones who continue to reach out to their neighbours and strangers to share

with them the love, fascination and wonder of nature around us. Through perseverance and collaboration, the members of the federation of clubs continue to champion the dream that "Alberta's natural heritage is widely enjoyed, deeply appreciated and thoroughly protected." (Vision – Federation of Alberta Naturalists)

Enjoy the gift of nature this summer. Go often. Share the experience. Take the children.

NOTE:

An ad hoc committee is presently working to renew the wording of our Vision, Mission and the Strategic Plan on which we at Nature Alberta base our work structure and activities in serving our members. If you would like to be part of that action, please reply to President@naturealberta.ca.

BOOK REVIEW

New Birding Trails Guidebook for S.E. Alberta

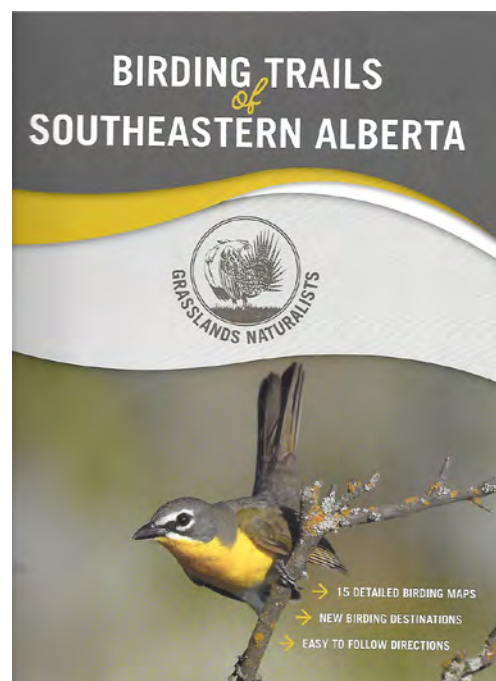
Probably every birder has found themselves in this situation. You've just arrived in a new part of the world. You know there is great birding habitat somewhere in the area. But where exactly do you go, especially if you have time constraints?

You could try phoning local birders if you can locate one. You could try bushwacking on your own: a very hit and miss affair. Or you can go on-line or visit a local tourist office and hope local birders have produced birding trails for the area.

Well, the Society of Grasslands Naturalists of Southeastern Alberta have done just that. Completing a six-year project, 14 birders have pooled their knowledge to create the first ever "Birding Trails of Southeastern Alberta" under the aegis of the Society of Grasslands Naturalists based in Medicine Hat. With financing and encouragement from the Society of Grasslands Naturalists and Canadian Badlands Tourism through Alberta Culture and Tourism, their volunteer work has been published in a 58 page full-colour glossy guide-book titled "Birding Trails of Southeastern Alberta".

It is liberally illustrated with both bird and habitat photos by local photographers. Its easy-to-follow clearly written text and maps for each birding trail will guide visiting birders into all the best birding locales in this part of Alberta's famous grasslands region and the Cypress Hills. The territory covered is contained within the Saskatchewan border on the east, the Montana border on the south, Highway 36 on the west and the Red Deer River on the north. Within this large area 15 birding trails are mapped out and described in detail.

The beautifully photographed Yellow-Breasted Chat on the cover of the guidebook gives just a hint of the birding treasures that are to be found in this corner of our province. Southeastern Alberta is our province's birding mecca for such species as Prairie Falcon, Burrowing Owl, Common Poorwill, Ferruginous Hawk, Sage Grouse, Spotted Towhee, Loggerhead Shrike, Mountain Plover, Bullock's Oriole, Brown Thrasher, Rock Wren, Say's Phoebe, Sprague's Pipit and a host of prairie sparrows too numerous to name here.



Society of Grassland Naturalists

Copies of this lovely illustrated guidebook are now being distributed across the country and in parts of the U.S. They can be found in local nature interpretive centers and museum gift shops. This new publication is also available on the Society of Grasslands Naturalists website, www.natureline.info/gn by following the links.

This same committee of birders is previously responsible for the publication of "Southeastern Alberta Bird Checklist" which indicates the relative abundance of 347 species that have been identified in this region of our province. The two publications together give every visiting birder all the info they need to track down their most sought-after species and hopefully prevent them from getting lost on some pretty remote prairie wilderness roads!

In Memoriam

Fred Schutz 1920 – 2019

Fred Schutz was born in Trochu, Alberta on Oct 14, 1920. In 1922 he moved with his parents to the Blindman River Valley and the homestead where he would live for the next 70 years.

He never wanted to be a farmer (he thought he would likely become a biologist or a geologist or an archeologist), but the Second World War changed his life forever when

the RCAF turned him down because of his poor eyesight. Fred stayed home and worked on the farm until he retired in 1974.

Fred had many hobbies and interests, including collecting antiques and artifacts, photography, birdwatching, astronomy, and writing. He was an avid reader and was an authority on nature, wildlife, geology and history. He loved

adventure and traveling and visited many places including Africa, Australia, India, Cuba, Iceland, Russia, Turkey, and every province and territory in Canada.

Fred was an author and columnist. He started the column "*West of the Blindman*" in 1954 and it ran weekly in the Rimbey Record until 1997 – a span of 43 years. Then it ran monthly in the Blindman



Valley Horizon from 1998 to 2007. Fred wrote several books including *Pas-ka-poo: an Early History of Rimbey and the Upper Blindman Valley*; *Hog Pool: A History of the Blindman Valley Shipping Association Cooperative*; *The Life and Times of Charlie Schutz*; *John Christian Hinrichsen – A Little Ahead of His Time*; *Not So Long Ago: Adventures with Notebook and Camera*; and *Seventy Years on the Homestead, a Memoir*.

He was the recipient of several prestigious awards including: *the Owl Award* from the Red Deer River Naturalists in the year 2000 for his

significant contributions to that organization for over three decades, *the Loran L. Goulden Memorial Award (1984)* for his contribution to the preservation of natural history, and *the Cadogan Award* for outstanding columnist in a Canadian weekly Newspaper in 1989. In 2002, the Historical Society of Alberta recognized Fred for his outstanding contribution to Alberta History for over half a century.

He was a founding director of the *Ellis Bird Farm*, a member of the *Red Deer River Naturalists*, the *Bluffton Agricultural Society*, the *Beatty*

Heritage House Society, the *Rimbey Rockhounds*, the *Alberta Natural History Society*, and the *Rimbey Historical Society*, and was instrumental in the opening of *Pas-ka-poo Park and Museum*.

In 1993 Fred moved to Rimbey where he resided until his death on March 27, 2019. Fred loved to learn and he loved to teach. We will miss his stories, his wealth of knowledge and his companionship. We will miss him.

MORE ABOUT FRED, FROM ROD

BY ROD TRENTHAM

A polymath with an insatiable curiosity about people and the natural world and a compulsive explainer - like all good teachers - as he dispersed widely his reflections and analysis.

He knew and met so many people: like eating Canada Goose with Dr. William Rowan, Zoologist at University

of Alberta, Fred asked him how he came to have that? Well, he was out with the Game Warden and they found this fellow poaching, so after confiscating his guns and the geese they shared the spoils.

Fred was familiar with his light cages with Crows that hung from the High Level. Dr. Rowan was the International

Expert on what triggers birds to migrate. He told me quite a story about Sam Rimbey (the town is named after him) but it is a little sacrilegious for such a gathering.

Telling stories until the end with a mind that was razor sharp.



Lending a Helping Hand: Abandoned Farmyards

BY MYRNA PEARMAN

In my last column, I described how abandoned buildings provide important sources of shelter for various species of wildlife. Creatures - from insects and vultures to swallows and Skunks - will take up residence in, beneath or on old buildings.

Critical wildlife habitat is also provided by the abandoned farmyards in which these buildings are/were located. Even if the buildings have long since disappeared, or have been reduced to wood or concrete rubble, the yards themselves are remnants of once larger native

ecosystems. Many were planted with shelterbelt trees that now even in old age provide food and shelter for a variety of wildlife species.

Nowhere are abandoned farmyards more important, and vanishing more rapidly, than across the prairies. Although there are also many abandoned farmsteads in the parkland and boreal forest regions of Alberta, Saskatchewan and Manitoba, it is on the native grasslands where these critical refugia are disappearing at an alarming rate.

Over the years, I have made many trips to visit family in Saskatchewan. When time permits, I take the backroads. Sadly, rare has been the trip when I haven't witnessed yet another abandoned farmstead plowed under to make way for yet another canola field.

The images shown here are a few of the species that I've documented and photographed around and on abandoned farmyards in southeastern Alberta and southwestern Saskatchewan.

Myrna is a very well-known author, photographer, biologist and naturalist. She is the Biologist and Site Services Manager at Ellis Bird Farm (ellisbirdfarm.ca). She can be reached at mpearman@ellisbirdfarm.ca.



RED FOX KITS. MYRNA PEARMAN



SHARP-TAILED GROUSE. MYRNA PEARMAN

EASTERN KINGBIRDS. MYRNA PEARMAN





WOODCHUCK. MYRNA PEARMAN

YOUNG FERRUGINOUS HAWKS STANDING IN THE NEST. MYRNA PEARMAN



LOGGERHEAD SHRIKE. MYRNA PEARMAN





COMMON GRACKLE. MYRNA PEARMAN



VESPER SPARROW. MYRNA PEARMAN



LARK SPARROW. MYRNA PEARMAN



COMMON NIGHTHAWK. MYRNA PEARMAN



Brook Skagen



Eyes on IBAs

Conserving Birds for Alberta's Watersheds

BY BROOK SKAGEN

Birding and watershed management are soon coming together in Alberta's Important Bird and Biodiversity Areas (IBAs) with the assistance of the Battle River Watershed Alliance.

A recent recipient of Nature Canada's IBA engagement fund, the Battle River Watershed Alliance (BRWA) is one of 11 Watershed Planning and Advisory Councils (WPACs) operating in the province.

As a WPAC, the alliance has contributed to watershed management planning, public education and outreach, community events, and stewardship activities within

both the Battle River and Sounding Creek watersheds of south-central Alberta. The BRWA has been operating out of Camrose for 13 years.

The BRWA has recently joined the IBA program as a new member of Nature Canada's NatureNetwork, with the goal of becoming more engaged with "on the ground" conservation and stewardship initiatives. The alliance first plans to monitor the Bellshill

Lake IBA in partnership with the nearby Loughheed Colony School. This partnership will be a win-win for stewardship, as the students will learn about their watershed, develop valuable wildlife identification skills, and have fun exploring the shoreline and marshes of Bellshill Lake, all while contributing to bird conservation in their area.

Watershed management and bird conservation go hand in



To learn more about the BRWA or how you can get involved, visit their page at: <https://www.battleriverwatershed.ca/> Or, <https://www.facebook.com/BattleRiverWatershed/>

If you would like to learn more about becoming an IBA Caretaker in your area, please visit: https://www.ibacanada.org/care_what.jsp?lang=EN

THE PIPING PLOVER IS ONE OF MANY SPECIES AT RISK THAT CAN BENEFIT FROM EFFECTIVE WATERSHED MANAGEMENT. WIKIPEDIA 2019



PIPING PLOVER. ISTOCKPHOTO.COM

hand, as demonstrated by the federally Endangered Piping Plover (*Charadrius melodus*). Piping Plover numbers have been shown to greatly fluctuate with water levels within the Sounding Creek IBA, as water is drawn from the lake for irrigation and other uses. As the shoreline rises and falls with the water demand, so too does the availability of mudflats that the species relies on for nesting and foraging.

Conservation-minded management of Alberta's water resources plays a significant role in maintaining the province's biodiversity. In turn, biodiversity positively contributes to the functioning of a watershed by maintaining the health and stability of stream banks, retaining water, preventing flooding, and providing us with recreational opportunities.

May of 2019 marks the start of the BRWA's multi-year IBA

caretaking initiative. The Alliance plans to utilise its first year with the IBA program assessing the accessibility and determining its role in monitoring Bellshill Lake and other IBAs in the Camrose area, with a caretaking plan to be developed in the coming years. During this time, the BRWA will be seeking out volunteers to participate in the IBA initiative and other stewardship programs.



SNOW GEESE MIGRATE IN POTENTIALLY MASSIVE FLOCKS FROM THEIR NESTING GROUNDS IN THE ARCTIC. JIM BROHMAN

How Birds Find Their Way During Migration and Homing

BY JIM BROHMAN

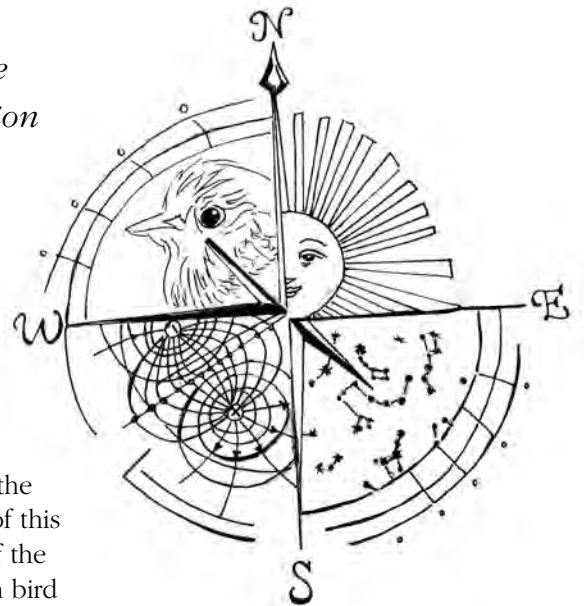
Seasonal migration allows for birds to effectively utilize resources in different climatic zones. However, migration flights take place over thousands of energy-demanding kilometers often over open oceans and often at night, so mortality rates are high.

Yet despite all the perils associated with long-distance migration, birds still find their way to the wintering and nesting grounds with tremendous precision allowing them to return year after year ⁽¹⁾.

How birds find their way has been an area of intense research for decades. Homing pigeons have served as important test subjects in many studies on bird navigation

because they have an innate ability to return to their home loft over hundreds of kilometers despite having never visited the release site ⁽¹⁾! The purpose of this article is to highlight some of the pertinent research findings in bird orientation and navigation.

The scientific literature differentiates two separate processes on the topic of how birds find their way: orientation and navigation. Orientation



means that the bird knows what direction to follow (whether to the nesting grounds, wintering grounds or loft) (the so called “map” feature) and is thought to be a function of the hippocampus region of the brain ⁽²⁾ (the hippocampus, located below the cortex, plays important roles in memory and navigation) ⁽³⁾. Navigation means that the bird knows *how* to find its way home (the so called “compass” feature). The current thinking is that birds use a number of *interplaying*

mechanisms to navigate and include utilizing:

- Visual landmarks
- Geomagnetic cues
- Olfaction, and
- Celestial navigation (Sun and Stars)⁽⁴⁾.

Despite over 40 years of research there is still limited knowledge on *how* the above mechanisms come into play.

The homing pigeon, the racing version of the domestic pigeon (*Columba domestica*)

selectively bred for racing, can use the earth’s magnetic field to perceive direction, altitude or location as part of their complex homing system (1,2). Homing pigeons have been known to home back to their loft at distances greater than 700km from an unfamiliar location without any cues on the outward journey ⁽²⁾. This remarkable ability is present in juvenile birds (first year birds) (although they follow an indirect route) but directionality improves dramatically by the second year ⁽⁵⁾.

WHIMBRELS FLY HUGE DISTANCES IN MIGRATION: AS FAR SOUTH AS SOUTHERN CHILE AND THE GALAPAGOS ISLANDS. JIM BROHMAN



It has been suggested that this improvement in homing performance is due to enhanced complexity of the navigation system (ability to utilize the various mechanisms of navigation) ⁽⁵⁾. The organelles that detect the earth's magnetic fields have not been identified to date (originally it was thought to be in the upper bill, but that theory has recently been disproved) ⁽⁶⁾. Besides navigating by using cues from the earth's magnetic forces, work by other scientists suggests that pigeons orientate themselves using atmospheric odors (olfactory navigation) ⁽¹⁾ and utilizing familiar landmarks as they near the loft ⁽²⁾.

Since migratory birds often undergo long-distance flights to the wintering and nesting grounds far exceeding distances flown by homing pigeons, this suggests differences in their homing mechanism ⁽⁷⁾. In contrast to the navigational mechanisms found in experienced birds, first time migrants flying to the wintering grounds in

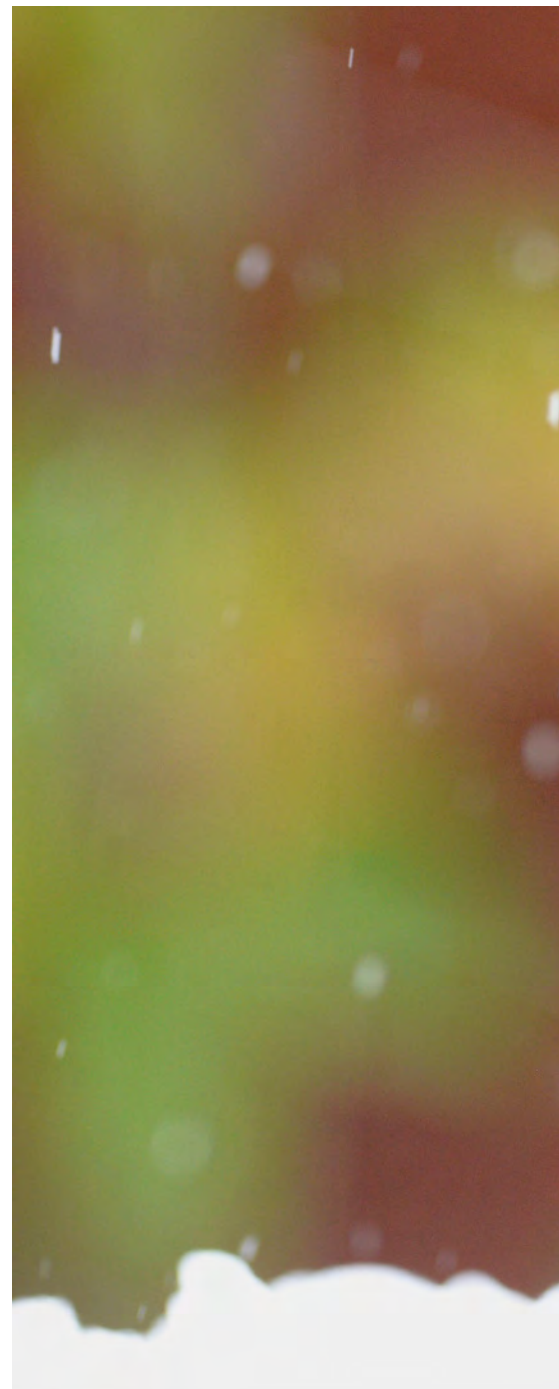
the *absence* of their parents are generally assumed to have a genetically encoded program providing them with information on direction and distance to the nesting grounds ⁽⁷⁾. Navigation information gleaned during the initial migratory flight allows them to home back to the known breeding area ⁽³⁾. Experienced birds likely use magnoreception, olfactory navigation, and possibly celestial navigation ⁽⁷⁾.

Determining how long-distance migratory birds employ navigational systems during migration has remained a mystery. With the onset of miniature avian tracking systems, this *may* help understand how the navigational mechanisms are utilized. Information will be forthcoming on migratory routes, velocity, weather, landforms, and time of day. Future studies in the natural setting should benefit the scientific body of knowledge gleaned in the laboratory to date.

References

- (1) Gagliardo, A: Forty years of olfactory navigation in birds. *Journal of Experimental Biology* 217:2165-2171, 2013.
- (2) Mehlhorn, J. et al: The orientation of homing pigeons with and without navigational experience in a two dimensional environment. *Plos-one* 12 (11) 1-13 2017.

THE PIGEON MAY BE A COMMON BIRD, BUT THE "HOMING" VARIETY HAS "AN INNATE ABILITY TO RETURN TO THEIR HOME LOFT OVER HUNDREDS OF KILOMETERS DESPITE HAVING NEVER VISITED THE RELEASE SITE." JIM BROHMAN



- (3) Muheim R. et al: Feasibility of sun and magnetic compass mechanisms in avian long-distance migration *Mov Ecology* 6:8 2018.
- (4) Schniffyer, R: Development of the Navigation System in homing pigeons: increase in complexity of the navigational map. *Journal of Experimental Biology* 216:2675-2681, 2013.
- (5) Treiber C. et al: Clusters of iron-rich cells in the upper beak of pigeons are macrophage not magnetosensitive neurons. *Nature* 484 367-370 2012.
- (6) Kasper t.et al: The bird GPS- long range navigation in migrants. *Journal of Experimental Biology* 212:3597-3604, 2009.
- (7) Guilford, T. et al: Migratory navigation in birds: new opportunities in era of fast-developing tracking technology. *Journal Of Experimental Biology* 214, 3705-3712, 2011.



FEATURE ARTICLE

‘A Modest Proposal’ for Alberta’s Caribou?

BY LORNE FITCH, P. BIOL.

Caribou populations are cratering in Alberta; this is evident even to the congenitally imperceptive amongst us. As we prevaricate, mumble, delay and equivocate, a day of reckoning approaches, morally, legally and financially. What do we do about caribou?

Alberta has a natural resources inventory, bequeathed to us from the federal government under the Natural Resources Transfer Agreement of 1930. Among other things this transfer included fish, wildlife, native plants and their habitats. I suppose it was implicit in the agreement we, as a province, would look after these natural resource treasures.

Subsequent agreements committed the province to protect and maintain biodiversity (i.e. National Wildlife Policy, 1990; United Nations Convention on Biodiversity, 1992; Canadian Biodiversity Strategy, 1995; Alberta’s Commitment to Sustainable Resource and Environmental Management, 1999; Responsible Actions, 2009). The federal government has been clear about these responsibilities at the same time as

being complicit in enjoying rents, royalties and taxes from resource exploitation.

Every bureaucracy has a process for acquiring things and then for writing things off, when an inventory item is outdated, redundant, broken or lost. It keeps things in balance to have such a system, an accounting of sorts.

In hundreds of bathrooms, outdoor privies and in many offices hangs a plaque with the pithy little saying: “*The job isn’t finished until the paperwork is done.*” Indeed!

When we have failed to care for our inventory of biodiversity, as evidenced by declines and losses of Caribou, Grizzly Bears, Bull Trout, Cutthroat Trout, Arctic Grayling, Athabasca Rainbow Trout, Greater Sage Grouse and a host of others, the paperwork is incomplete.

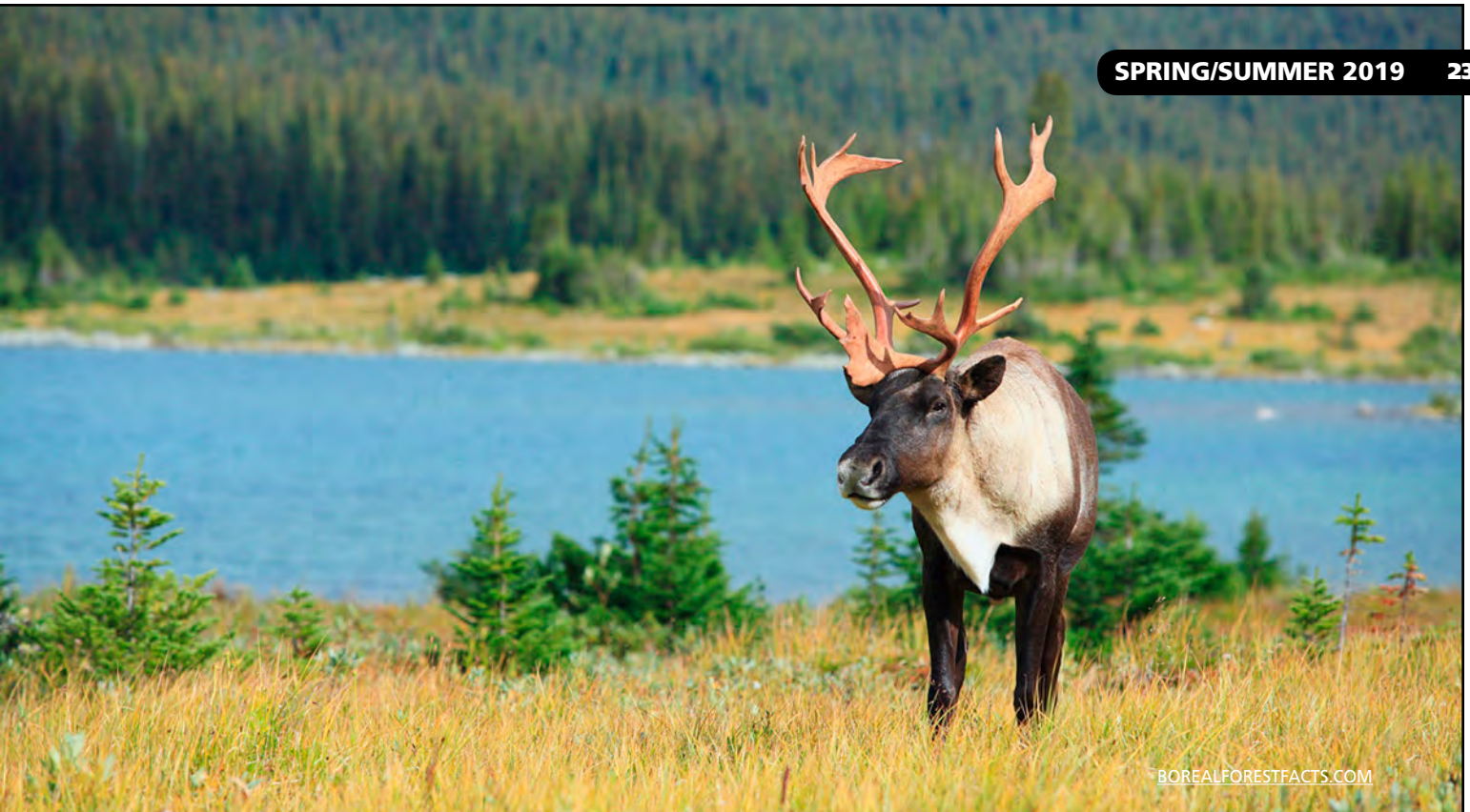
Are we at a point for Caribou where we have run them out of options since we can’t, or won’t entertain a change in our business as usual mentality? Maybe it’s time to own up to the reality we are unable to maintain Caribou and finalize the paperwork.

A MODEST PROPOSAL FOR PREVENTING CARIBOU FROM BEING A BURDEN ON INDUSTRY, CORPORATIONS AND THE GOVERNMENT AND MAKING THEIR HABITAT MORE FINANCIALLY BENEFICIAL TO THE PUBLIC.

Sometimes we can have our cake and eat it too, but we cannot, it seems, have Caribou and logging, oil and gas, roads and other developments in the same time and space. So let’s just say it — cash trumps Caribou. If we recognize and endorse the compulsive overvaluation of one segment of the economy over another, the undervalued segment (i.e. Caribou) will diminish and disappear.



Lorne Fitch is a Professional Biologist, a retired Fish and Wildlife Biologist and an Adjunct Professor with the University of Calgary.



BOREALFORESTFACTS.COM

Wouldn't it be simpler and more honest just to say, openly and categorically: Caribou stand in the way of progress? They will have to join the Bison herds, Swift Fox, Greater Prairie Chicken, Plains Grizzly, plus tracts of native prairie and aspen parkland. We must maintain the economic engines that give us our good life, even if it is an unexamined one.

As a competent bureaucracy the Alberta government has forms for nearly everything, included the FIN 37. A FIN 37 allows one to write off an inventory item, squaring the books. So, let's get on with finalizing the paperwork on Caribou, completing the "write-off" forms, paving the way for expanded economic activity in Caribou range.

Write-off forms can be quite simple to complete. A FIN 37 needs only the following information:

When inventory was acquired: Caribou would have been acquired, from the Federal government, in the Natural Resources Transfer Act (Alberta) of 1930. This is described as "*An Act respecting the transfer of the natural resources of Alberta*"; presumably this included Caribou, along with oil, gas, minerals, timber and the like.

How many received: The population numbers are unknown, but Caribou were common from the US border to the Northwest Territory border, with the exception of the grassland and the aspen parkland.

Description: Caribou are medium sized members of the deer family, both sexes have antlers and have boreal and mountain "*ecotypes*." Caribou are featured on our 25-cent piece and are closely related

to Reindeer, known by many children as the species that pull Santa's sleigh on Christmas Eve.

Reason for write-off: Economic interests supersede ecological values; cumulative effects make maintenance of existing herds expensive, complicated and onerous; we have already gone too far with development (and commitments to industry) and the prognosis is that Caribou will disappear shortly; and, not enough people care about Caribou to matter.

Following this information, there needs to be a signature, probably from the premier of Alberta, and a copy must be sent to the prime minister of Canada. The paperwork is done, and business can get on without another impediment.

Imagine the money we will save by not having to control Wolves,



LU CARBYN

fence in pregnant Caribou cows, fly inventories to catalogue the demise, hold meetings to discuss how little we need to do (and are doing), restore the linear footprint of old seismic trails, eliminate restrictive speed limits on resource roads, and employ biologists who have no hope, under the current economic regime, of saving Caribou.

Economic moralists will tell us that to mourn the loss of Caribou is just nostalgia. They would have disappeared anyway. Our lives will not be diminished with their demise. Put up a monument, with an image of a Caribou in bronze. We could have a little hand-wringing ceremony at the monument's unveiling, where the champions of industry and government could wipe away a few false tears over the Caribou's demise. It might seem momentarily hypocritical but then we could get on with the important things of converting our landscapes and natural resources into tangible, fungible symbols of prosperity.

Now, lest you think I'm serious, Jonathan Swift wrote about a similar seemingly intractable problem in Ireland

in a pamphlet in 1729 entitled "*A Modest Proposal for preventing the Children of Poor People from being a Burden to their Parents or Country, and For making them Beneficial*"

to the Publick", commonly referred to as "*A Modest Proposal*". In it Swift suggests the poverty-stricken Irish might ease their economic troubles by selling their surplus children as food for purchase by the richer class of society. He points out that this "*will not be liable to the least objection.*"

Of course, the proposition to raise children to feed rich people is (and was) morally reprehensible. Swift's use of satire was meant to focus on why such stark poverty, reducing people to situations of basic survival, existed in the Ireland of the day. Swift recognized the utility of satire is to rock people out of their complacency and to get them mad enough to do something about a dire situation.

It is the same for Albertans and Caribou. We continue to be deluded that all our problems will have solutions — that our pace of development will continue, and we can salvage some vestiges of biodiversity. The mantra is we can have it all and it is simply a wait for the

technology that will allow us to erase our footprint. This is just cynical public relations to calm the environmentalists.

WHAT DOES "SPECIES AT RISK" MEAN TO A SPECIES AT RISK?

It might be helpful to think of species at risk designated as "threatened" or "endangered" in the same context as a fire alarm signalling an impending disaster. The difference between the two in Alberta is that when the alarm is sounded for a species, we don't send out the fire truck. Instead we begin a glacially slow, ponderously bureaucratic, unnecessarily methodical process of deciding if the fire is really burning, how bright the flames are, whether we agree the fire is significant and if putting out the fire might unduly impact economic development.

By the time we respond, if we do at all, the fire consuming a species in trouble has become a conflagration, with limited control ability. Onto the blaze we bravely pile status reports, recovery plans, management

*If Caribou matter, if enough Albertans say
Caribou should continue to exist,
then the path is clear.*

plans and the minutes from endless meetings with "affected" parties, few of whom speak in favor of the imperiled species. Rarely does any water materialize from these delaying tactics to quell the fire.



BCFS

The recipe for the species recovery planning “cake” can be disheartening: Take a province and all that province means, with communities and caring people with compassion and a habit of helping one another — ignore all this, add too much money, crank up the economy, manage through ideology, ignore science, forget local interests, develop a slavish devotion to corporate interests — then shake, stir, and bake until ruined.

For Caribou there is a forest of paper, starting in the late 1970s, on management plans, status reports, designations (finally as “*threatened*”), operating guidelines for industry, restoration planning,

conservation strategies, and recovery plans, overseen by government, multi-stakeholder committees and task forces, aided by predation studies, multiple population inventories, linear feature assessments, radio telemetry providing tracking of populations and other research studies too numerous to mention.

To give credit where credit may be due, few other species in Alberta have had so much attention lavished on them. However, in the terse, clinical language of the last status report, “*caribou range is continuing to recede.*”

CARIBOU RECOVERY EFFORTS- ACTION, INERTIA OR FOOT-DRAGGING?

Aldo Leopold observed, “*It is important that the inventory [of imperiled species] represent not merely a protest of those privileged to think, but an agreement of those empowered to act.*” It would seem we have considerable talent in talking about the issue, but examples of action are harder to discern.



LU CARBYN



ALBERTA WILDERNESS ASSOCIATION

To lose the abundance of biodiversity in Alberta, within a century of our tenure, to the demands of the corporate world (and to disconnected shareholders) is comparable to gathering all the books from every library for shredding to relieve a temporary paper shortage.

A close examination of the situation with Caribou shows a progressive extirpation of Caribou from southwestern Alberta northward, over a 70-year timespan. Some of this extirpation is now lost to the collective memory. Where it is

remembered, the loss of Caribou is alternately blamed on Wolves, sometimes on hunting. If hunting was an issue, the season for Caribou ended [in Alberta] in 1981 and most First Nations have voluntarily stopped harvest. These are the only levers available to provincial biologists and First Nations peoples to deal with the plight of Caribou.

Rarely does it register that hunting and predation are proximate causes, and not the ultimate causes related to roading, industrial-scale logging, oil and gas exploration and development and sometimes fire.

A Caribou is a survivor, adapted to deep snow with large, crescent shaped hooves that act as snowshoes. A Caribou does not fear deep snow; with its large hooves and

long legs it floats over the stuff. It subsists, overwinter, on both terrestrial and arboreal lichens, themselves a product of old-growth forests.

Lichens grow slowly and so lose the race to other plants, except in old-growth, undisturbed forests. As the bulk of winter fuel for Caribou, a diet of lichens seems like a poor choice, but who are we to argue with the millennia of evolution and adaptive strategies? Selecting lichens allows Caribou to spatially separate themselves from other ungulates, like Moose and deer, reduce competition and, more importantly, avoid predation from Wolves.

Most important to Caribou survival is space, a mechanism to constantly provide habitat choice but also predator avoidance.



JULIE CARBYN

Our development footprint is extensive, pervasive and growing in Caribou habitat. As it grows, habitat for Caribou shrinks. Caribou, like most wildlife can shift ranges; but with fewer and fewer choices, the options are limited. Linear disturbances (e.g. roads, pipelines, powerlines, and seismic trails) and logged areas reduce habitat effectiveness substantially as Caribou avoid them and these features also allow predators, especially Wolves, to make inroads to previously “safe” areas.

Some, like an industry spokesman, have castigated the victim with: “*Caribou are too dumb to adapt to changing conditions.*” It is the start of a disturbing trend with imperiled species—blame the victim. If Cutthroat Trout weren’t so close to Rainbow Trout genetically, they wouldn’t be “threatened” now. If Caribou evolved faster to keep up with our footprint and Wolves, they would be prospering instead of disappearing. I wonder how well that spokesman would adapt if his clothes were taken away and he was dropped into a landscape without wheels, central heating and grocery stores, armed with only sharp sticks.

Our management and mitigation mechanisms are, on balance, somewhat half-hearted, given the dismal prognosis for Caribou. At best they are designed to buy time for Caribou; conversely, they may result in a waste of time and opportunity to deal with the overarching issues.



Predation became a problem with the creation of human-caused landscape changes; it is a response to industrial roading and habitat shifts from logging that favor deer and Moose. The shifts in habitat conditions, with more roads and a younger forest gives predators like Wolves an unnatural advantage over Caribou.

The confinement of pregnant Caribou cows behind a predator proof fence is an attempt to allow better recruitment to the population. It smacks of a desperate move, confining wild critters in a zoo-like enclosure. Rather than facilitating recovery, it distances us from allowing Caribou to regain a self-sustaining status throughout their range. Like many mitigation techniques, it fails to deal with the ultimate cause of Caribou declines, habitat loss from land use. It is the application of a band-aid to the limb of an amputee.

To deal with increased Wolf predation we have engaged in a draconian Wolf control program. To some the Wolf control program of poison, trapping and aerial

“When the situation was manageable it was neglected, and now that it is thoroughly out of hand, we apply too late the remedies which then might have effected a cure.”

gunning is cruel, unethical and ineffective. It puts provincial wildlife biologists in an intractable position, of trying to solve a problem that is, at its roots, economic, not biological. Sifting through the ocean with a fork to catch fish might be easier.

The dilemma is viewed as a population problem when, in reality, it is a habitat problem. The issue isn’t just about a population goal at a point in time; it’s whether there is enough habitat to sustain a population that is large enough to be viable into the future. If we give up on conserving the forests where



Caribou live, we have given up on Caribou.

Solving the complex issues of habitat fragmentation, cumulative effects, climate change, carrying capacity, amount of remaining, intact old growth forest and the space requirements of Caribou may have more to do with saving Caribou than the stop-gap measure of Wolf control.

It comes down to an economic question: Of the billions, trillions or gazillions of dollars of potential wealth in natural gas, oil and bitumen, less so in timber, are we, as a civilized society willing to forgo, delay or reduce our expectations of short term financial return in favor of Caribou and their habitat?

Natural gas, oil and bitumen are not a commodity, like potatoes, that will go bad if left in the ground. Past administrations, especially the Klein government, stepped aside from interfering

in the industry, letting them set the tone for the pace and extent of extraction. The former Notley government seemed more inclined toward the original Lougheed model, of government setting the tone and tenor for industry. Always the visionary, the late Peter Lougheed called for a slow and measured rate of resource extraction, not the gold-rush mentality of the past few decades. Caribou might have appreciated a slower rate of incursion into their habitat.

For forest management, the policy of Forest Management Agreements—giving control of the forest to multi-nationals—has come back to haunt us, Caribou being but one example. Logging is based on mill capacity, not the needs of Caribou. Forests are a commodity and that commodity needs to be harvested before it goes bad. Old-growth forests with ancient trees festooned with lichens, essential Caribou habitat,

are just dimensional lumber temporarily standing.

A government biologist, in a moment of candor, remarked, *“Logging doesn’t allow for suitable amounts and spatial distribution of appropriate age classes to permit long-term conservation.”* In effect, Caribou have lost and continue to lose the necessary large tracts of old growth forest, carpeted with lichens and constituting the moat of space to reduce predation. The endgame, or, the end-of-the-game for Caribou is the continuation of current industrial scale logging. Without an aggressive forest conservation strategy there is no Caribou habitat and hence, no Caribou.

Only three of Alberta’s identified herds of Caribou are deemed *“stable,”* whatever the term means. Some have winked out of existence, even in our National Parks. Most herds are plummeting, with population graphs that resemble children’s slides, all downhill. Herds are now largely isolated from one another on diminishing islands of habitat. Where we are at, given all of the work on population status, with most herds, is a very strong sense Caribou are in a slow race to oblivion in Alberta. Maintaining the land use status quo means the extirpation of Caribou, in a relatively short time frame.

Where does this leave Caribou, or, how fast will Caribou leave us? It is a matter of will and choice. If Caribou matter, if enough Albertans say Caribou should continue to exist, then the path is clear. We will surrender some of the economic engine operating

in the foothills and boreal forest, or at least delay the payback period. But we need to decide, not simply delay, defray and drag out the decision. For too long, with so many species the answer was more study, more monitoring, more stop gap measures.

As Winston Churchill observed, *“When the situation was manageable it was neglected, and now that it is thoroughly out of hand, we apply too late the remedies which then might have effected a cure.”*

Alberta has to come clean because we can't have it both ways, have our caribou and eat their habitat with industrial development too.

CHOICES FOR CARIBOU AND A TEST FOR US?

The World's Doomsday Clock is currently ticking at two and a half minutes to midnight, signalling our potential end in a blinding flash of nuclear explosions. Caribou in Alberta are closer yet to the chiming of midnight and the signal we have erased them and millennia of years of their existence.

John Steinbeck wrote the following and although he didn't mention Caribou, they are implicit in his description:

“We in the United States have done so much to destroy our own resources, our timber, our land, our fishes that we should be taken as a horrible example and our methods avoided by any government and people enlightened enough to envision a continuing economy. With our own resources we have



PEMBINA INSTITUTE

been prodigal, and our country will not soon lose the scars of our grasping stupidity.”

Northrup Frye made a similar observation, that Canada is a land of ruins. Harsh examination, but our history is a procession of leave takings. We find a place, use it up and move on. This is no more evident than is shown in an examination of biodiversity resources, both nationally and provincially. If we acknowledge our history, of prioritizing economic development and reflect on the cost of that choice, there is an alternate future to the modest proposal for Caribou.

Caribou are like canaries with antlers. They are the flag ship species of the boreal forest and the northern foothills, serving as sentinels marking the changes brought about by the pace and expanding footprint of our economic aspirations.

Death is the name for a landscape or a creature ignored; the future existence of Caribou is a test of our commitment to maintaining our biodiversity inventory. For the protection and recovery of Caribou, hard but not impossible choices await.

Saving Caribou is more than a political decision, one that corporate interests also have to make, and one in which we Albertans have to share. We are all responsible for Caribou, through legislation, policy commitment and the ethics of responsible stewardship. No default to a FIN 37 is permissible.

We can neither agree to write off the species, either directly or through benign neglect, any more than Jonathan Swift would have agreed to the implementation of his modest proposal. At the heart of this, we are the trustees of a living thing.

First Hand: The Prodigal Duckling

BY GLEN HVENEGAARD

I was visiting friends, Tom and Evva Tomaszewski, who have a beautiful home overlooking Duggan Pond, in Camrose, Alberta. There are views of two Purple Martin nest box condominiums, a swallow nest box, and a floating duck platform from their patio and porch.

I had spent the morning with them, my son Carson, and assistant Frida capturing and banding Purple Martins for a research project on migration.



THE FEMALE COMMON GOLDENEYE WITH HER YOUNG IN THE NEST. MYRNA PEARMAN

Tom eagerly told us that a Common Goldeneye had made its home in a nest box on a neighbor's property. We were excited and intrigued. Tom had seen lots of activity there in recent days and expected the eggs to be hatched, or hatch soon.

Goldeneyes typically nest in old woodpecker cavities in larger trees, but also nest in human built nest boxes mounted a few meters up a trunk of a large tree. After hatching, the young hatchlings soon jump out of their box, land on the ground, and follow their

mom to the water. Tom had recently seen a mother goldeneye with more than 10 ducklings and thought that this might be the same family. While we were talking, he suggested that we go check on the box to make sure that the ducklings had indeed hatched and fledged and to see if any eggs were leftover, which we heartily agreed to. Since I was taller, I opened the hinged lid to reach in and feel for eggs.

At first, all I felt were broken eggshells, but as I readjusted my position and reached further to the back, I felt something soft. A duckling was left behind. Normally, the mother sits on the ground below the nest box and calls for her chicks to jump out to join her for the march toward water. Apparently, all but one of the ducklings were successful. I gently picked-up the duckling and we headed back to Tom's place to decide what to do. First, we looked around Duggan



GOLDENEYE YOUNG LEAP FROM THE BOX, AS THIS DUCKLING IS DOING, AND FLOAT TO THE GROUND. FOR WHATEVER REASON, THE "PRODIGAL DUCKLING" DID NOT. MYRNA PEARMAN

Pond for any goldeneye families, but did not find any.

Tom thought he had seen some ducks travelling from Duggan Pond to a wetland about 300 m north. We decided to drive the little duckling over there. Our group parked and walked up to the shoreline. At first look there didn't appear to be any goldeneye family groups there either. But on a hunch, we thought that maybe the family had sought shelter in the cattails and shoreline vegetation. Tom and Frida waited with the duckling while Carson walked the shoreline in one direction and I walked the other way. We made noises as we walked to flush-out any families in the vegetation into view in the middle of the pond. Both of us had almost given up hope as we neared each other on the opposite side when Carson flushed out a goldeneye family.

Tom and Frida noticed the group right away and that it matched the goldeneye family Tom had described of a mother with over 10 ducklings. Knowing that young goldeneye ducklings are resilient (they jump from nests in tall trees, after all), Tom mimicked the jump exit from the nest box by gently tossing the young duckling towards its family. The duckling didn't get far and swam back to the safety of the shore. By this time, Carson and I were back with Tom and Frida to consider our options.

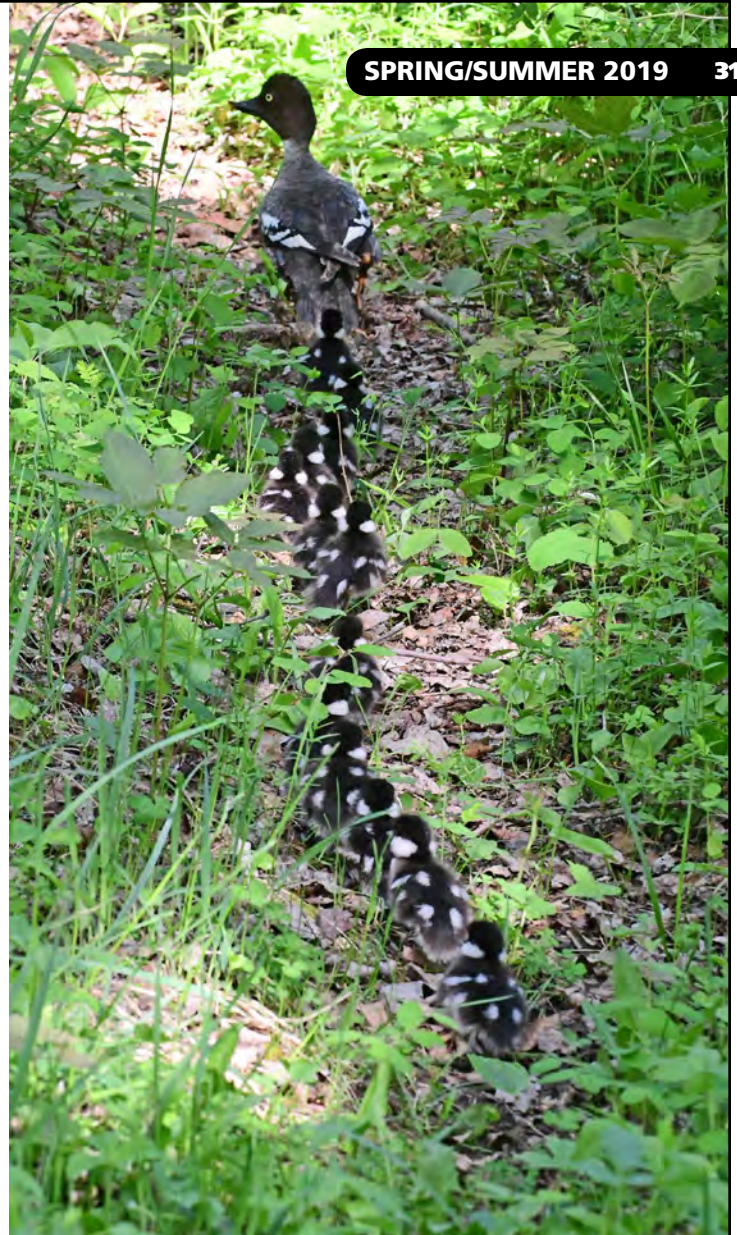
The family was now in full view of all of us and we hoped the duckling could see them too. This time, Tom got into a better position, and was able to toss the duckling closer to its family. Fortunately, the duckling started

chirping after it landed on the water and the mother goldeneye, upon hearing the duckling, started calling to it. Somehow the duckling was able to summon enough energy to overcome the stress from being handled by people, separated from its family, and food deprived for a day to quickly speed toward its family. Simultaneously, the mother left her brood of ducklings and swam quickly to her lost duckling. The chirping continued as the duckling hopped on the mother's back and they swam back to the others. There was a large swarm as the lost duckling and its siblings swam around each other, scrambled around their mother, and onto their mother's back.

What an amazing experience! Seeing the mother, siblings, and lost duckling reunited reminded us of the story of the prodigal son's return. We were very excited to find the lost duckling in its nest box, but it was even more exhilarating to

watch and be a part of the reunion of the duckling and its family. The mother and duckling appeared to almost coast on top of the water as they quickly made their way to each other. We were amazed at the energy and excitement displayed by the family at the reunion. Nature can be resilient and very impressive to watch.

Thanks to Kiva Olson, Garrett Rawleigh, and Dylan Hall for helpful writing feedback.



ONCE THEY ARE ALL ON THE GROUND, THE MOTHER LEADS THEM TO WATER. MYRNA PEARMAN



Up Close Naturally:

CRAB SPIDER. WIKIPEDIA

Along Came a Spider

BY MARGOT HERVIEUX

Among the many creatures that are very active now that spring is here are spiders. These important insect predators abound in our woods and fields; in fact, whenever you head outdoors you are likely within a meter of a spider.

One of my favourite groups of spiders is the wolf spiders. These large, brown or black hunters run down their prey instead of spinning a web.

They are frequently seen racing across open areas including the occasional basement floor.

Wolf spider mothers are very caring parents. The females attach their egg sacks to their abdomen, making the spiders look larger and whiter than they really are. When the babies hatch in mid-summer, they will continue to ride around on their mothers for a few weeks until they are large enough to head out on their own.

Another fascinating family of spiders is the jumping spiders. They are also active hunters, lying in wait to pounce on passing insects. They see very well out of their four pairs of eyes and can leap many times their own body length. Jumping spiders don't spin webs but they do run out a line of silk behind them to serve as a safety line if they miss a jump.

As the first spring flowers bloom, watch the blossoms for crab



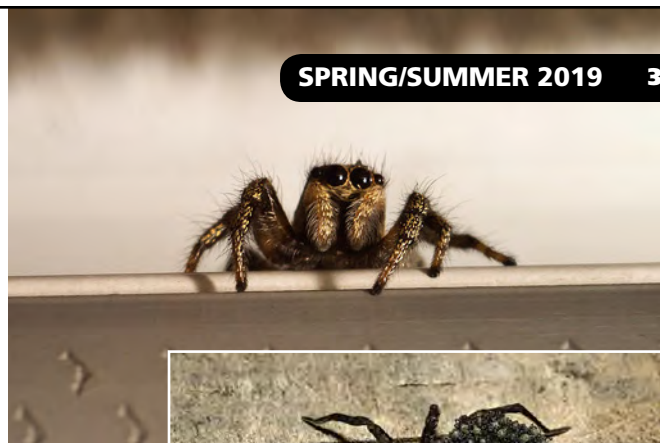
Margot also writes a column for the Peace Country Sun, archived copies of which are available at www.peacecountrysun.com.

spiders. As the name suggests, these spiders have long legs and a crab-like shape. Our most common species is either yellow or white. Crab spiders ambush their prey by hiding on flowers and I often find them on my daffodils or on wild roses. If you notice a butterfly or bee that is unusually still, look closely for the spider that may be holding on while it sucks the body dry.

All spiders produce small amounts of venom, but few have large enough mouthparts to pierce human skin. Spider fangs move up and down rather than side to side and a bite will show the twin marks of the mandibles. Usually the site will just swell up like a mosquito bite but occasionally there are more serious effects. We often blame bug bites on spiders because they are common and visible but most of the bites we

get are caused by a variety of biting flies.

Spiders may not be popular with everyone but they play an important role in ecosystems around the globe. An individual spider can eat four kilograms of insects in a year and spiders feed a wide variety of birds, small mammals and even fish. The next time you spot a spider, suppress those negative feelings and take a few minutes to watch one of these fascinating creatures as it does what comes naturally.



WOLF SPIDER CARRYING YOUNG ON ITS BACK.

THOUGHTCO.COM



THE CRAB SPIDER IS ALSO KNOWN AS THE GOLDENROD SPIDER. TALUSPLANET.NET

Advertising in *Nature Alberta*

Nature Alberta is now accepting a limited number of advertisements for future issues. Ad rates vary from \$35 (business card size) to \$249 (full page), X2 for colour.

Full details, including rates and sizes, are available at:



online: www.naturealberta.ca

email: na@naturealberta.ca

phone: (780) 427 – 8124

Organisms Underfoot!

The Importance of Biological Soil Crusts

BY VARINA CRISFIELD (REPRINTED FROM IRIS NO. 65, APRIL 2011)

When hiking in the mountains, have you ever thought about what organisms might be underfoot?

While wildflowers capture our attention with their bright colours, there are smaller, less eye-catching organisms that form communities on the soil surface known as biological soil crusts. Though unremarkable at first glance, soil crusts are vital to the health of the alpine meadows we hike through.

What are biological soil crusts? In certain ecosystems, especially deserts and tundra, soil surfaces are often coated with a soil crust. Also known as cryptogamic, microbiotic, or cryptobiotic crusts, these soil crusts are made up of a number of different types of living organisms, including mosses, lichens, fungi, bacteria, and algae. Soil crusts have a number of important ecological functions. First, the blue-green algae (cyanobacteria) that are often present in these crusts fix nitrogen, which enriches the underlying soil. Second, soil crusts increase soil infiltration capacity, allowing more water to reach plant roots. They can also moderate soil temperatures, either increasing or decreasing the temperature of the soil

surface depending on the colour of the crust (light-coloured crusts cool the soil surface, while dark crusts warm it). Finally, soil crusts anchor the underlying soil and help to prevent erosion.

What do biological soil crusts look like? At a glance, soil crusts look much like dirt: they are often dull-coloured and have a slightly lumpy, nondescript appearance. Though, if you remove a small bit of crust, you'll notice that, unlike soil, the crust is actually quite filamentous. These filaments help to hold the crust together and anchor it to the soil (and, as a result, help to anchor the soil against erosion).

Humans impact on biological soil crusts. Despite their ecological importance, there is very little awareness of our impact on biological soil crusts in the Canadian Rockies. Soil crusts in deserts in the American Southwest have been found to be very sensitive to trampling (by hikers or by livestock, for example). As a result, many conservation campaigns have

been undertaken to encourage tourists to remain on established trails in order to protect these fragile ecosystems and to avoid the loss of soil through widespread crust degradation and soil erosion. These campaigns have been quite successful.

Unfortunately, there appears to be little awareness of soil crusts by recreational users in the Canadian Rockies, and because soil crusts are nondescript and can easily be mistaken for mineral soil, education campaigns are likely necessary to increase hiker awareness of soil crusts in the Rocky Mountains.

SOIL CRUST ON ALPINE TUNDRA AT CAVELL MEADOWS, JASPER NATIONAL PARK. V. CRISFIELD





"...UNREMARKABLE AT FIRST GLANCE, SOIL CRUSTS ARE VITAL..." WIKIPEDIA

How can you help? Increasing public awareness about soil biological crusts is an important part of ensuring the sustainability of recreational activities, such as hiking, in the Canadian Rockies. You can help by educating yourself, as well as your friends and families, about these unique communities. Staying on the trail in alpine areas will help to conserve trailside soil crust, which in turn can help to prevent trail soil erosion and trail widening.

If you do wander off-trail with others, walking abreast rather than single file is recommended as it spreads out and dilutes the impact of trampling. When in protected alpine areas, be sure to respect the regulations that park managers have set out for public use: stay on the trail where requested, don't take short cuts, and ensure the activities you are engaging in are allowed at the site you are visiting.



For further information regarding the biology and ecological importance of soil crusts, visit the Biological Soil Crust Website at www.soilcrust.org. This website contains both a basic overview of biological soil crusts (click on the "crust 101" link) as well as more in-depth information about their ecology and management (click on the "advanced" link).

BEAKED HAZELNUT, TAKEN JUNE 23 2018
IN THE JJ COLLETT NATURAL AREA. CHARLES BIRD

Charley's Nature Note: Nuts!

BY CHARLEY BIRD



The Beaked Hazelnut is a deciduous shrub in the Fabaceae or Birch family. It is common throughout the boreal forest and in areas like The J.J. Collett Natural Area. It stands up to 10 feet or more in height and is found in thickets in dryer mixed aspen/spruce woods.

Both female and male catkins develop on each plant. One of the first signs of spring are the small, red stigmas which show up in a cluster at the end of a short branch. These are followed several weeks later by yellowish catkins from which pollen is produced. The pollen is air borne after release; some land on the stigmas and fertilization of the ovaries follows.

Leaves develop several weeks later. They are green, ovate in shape and have roughly serrate edges. The stems are up to 2 cm thick and have gray bark. The leaves turn yellow in the fall.

Two or three fruits develop in pairs or clusters, each within a prickly coating in the shape of a beak. This prickly coating can be

irritating if handled. After a month or more, the coating dries up and, by then, the nuts have developed thin, but firm, brown shells, the contents of which are quite tasty.

Hazelnuts are avidly sought by squirrels and blue jays and a person has to be lucky to find any. The filberts that one can buy at Christmas time are similar, but they are from a related species in which the plants are trees rather than shrubs and which does not occur in Alberta.

Yet another marvel in our wonderful natural world. Look for it when you are out hiking.

Useful sources of information on Beaked Hazelnuts are the following:

Wilkinson, K. 1990. Trees and Shrubs of Alberta. Lone Pine. 193 pp.

Johnson, D., L. Kershaw, A. MacKinnon and J. Pojar. 1995. Plants of the Western Boreal Forest & Aspen Parkland. Lone Pine. 389 pp.



BEAKED HAZELNUT CATKINS. CHARLES BIRD



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 Loran 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.

Nature Kids



ZOE MACDOUGALL

BY ZOE MACDOUGALL,
NATURE KIDS PROGRAM COORDINATOR

Nature Kids has been active in Alberta since 2003. This program was a vision of the Red Deer River Naturalists and Nature Alberta board members who wanted to create an extracurricular opportunity for children in Alberta to increase time outdoors by encouraging nature exploration, scientific investigation, and stewardship attitudes.

Today, we offer nature-based events to families across Alberta such as Christmas Bird Counts for Kids, Family Nature Nights, BioBlitzes, and Field Trip events. We enjoy bringing these events to the families of Alberta, as we understand that it is important for families to get outside and get active as well as learn about the nature in their own backyards. The events we offer are free to the public and we bring in local experts to talk about anything from birds to trees to water to fungi. Families enjoy spending

time together in the outdoors and also learning about the local green spaces they can visit with their families.

With this nature education, we aim to engage the people of Alberta to build on existing stewardship, conservation, and outreach initiatives as these are key to a healthy Alberta environment. If you would like to learn more about the events that we offer across Alberta, be sure to follow our Nature Alberta Facebook Page!

We have included, in this edition of the *Nature Alberta* magazine, an article that was written by Parks Canada Public Outreach Education Officer, Natalie Humenuk-Bourke, from the Southwest NWT Field Unit in Fort Chipewyan AB, about the Peace-Athabasca Delta. This is an example of the types of articles we feature in our NatureWILD magazine for our Nature Kids members that we hope to feature in the Nature Alberta magazine more often!

Happy exploring.

North America's Largest Freshwater Inland River Delta: The Peace-Athabasca Delta

NATALIE HUMENUK-BOURKE, PARKS CANADA
PUBLIC OUTREACH EDUCATION OFFICER

Imagine this! In Alberta's oldest community (Fort Chipewyan), you can walk on scenic outcrops of polished granite bedrock (glacier-scraped remnants of the oldest mountains in Canada, also known as the Canadian Shield), and look across the blue waters of Lake Athabasca into one of the largest inland freshwater deltas in the world!

This magnificent wetland in Northeastern Alberta is called the Peace-Athabasca Delta. Its

vast area of 7,584.6 km² is a maze of rivers, shallow lakes, meadows and perched basins - a rich and productive habitat for wildlife. 80% of the delta lies within Wood Buffalo National Park, Canada's largest national park and a World Heritage Site. Located at the crossroads of all four North American flyways, the delta is so important to both migratory and breeding birds, that it has also been designated as



ON THE SHORELINE, LEARNING ABOUT BEAVER. ZOE MACDOUGALLO

a Ramsar site, or Wetland of International Significance.

It is a wonderful place to explore by boat or canoe, especially in the spring and fall when hundreds of thousands of migratory ducks,

geese, swans, and shorebirds pass through. Fish, Beavers, and Muskrats swim through its waters, while bears, Moose, and Wood Bison thrive in its meadows and forests.

The delta has been a homeland for the Indigenous people of the region since time immemorial. Traditional practices and harvesting activities such as hunting, fishing, and trapping continue to provide sustenance to the Cree, Dene, and Métis people of the region.



AERIAL VIEW OF THE PEACE-ATHABASCA DELTA. PARKS CANADA

Fun with Delta Hydrology:

Did you know?

- ⇒ Hydrology is the branch of science concerned with the properties of the earth's water, and especially its movement in relation to land.
- ⇒ A delta forms when a large river flows into a larger body of water such as a lake. When a river enters a lake, its sediments are deposited as the water flow slows. Over time the sediments accumulate and fan out into a triangular shape. The name comes from the fourth letter of the Greek alphabet, the symbol Δ (delta). The massive Peace-Athabasca Delta was created by the merging over time of three smaller deltas from the Peace, Athabasca, and Birch rivers.
- ⇒ A perched basin is a shallow lake or wetland that is at a higher elevation than its nearby rivers. Perched basins are not fed by creeks. They require a combination of rain, snowmelt, and overbank river flooding to maintain their water levels.
- ⇒ Seasonal spring ice jams on the major rivers flowing into the Peace-Athabasca Delta can hold so much water back that

the direction of flow of the rivers in the delta can be temporarily reversed! When this happens, the rivers will sometimes overflow their banks, flooding low-lying lands and perched basins in a natural process that helps renew the delta. One environmental concern is that these types of ice jams and floods are happening less often, and some of the delta's perched basins have either dried up or are in the process of drying up as a result. This reduces the amount of wetland habitat available for waterfowl, shorebirds, and Muskrats.

Wood Buffalo National Park in Danger



WOOD BISON LEAVING THE WATER - PARKS CANADA, CEIRIDWEN ROBBINS

An environmental assessment outlines how hydro dams, oilsands activity and climate change are dramatically changing the environment of Wood Buffalo National Park.

After the Mikisew Cree filed a complaint to UNESCO that Wood Buffalo's environmental values were being degraded, UNESCO

investigated in 2016 and in 2017 put the park on its list of endangered sites.

The water is no longer drinkable, deformed fish are showing up and high levels of mercury have been found in fish and bird eggs. The report says hydroelectric development, oilsands, pulp and paper facilities, industrial mines,

forestry and municipal development are all likely to affect the park in future. Despite that, Alberta still approves upstream tarsands projects.

Some aspects of the park are healthy, says the report: for example, salt plains and boreal grasslands are stable, and the Whooping Crane population continues to increase for now.

CELESTIAL HAPPENINGS

Spring/Summer 2019

BY JOHN MCFAUL

Sun: Rise – June 1 (5:11 MDT), July 1 (5:09 MDT), August 1 (5:49 MDT)

Set – June 1 (21:52 MDT), July 1 (22:06 MDT), August 1 (21:30 MDT)

Times are for Edmonton.

Summer Solstice: Monday, June 21, 2019 at 9:54 AM in Edmonton.

Aphelion is on July 4, 2018 at 4:10 PM in Edmonton. The Earth will be farthest from the Sun at this time.

Moon: Full – June 17, July 16, August 15

New – June 3, July 2, August 30

Planets: **Mercury** maybe seen low in the WNW in the evening twilight from June 9 to 23rd. It will be quite near Mars on June 17. Afterwards it will be too close to the sun until between August 7 to August 20th when it may be seen low in the ENE just prior to sunrise.

Venus will be very low in the ENE before sunrise during the first couple of days of June. It will then become too close to the sun to be seen for the rest of the summer.

Mars will reside in the constellation Gemini and will be visible in the western evening sky until the end of June. After that it will be passing behind the Sun and thus not visible.

Jupiter reached opposition (opposite the sun) on May 8th and thus rose in the east as the sun set in the west. During this summer it will be in the constellation Ophiuchus (between Scorpius and Sagittarius). It will be best seen in the late evening about 25 degrees above the southern horizon. The moon will be close by on June 16th, July 12th and August 9th.

Saturn resides in the eastern part of Sagittarius and rises in the SE about 2 hours after the sun sets in June. Each subsequent month it will rise 2 hours earlier and will be best seen in the south during the month of August. Watch for the moon close to Saturn on July 16th.

Meteor Shower: Delta Aquirids (July 29th, 15/hour in a dark sky), Perseids (August 13th, 50/hour in a dark sky).

This year the light from the moon will interfere.

The predicted rate is for dark skies well away from city light pollution.





DEMODEX FOLLICULORUM. ZIPCODEZOO.COM

Demodex: They are there, you just can't see them!

FROM WIKIPEDIA

Demodex is a genus of tiny (microscopic) mites that live in or near hair follicles of mammals. They are among the smallest of arthropods. Around 65 species of *Demodex* are known, but only two species live on humans: *Demodex folliculorum* and *Demodex brevis*, both frequently referred to as eyelash mites.

D. folliculorum is found in hair follicles, while *D. brevis* lives in sebaceous glands connected to hair follicles. Both species are primarily found in the face - near the nose, the eyelashes, and eyebrows, but also occur elsewhere on the body. Like all mites, they have eight legs. The body is covered with scales for anchoring itself in the hair follicle, and the mite has pin-like mouthparts for eating skin cells and oils (sebum), which accumulate in the hair follicles. The mites can leave the hair follicles and slowly walk around on the skin, at a speed of 8–16 mm per hour, especially at night, as they try to avoid light. The mites are transferred between hosts through contact with hair, eyebrows, and the sebaceous glands of the face.

FORTUNATELY, YOU CAN'T SEE THEM! YOUTUBE



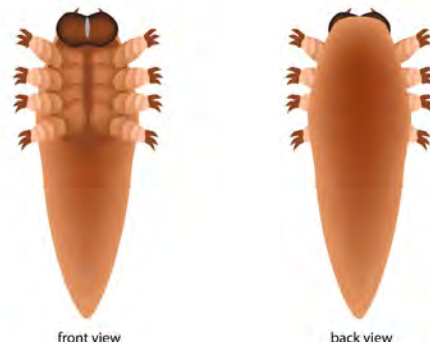
NATURE TRIVIA

Both male and female *Demodex* mites have a genital opening, and fertilization is internal. Mating takes place in the follicle opening, and eggs are laid inside the hair follicles or sebaceous glands. The six-legged larvae hatch after 3–4 days, and the larvae develop into adults in about 7 days. The total lifespan of a *Demodex* mite is several weeks. The dead mites decompose inside the hair follicles or sebaceous glands.

We all may have them: about a third of children and young adults, half of adults, and two-thirds of elderly people carry them.

Demodex mites were considered commensals, but are now considered parasitic. However, in the vast majority of cases, the mites go unobserved without any adverse symptoms, though in certain cases (usually related to a suppressed immune system, caused by stress or illness), mite populations can dramatically increase. This results in a condition known as demodicosis or *Demodex* mite bite, characterised by itching, inflammation, and other skin disorders. Blepharitis (inflammation of the eyelids) can be also caused by *Demodex* mites.

DEMODEX MITE



A FRONT AND BACK VIEW.

CLUBS PAGE



Nature Alberta's Newest Affiliate

BY DON STILES

Calgary Area Nestbox Monitors Society (CANMS), formerly Calgary Area Bluebird Trail Monitors (CABTM), has been around since 1979, when a small group took over Harold Pinel's nestboxes as he no longer had time to monitor them.

Harold had been monitoring 400 nestboxes along Hwy 22 from Chain Lakes to Sundre and then to east of Didsbury.

CABTM began small in 1979 and gradually expanded with more monitors, and more nestboxes. A sample of the number of monitors over the years who were involved:

1980 – 7, 1987 – 24, 1994 – 42, and 2009 – 49.

The latest Annual report for 2018 showed a total of 73 monitors (Teams) of 108 individuals who monitored 5254 boxes. They fledged 7679 Mountain Bluebirds and 14310 Tree Swallows. (A team may be an individual, or more

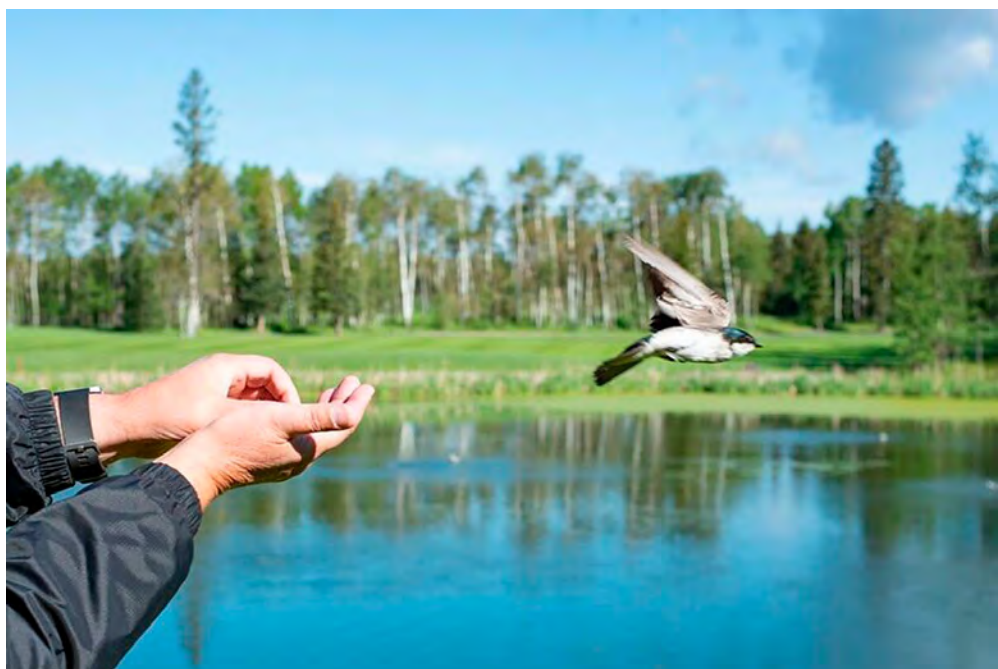


PHOTO TAKEN BY JAMIE BUSSEY OF JIM CRITCHLEY RELEASING A NEWLY BANDED TREE SWALLOW.
ELLIS BIRD FARM

than one individual such as a husband and wife.) A sample of CANMS's recent annual reports can be found on the Ellis Bird Farm website. Go to www.ellisbirdfarm.ca and go to Resources.

More details on the early years of CABTM can be found in an article in the Fall 2012 issue of *Nature Alberta* – see the citation at the end of this article.

Calgary Area Bluebird Trail Monitors (CABTM) changed their name to Calgary Area Nestbox Monitors (CANM) in 2009 to acknowledge that not every trail had bluebirds. They became a Society on April 12, 2018.

The reason for becoming a Society: Gord Orchard of Nanton who had been monitoring boxes on the Stavely Research Ranch found that he needed \$2m liability

insurance under a Society to continue monitoring his boxes. We then applied to Nature Alberta to become a Society to take advantage of Nature Alberta's \$2m insurance policy. We appreciated that Nature Alberta was prompt in accepting our request, and that Gord Orchard is again free to monitor his boxes.

About one third of CANMS monitors also band their birds. Of particular interest in 2018 was the recovery of the mountain bluebird listed below.

Steve Wainer took the photos below on Apr. 1, 2017 on Priddis Valley Road a few kms S of Hwy 22X and on the inside front cover on April 22, 2018 at box 35 on Priddis Valley Road near Plummer's Rd. where it was originally banded. Here are the notes from the bander, Melanie Rathburn:

"First, I wanted to comment on the fantastic photos by Steve. This male was banded with the following ID number: 2571-23906. I first banded this male as an adult on June 4th, 2013. I trapped him at box 35, which is located on Priddis Valley Road, the second box north of Plummer's Road (south of 22X). In 2013, this male successfully raised 6 nestlings and then had a second brood with 4 eggs. In 2013, he was paired with a female that I originally banded in 2012 as an adult at box 38 (only a short distance away).

In 2018 this male Mountain Bluebird would have been at least 6 years old. It was first photographed in 2015 by Rick Robb and reported in our Annual Report of that year on page 17. Note the colour bands

in each photograph: Left leg: yellow over red, right leg: blue over metal.

FOR MORE INFORMATION, CONTACT DON STILES, PH: 403-271-4689, OR E-MAIL: STILESDJ@SHAW.CA

Reference:

Stiles, Don. Which were the Best Years for Mountain Bluebirds on Calgary Area Bluebird Trails. Nature Alberta Fall 2012 p24-29.



A MOUNTAIN BLUEBIRD RETURNS TO THE NEST BEARING BIRD-EE NUM-NUMS!

NATURE CALGARY

MOUNTAIN BLUEBIRD IN 2017. COLOUR BANDED BLUEBIRD IDENTIFIED FROM PHOTO. STEVE WAINER



ISTOCKPHOTO.COM

BOOK REVIEW

This was our Valley

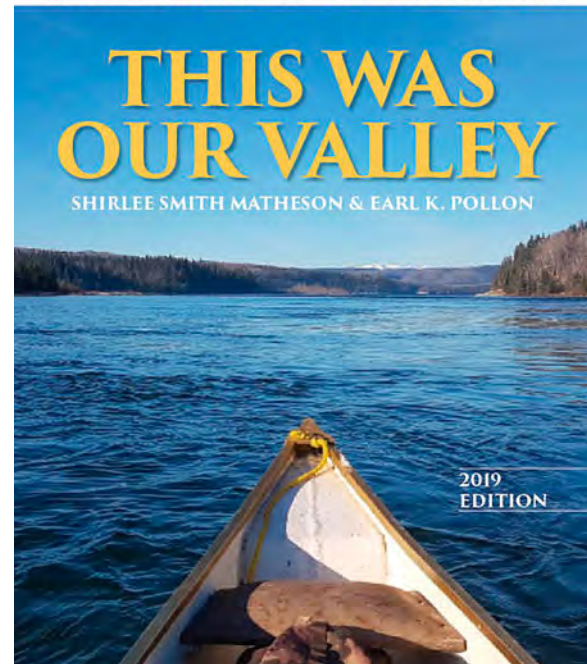
This Was Our Valley was a phenomenal success when first released in 1989, winning the Alberta Culture Nonfiction prize as well as the Silver medal for the Roderick-Haig Brown BC Books award. The book brought to light the changes wrought by the W.A.C. Bennett Dam that went online in 1967, from fluctuating water flow-levels to continued erosion of the banks, loss of forestry, damage to fish and wildlife habitats – effects that continue to be experienced.

A second dam, Peace Canyon, built 16 miles downstream of the Bennett Dam, went online in

1980. The 2003 edition of *This Was Our Valley* detailed this dam's construction.

With the announcement that a third dam, called Site C, would be built on the Peace River near Fort St. John, Shirlee Smith Matheson began work on this edition of *This Was Our Valley*. Wholly updated and redesigned, this new edition registers the voices that demand to be heard. Some are for the project, some against. This book tries to bear witness to all these voices.

Winner of the Alberta Culture Non-Fiction Book Award
Silver Prize winner of the Roderick-Haig Brown BC Book Prize – Honour Book Award



By Shirlee Smith Matheson, Earl K. Pollon
ISBN # 9781927823774; Pages: 424; Soft Cover;
\$29.95

Nature Alberta

Celebrating our natural heritage!



Nature Alberta welcomes submissions of articles, photos, humour and other suitable material on Alberta's natural history. Submission guidelines for articles and photos are available on the NA website at www.naturealberta.ca.

Join **Today!**

E-VERSION » Individual*: \$25/yr

Family*: \$25/yr
(includes NatureKids Program membership)

Less \$5.00 for members of NA Clubs

* add \$15/yr for hard copy of magazine

Donations welcome!

Your support means
a great deal to
Nature Alberta and its
conservation objectives.

MAIL TO:
Nature Alberta
Attn: Membership
11759 Groat Road
Edmonton, AB
T5M 3K6



WHAT ON EARTH IS THIS? SEE THE STORY, [PAGE 12](#). MYRNA PEARMAN



THE BEAUTIFUL PIN CUSHION CACTUS! SEE THE STORY IN "ON THE COVERS" [PAGE 3](#). IAN WALLIS

Nature *gallery*



CROSS FOX KITS; SEE THE STORY IN ON THE COVERS, [PAGE 3](#). MYRNA PEARMAN



PRINTED ON  **ENVIRO 100**
PRINT



**NATURE
ALBERTA**