

# 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



**GOOD MORNING! FEATURE STORY PAGE 20. SHARIF GALAL**

*feature article*

## The Burrowing Owls of Southern Alberta

**POTENTILLA CONCINNA,**  
NOSE HILL, CALGARY; SEE  
"ON THE COVERS" PAGE 3,  
AND THE STORY. CHARLES BIRD



**AN EAGLE AND MAGPIE; SEE THE STORY ON PAGE 15.** INGHAM NATURE PHOTOGRAPHY INC.



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

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

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# Editor's Page

BY BROOK SKAGEN, ASSISTANT EDITOR

## Remnants of Alberta's Underwater Prairie

The badland formations of western Canada are among the most dramatic and geomorphologically distinct landscapes on earth. Described by French trappers as the "*mauvaises terres*" or "bad lands to cross" in the United States, the term was later applied to similar regions of barren and unforgiving terrain throughout North America.

In Canada, badland formations are primarily found along the prairie rivers of Alberta and Saskatchewan in arid to semi-arid climates. These areas primarily stretch throughout the Red Deer River drainage, the most extensive of which are found in southeastern Alberta's Dinosaur Provincial Park. The park has been designated as a World UNESCO Heritage Site in recognition of the extraordinary diversity and abundance of fossils found in the area. Many locations within the badlands of southern Alberta are considered traditional sacred sites of the Siksika (Blackfoot) First Nation.

Badland topography is comprised of steep and deeply eroded layers of stratified bedrock and clay-rich

sediments. These ever-evolving landscapes lack steady soil and vegetation cover, as periods of heavy rainfall followed by desiccation result in the gulying and cracking of the weakly-bound strata. Bedrock materials may vary, creating a striking scenery of contrasting colours and textures. These dramatic landscapes, seemingly devoid of life, are often described as other-worldly. However, paleo-climatic evidence of a much different landscape, lush and diverse, are contained within these strata.

### BEDROCK FORMATION

The Western Interior Sedimentary Basin, formed by the erosion and sedimentation of western mountain ranges following the development of the Cordillera region, stretched over 3000 km of what is now the Canadian plains. The tectonic forces which formed the Cordillera led to depression of the continental crust, submerging the Western Interior Sedimentary Basin. As a result, much of western Canada consisted of submarine environments. Fluctuating water levels at this time led to the deposition



**AN ODONTASPIS, OR SAND SHARK TOOTH, DATING BACK TO THE LATE CRETACEOUS PERIOD, PROVIDES EVIDENCE OF A MUCH DIFFERENT ECOSYSTEM. BROOK SKAGEN 2018**

of sandstones, shales and other organic-rich marine sediments across the basin, which are the source of Alberta's rich natural resource deposits today.

Subtropical swamps were also scattered along the shores of the basin in the Late Cretaceous. Rapid rate of deposition in these areas led to the preservation of organisms as mineralized fossils, the remains of which are found in bedrock strata scattered throughout the region. The distinct stratigraphy of these deposits provides a paleo-geological record spanning many millions of years.

The majority of our badland landscapes were sculpted from glacial meltwater as the Laurentide ice sheet retreated throughout the late Wisconsin period, approximately 13,000 years ago. As the glacier retreated, steep valleys were cut through the late-Cretaceous rocks which covered the area, leaving the fine-grained and easily-eroded deposits exposed to the elements.

#### FOSSIL DEPOSITS

As sedimentary bedrock was exposed following the deglaciation of southern Alberta, so too were fossilized deposits of ancient organisms. Alberta's fossils provide researchers with snapshots of the ecological diversity and climatic conditions of the area as far back as 75 million years ago, corresponding to the age of the strata in which the organism was preserved.

The subtropical climate of western Canada throughout the late

## On the Covers:



#### FRONT COVER

Sharif Galal is an excellent photographer, as this edition's cover and Feature Story illustrate. It isn't just luck; as he says: "It took me almost six years scouting the prairies of southern Alberta" to find the Burrowing Owls. We have to thank his patience; the images and corresponding story was well worth it...for him as well as our readers! He also states

something of utmost importance: "All birding ethics and endangered species laws and acts were respected when I captured these photos." The Feature Story starts on page 20.



#### INSIDE FRONT COVER

Not much says, "it's Spring!" like seeing wildflowers in bloom. Crocuses, buttercups and Early Cinquefoil, or *Potentilla concinna* (pictured here), are as sure as a Western Meadowlark singing from a fencepost that the season is finally here. Charley Bird took the photo on Nose Hill, in Calgary. See page 38 for Charley's article on the Prairie Buttercup.



This Black-billed Magpie is perhaps hoping for some scraps left by the immature Bald Eagle. Of course, considering there were THREE Bald Eagles present, he may have been merely keeping a watchful and cautious eye on the goings on while keeping a respectful distance. The story is on page 15.

#### INSIDE BACK COVER

Len Pettitt took these photos which told only a small part of the story. The rest of the story? We don't know! See Len's explanation, as far as he knows, on page 5.



#### BACK COVER

Bighill Creek Preservation Society is the latest group to join Nature Alberta, as an affiliate club. It is a group dedicated to preserving an area outside of Cochrane AB. The photos illustrate the story: "It is a significant local and regional ecological, historical and recreational asset." Significant is an understatement! See the story, page 36.

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**THE BONEY SCUTES OF ANCIENT TURTLE SHELLS ARE COMMON FOSSILS THROUGHOUT THE PRAIRIE COULEES.** BROOK SKAGEN 2018

Cretaceous led to the formation of river deltas and marsh habitats in the region, which supported a rich diversity of organisms including fish and sharks, amphibians, turtles, crocodiles, birds, and dinosaurs. Silts deposited by these extensive river systems eventually formed the sedimentary rock which cloaked and preserved the remains of these organisms.

There are many mechanisms by which organic materials can become fossilized:

- **Replacement:** when groundwater minerals replace all organic material, creating a stone copy
- **Permineralization:** when groundwater seeps into porous regions of plant or animal matter, leaving silica or calcite deposits behind. Internal structures are preserved and more
- protected from erosional forces and are therefore the most common fossils found.
- **Carbonization:** when organic material, particularly plant matter or soft-tissue, is blanketed by silt or other sediment, creating conditions without hydrogen or oxygen. This produces a thin, dark carbon print in the sedimentary layer over time.
- **Molds:** forms when an organism is buried beneath sediment and then decomposes, leaving an impression behind.
- **Unaltered Preservation:** fossils in which the original remains have been unaltered over time, such as insects preserved in amber, or frozen and unexposed bones. This type of fossil is most common for aquatic invertebrates, as their shells are comprised of stable material such as calcite or aragonite.

Precipitation, surface runoff, and prairie streams continue to erode badland slopes, exposing more of these deposits to be discovered every year (Martel 2016). Despite the many fossils discovered in western Canada, fossilization of organic materials is an extremely rare event; the fossils found to date therefore represent but a small fraction of the biota which once dominated the ancient Canadian landscape.

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**A WIDE ARRAY OF MARINE INVERTEBRATES ONCE INHABITED THE OCEANS AND SUBTROPICAL MARSHES OF WESTERN CANADA.** BROOK SKAGEN 2018

## First Hand: One Goose Egg

BY LEN PETTITT

"I recently took a photo of a Ring-billed Gull picking up a Canada Goose egg whole [see the inside back cover for the three photos] and was somewhat surprised. The goose actually laid the egg on the ground, as in the one photo. I'm not sure why but they on occasion do this; perhaps they are not fertile eggs...wonder if they know or...?"

"Photo was taken at Hermitage Park here in Edmonton. We have been in Edmonton 5+ years now and I go to the Park quite

often. I have seen eggs out on the isthmus between the large ponds almost every year, sometimes cracked open and eaten out, ie by gulls, Magpies, Crows. Sometimes they are whole and no nest close by. I have not seen one actually being dropped out, but the Goose in the photo was right over that egg. Perhaps a biologist or ornithologist could shed some light on this. -- Len Pettitt."

Anyone know what the story is? Send a message to the Editor if you can help out here.



## FROM A PRESIDENT'S PERSPECTIVE

# You may have wondered...

BY LINDA HOWITT-TAYLOR

*March 17, 2018: You may have wondered... "What is the new President of Nature Alberta doing?" Or you may have not thought of me at all... In any case, I am writing you with this letter of introduction.*

Having been appointed to the Nature Alberta Board several years ago, I was elected to be President in late November, following the leadership of Lu Carbyn, Ted Hindmarch, and other presidents before them. Since being elected, I have been engaged in learning and getting to know an organization I had thought I already understood. What a lot I still have to learn!

What is it that I need to know to be an effective leader for an organization that has been around for nearly 50 years? How can I reach out to clubs and members to discover what they expect and need of a central board of people who, except for a few, represent the concerns and interests of their local clubs? How can I support board members to be the best they can be in order to get our work done efficiently and to bring into reality the Vision that founders of the Federation of Alberta Naturalists had for us?

## A LITTLE ABOUT MYSELF:

I was raised at Alix and, as my son used to say, I am so "Albertan" that my feet are covered with the soil under my feet. As a kid, I would go on solo field trips, exploring fields

and bush in winter or summer, to watch Beaver and birds. I attended University of Alberta and became a music teacher, teaching mainly choral music first in Stettler and finishing off a satisfying 30-year career in Edmonton. Interspersed through those years were wonderful seasons teaching in the regular classroom where I couldn't avoid encouraging my students to become passionate naturalists and environmentalists. I fervently hope that some took me up on it!

## WHAT DO I SEE AS MY ROLE AS PRESIDENT OF NATURE ALBERTA?

I think of myself as an amateur naturalist. If my identification skills were to match my love of rambling natural areas, I would say I am actually an expert. I'm not - but I do have a background in board governance and have served on several boards over time and as a volunteer board development facilitator. It is through this experience that I hope to enable others to work collaboratively together to strengthen our collective voices in promoting the health and enjoyment of our remaining natural areas in Alberta.

I believe this was the goal when FAN was first conceived.

Nature Alberta is a federation of clubs made up of people who are passionate about our birds, plants, animals and the environments in which they struggle to survive. If I can assist in supporting our member and associate clubs as they come together through their representatives at the Board table in advancing respect, joy, and care for our natural areas and resources in Alberta, I will have accomplished my goal as President. If I can inspire those representatives to bring their energy and commitment to making a change in how we work together as a community of nature lovers, then we will truly make a difference. If we, at Nature Alberta, can collaborate and communicate effectively with our friends and neighbours in other nature-caring communities, and organizations, all the better.

*The earth is populated with creatures - some of us are human. Let's make a difference.*

ALBERTA ISSUES IN BRIEF

## The Dike is Still There!

There has been no movement by Parks Canada on a makeshift, obtrusive and very ugly dike built (with Parks' permission) by CN Rail along the lower Snake Indian River in Jasper National Park. Although well over a year has passed (it was constructed in March of 2017), the dike is still there. When it might be removed (if ever?) is anyone's guess.

Your Editor had enquired about the dike in November 2017 and was told: "Parks Canada is working with CN on a long term solution." Following up, he wrote a note on April 5 to find out what progress had taken place. The answer was disappointing. Steve Young, Public Relations and Communications Officer at Jasper, wrote: "No plans have been

THE "TEMPORARY" DIKE. BRIAN GENEREUX



finalized to date for long term flood risk mitigation. The current temporary berm will remain in place until a long term plan is finalized. To minimize disturbance in the area, Parks Canada will coordinate the removal of the temporary berm to align with any long term solutions."

Steve added: "Further information will be available in due course." Will another year pass with no movement by Parks? Hopefully not...but we will continue to seek answers.

## New Protected Areas for Northeast Alberta

AWA PRESS RELEASE, MAY 15/18

Today the Alberta government announced they will officially establish the four large northeast wildland parks identified in the 2012 Lower Athabasca regional plan and create an additional new wildland park. "We are very pleased that these wildland parks are officially established," said Carolyn Campbell, Alberta Wilderness Association (AWA) conservation specialist.

AWA believes the government's consultation with First Nations on the parks' cooperative management is an important advancement in regional planning. AWA also

congratulates the Tallcree First Nation and the Nature Conservancy of Canada for their key role in the establishment of the new wildland park.

The new parks will provide important protection for Boreal and Canadian Shield natural regions of Alberta. Red Earth, Richardson and Cold Lake caribou populations will benefit from this additional protection.

AWA believes it is critical for Alberta to fill the remaining gaps in

cumulative effects management of Alberta's oil sands region: caribou range plans, biodiversity frameworks, access plans and industrial 'footprint' plans are all years overdue.

FOR MORE INFORMATION:  
CAROLYN CAMPBELL, ALBERTA WILDERNESS ASSOCIATION, (403) 283-2025.



AWA

**THE SOCIETY DOES MORE THAN PROTECT;  
IT ALSO PROVIDES LEARNING TO ALL AGES.**

WEASELHEAD PRESERVATION SOCIETY

## Weaselhead Thanks Alberta Government

BY YVES DANSEREAU, PRESIDENT

From a News Release, Feb. 2, 2018,  
Weaselhead/Glenmore Park Preservation  
Society (WGPPS)

Re: Ministerial order regarding  
Environmental Appeal No.17-047 and 17-  
050 issued January 29, 2018, Minister of  
Alberta Environment and Parks.

The Board of the Weaselhead  
/ Glenmore Park Preservation  
Society (WGPPS) commends the  
Provincial Government and Minister  
Shannon Phillips for their decision  
to protect the wetlands in and  
adjacent to the Weaselhead Natural  
Park. We applaud the precedent-  
setting decision that its Ministerial  
Order sets for future Alberta  
developments.

The Ministerial Order recognizes  
the value of wetlands and  
specifically notes the significance  
of wetlands in urban environments  
for public enjoyment, as an  
educational tool, and for flood

mitigation. It also states  
that wetlands disturbance  
avoidance is paramount  
and, if disturbance cannot  
be avoided, mitigation is  
required. The so-called  
relocation of wetlands should be  
considered only as a last resort  
option.

We are very grateful for the  
recognition implied in the Minister's  
Order of the WGPPS's stewardship  
and leadership regarding the  
wetlands in the Weaselhead and the  
adjoining watershed.

The WGPPS also appreciates the  
many hours of work and dedication  
undertaken by Jeff Brookman and  
Allie Tulick of YYC Cares, who  
launched and spearheaded the  
appeal. We also are grateful for the  
time, effort and integrity shown by  
the Environmental Appeals Board  
and Alberta Environment. Lastly, as



the president of the WGPPS and on  
behalf of our Board of Directors and  
hundreds of members, I would like  
to thank our Executive Director Sarah  
Nevill, who acted on behalf of the  
WGPPS as an intervener.

The WGPPS looks forward to working  
in cooperation with the Province and  
its agents in monitoring the health  
of Beaver Pond, which is located in  
the southwest corner of Weaselhead  
Park, the wetland that figures so  
prominently in the Ministerial Order.

The Weaselhead/Glenmore Park  
Preservation Society is dedicated to  
protecting the fauna and flora of the  
Weaselhead and Glenmore Parks and  
to preserve the integrity of the Elbow  
River for future generations.

## Castle Parks Plan Released

AWA PRESS RELEASE, MAY 18/18

The provincial government has  
released a final management plan  
for the Castle Parks. Along with the  
establishment of Public Land Use  
Zones in the Livingstone-Porcupine,  
Alberta Wilderness Association

(AWA) recognizes the significant  
progress that has been made to  
protect the headwaters of the  
Oldman River.

The Castle wilderness is truly a  
one-of-a-kind treasure in Alberta  
that will be enjoyed by all for  
generations to come,"  
said Joanna Skrajny, AWA  
Conservation Specialist.  
"The Castle Parks hold  
cultural significance and  
will protect Grizzly Bears  
and native trout, while  
providing spectacular  
recreation opportunities."

The government's plan acknowledges  
the overwhelming body of science that  
shows off-highway vehicles are not  
compatible with conservation goals and  
headwaters protection.

"It's clear that the final Castle plan  
reflects concerns raised in the  
consultation process and the wishes of  
Albertans to see this region protected.  
The plan is guided by science-based  
decisions and the impacts of motorized  
activity are acknowledged," Joanna  
added. "We expect the same science-  
based decision making will be applied as  
the plan continues to unfold."

**CASTLE RIVER.** ALBERTA WILDERNESS ASSOCIATION





ED TELFER

# In Memoriam

Edmund S. (Ed) Telfer  
DEC 13, 1930 – APR 29, 2018

BY BILL SAMUEL

Ed Telfer passed away peacefully on April 29, 2018 at the age of 87.

He was born in 1930 in rural Nova Scotia. It was there and at an early age where he developed a love for the natural world. Ed did his undergraduate degree in Forestry at the University of New Brunswick (1953) and later, after working as a timber cruiser and land surveyor, he did a B.Ed. in teaching science (1962) and a M.Sc. degree in Wildlife Biology (1965) at Acadia University. His thesis 'Studies of moose and white-tailed deer ecology in northern Nova Scotia' set the tone for much of his professional career.

That career was long and stellar. Ed joined the Canadian Wildlife Service, first in Fredericton (4 years) then in Edmonton (27 years). His research focused on ungulates, in particular Moose and White-tailed Deer, and the impact of forest management on their habitat. His expertise put him on many worthwhile projects including Foothills Model Forest, Suffield National Wildlife Area studies, Banff Highway Wildlife

Overpasses, Loggerhead Shrike surveys, and Streeter Basin Moose browsing study.

His publications were many, widely read and cited, including:

Adaptation of some large North American mammals for survival in snow. 1984. *Ecology* 65(6): 1828-1834;

Circumpolar distribution and habitat requirements of moose (*Alces alces*). 1984. In: Olson, Rod; Hastings, Ross; Geddes, Frank (Ed.). *Northern ecology and resources management: memorial essays honouring Don Gill*, University of Alberta Press; and

Continuing environmental change – an example from Nova Scotia. 2004. *Canadian Field-Naturalist* 118 (1): 39-44.

Ed was a long-time member of The Wildlife Society and served on their Publication Committee. He served as an associate editor for the *Forestry Chronicle* scientific journal. While he was a member of the International Union of Forest Research

Organizations, he participated in many international conferences on fish and wildlife habitat and coordinated the group's work in Canada. He was an active and long-time member of The North American Moose Conference and Workshop and an associate editor for their research journal, *Alces*.

Awards included the 'Distinguished Moose Biologist Award' (1984) presented by the members of *Alces* and Moose biologists world-wide for his studies on management of Moose, and the 'William Rowan Distinguished Award' (1994) from The Alberta Chapter of The Wildlife Society for "outstanding contributions to the management and conservation of wildlife and their habitats".

Ed Telfer was a mentor and helpmate for many, be they scientists, biologists, technicians, students, grandchildren and more. But more than that was his character that will be long remembered: *that Edmund was kind, compassionate, humble, meek, patient, self-controlled, thankful, and all with perfect courtesy towards all people.*

# Nature Alberta NEWS



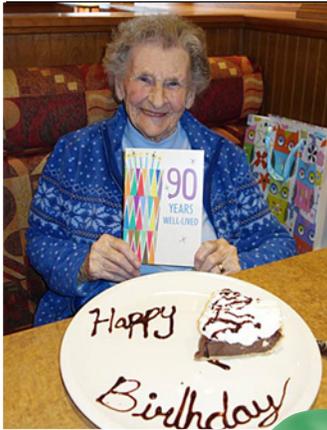
## Happy Birthday Dorothy!

FROM RDRN NEWSLETTER APRIL 2018

Dorothy Dickson, one of Canada's most celebrated and respected naturalists—and long-time member of RDRN—turned 90 in March!

Dorothy has worked tirelessly as a champion for parks and other protected areas. She has been recognized with several local, provincial and national awards. Happy Birthday, Dorothy, and thank you for all you have done to make this world a better place!

Dorothy has been an active member with the Federation of Alberta Naturalists (now Nature Alberta) for many decades and was awarded the Honourary Lifetime Member Award in 2001. At the February RDRN meeting, she was delighted to reconnect with Nature Alberta's Past President, Dr. Lu Carbyn, and President, Linda Howitt-Taylor. Our thanks to both Lu and Linda for visiting RDRN, one of NA's member clubs.



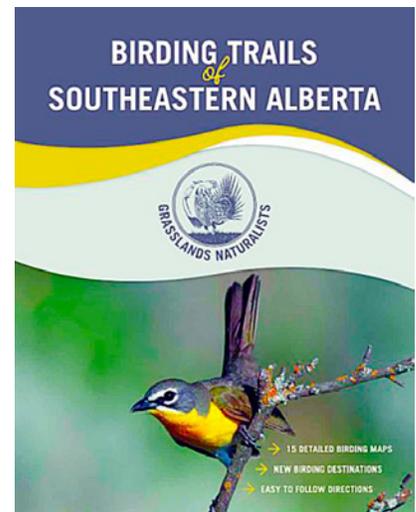
## Guide to Birding Trails Takes Flight

Grasslands Naturalists announce the release of *Birding Trails of Southeastern Alberta*. The glossy, 58-page brochure is replete with captivating images from the club's excellent photographers (especially Dan Schiebelbein). The guide describes some of the great birding sites, and the birds people could expect to find in each, along with custom-made maps and detailed descriptions.

All the 70 sites described are on public lands that currently

allow open access. Distribution of the guides is well underway; provincial parks and nature centres now have copies, and local hotels have display copies (the guide is intended mainly to attract tourists to the area). Most people, particularly local residents, can download a digital copy from their website: [natureline.info/gn](http://natureline.info/gn). However, paper copies are available at Police Point Park Nature Centre.

The guide covers the area between the US border and the



Red Deer River, from Hwy 36 to the Saskatchewan border. The landscape includes the largest expanses of native grasslands in Alberta, as well as riparian forests along the Red Deer and South Saskatchewan Rivers, as well as

the Cypress Hills. A list of the bird species of particular interest is included. For a full list, please refer to the Southeastern Alberta Bird Checklist ([www.natureline.info/gn](http://www.natureline.info/gn)).

FOR MORE INFORMATION AND CURRENT SIGHTINGS, CONTACT THE POLICE POINT PARK NATURE CENTRE OR VISIT THE WEBSITE ([WWW.NATURELINE.INFO](http://WWW.NATURELINE.INFO)). PLEASE CALL THIS NUMBER 403-529-6225 TO REPORT NEW SIGHTINGS, OR IF THE BROCHURE NEEDS UPDATING.

## New Living by Water Coordinator

We are pleased to introduce you to Sheldon Helbert, who has joined us to coordinate the Living by Water program. (You can connect with Sheldon at [sheldon@naturealberta.ca](mailto:sheldon@naturealberta.ca).)

Sheldon has a broad and distinguished background and career in environmental sciences, geography, biology, hydrology, forest ecology and more. He has a bachelor's degree in geography and biology from Concordia, worked for the Atlantic Center for the Environment in Ipswich, Massachusetts, and in St. Johns NL participated in a climate change study. At Memorial University of Newfoundland (MUN) he completed a master's degree on the temporal and spatial distribution of herbicides in a podzol. He lectured at MUN before working as a hydrologist for the Newfoundland and Labrador Department of Environment and collaborated on research with the Forest Pest Management Institute in Sault Ste. Marie and the Chemistry and Biology Research Institute in Ottawa.

Sheldon later moved to Vancouver to continue his studies in applied forest ecology at University of

British Columbia (UBC). While there, he launched his consulting career and has consulted with PGL and EBA in Vancouver, and with EBA in Kamloops. While in Kamloops, he also lectured in geography at Two Rivers University.

Sheldon is a past vice president of the Alberta Lake Management Society, an advisor to community watershed groups and he helped organize the 2010 International Congress for Conservation Biology in Edmonton.

He happily lives in the country under dark skies and, through his consulting business, provides environmental planning, ecology, pedology, education and hydro-climatology services to a large and diverse group of clients. Much of his current work is focused on environmental impact assessments, environmental permitting, a variety of inventory, mapping and assessment types (e.g. wetlands, boreal, species at risk, ecosystem) and ecological restoration.

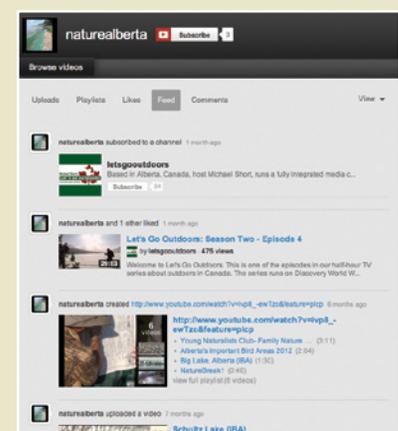
Sheldon feels the primary challenges in Alberta include overcoming social and political biases that have us locked up as

suppliers of primary resources, integrating First Nations knowledge and values into our systems, and generating greater awareness amongst its citizens of the critical role that a properly functioning ecosystem plays in sustaining our quality of life, our cultural heritage and economic sustainability.

## Nature Alberta & YouTube

Nature Alberta wants you to know that Nature Alberta has its own YouTube channel now. All kinds of "good stuff" is there for you to view. Visit:

[youtube.com/naturealberta](http://youtube.com/naturealberta)





# Eyes on IBAs



Brook Skagen

## A Caretaker's Take on Grassland IBAs

BY BROOK SKAGEN

*As spring awakens from a long winter's slumber, prairie life emerges from the blankets of sage brush and wheat grasses which envelope Alberta's southeast corner.*

It is a time when the ephemeral wetlands, meandering streams, and towering cottonwood stands of the southern prairies are relied upon most, as hundreds of avian species fatigued from migrating flights return to replenish their energy with the bountiful resources a rested prairie can provide.

The prairies are vital to the fulfillment of annual cycles of aves and other biota. Recognized as providing key habitats for large species congregations or for species at risk, numerous Important Bird and Biodiversity Areas (IBAs) have been identified across Alberta. These areas facilitate the monitoring and protection of some of the province's most prosperous ecosystems, many of which lie

within the prairie blanket of the Grassland Natural Region.

Spring is also the time in which I assist in monitoring the biodiversity of IBAs the most, volunteering as an IBA Caretaker for 2 sites and visiting many more annually. Throughout my involvement with the IBA program, and through repeated visits to some of my most cherished outdoor spaces to document the bounty of species and their habitats, I have witnessed the beauty and harshness of prairie life, and conservation successes and challenges within the region firsthand. However, Alberta's grassland IBAs are drastically under-visited, with less than half being reliably monitored by dedicated Caretakers. As a result,

threats to these ecologically significant sites, and the rich diversity of species which rely upon them, are going unreported.

Approximately 20 grassland IBAs, depending on how you divvy the regions, are designated within the province, enveloping over 5600 km<sup>2</sup> or roughly 6% of Alberta's total Grassland Natural Region. As a result, these sites hold immense conservation value, as 70-80% of Alberta's native prairie has already been lost to agricultural and other anthropogenic developments. The majority of species-at-risk within the province, including birds, mammals, reptiles, amphibians, fish and vascular plants, rely on the 20-30% of grassland that remains. The conservation of at-risk prairie habitat through initiatives such as the IBA program is therefore crucial in maintaining provincial biodiversity.



**THE BIOLOGICAL VALUE OF PAKOWKI LAKE, LIKE MANY OF ALBERTA'S GRASSLAND IBAS, IS OFTEN OVERLOOKED DUE TO ITS HEAVILY MODIFIED SURROUNDINGS. DESPITE THE SURROUNDING AGRICULTURAL ACTIVITY, THE IBA HOSTS NEARLY 200 DIFFERENT SPECIES ANNUALLY. BROOK SKAGEN**

Though all of Alberta's grassland IBAs hold rich and diverse ecosystems, these sites are highly disparate by size and habitat features. Alberta's smallest IBA, Schultz Lake, covers just 3.4 km<sup>2</sup> of open water and surrounding shoreline; the Suffield IBA, one of the region's largest, covers over 460 km<sup>2</sup> of rolling native prairie hills, sagebrush and sand dunes. Chappice Lake IBA, half an hour northeast of Medicine Hat, consists of a saline spring-fed lake and adjacent alkali mudflats, whereas The Milk River Canyon and Area IBA, just 2 hours south, contains dramatic sandstone hoodoos and steep clay ridges. These are but some of the many examples of contrasting and unique features found within every grassland IBA, reflective of the important habitat "niche" which each site fills. Within these and other IBAs are a wide array of flora and fauna, many of which are unique to the Canadian Prairies, and some of which exist nowhere else on earth but the IBAs in which they are found.

Important Bird and Biodiversity Areas are not only significant for birds and other biota but could also be considered as "IPAs" or "Important People Areas", as they are equally essential to our own social, cultural and economic wellbeing. With this comes unique conservation challenges and benefits to Alberta's grassland IBAs. Agricultural operations,

concentrated within the region, rely on dams, reservoirs and irrigation canals to sustain crops throughout the dry and arid prairie summers. As a result, many grassland IBAs are influenced, modified, managed, or even created as a direct result of human activities. The Lake Newell, St. Mary, and Scope Reservoir IBAs, among others, all center around man-made waterbodies and their associated damming structures, with water levels ever-fluctuating as water is drawn, stored and dispersed.

Evidence of recreational and industrial uses are also prevalent, with oil and gas wells, wind turbines, and transmission lines surrounding or found directly within numerous designated IBAs in the region. Though some sites are offered partial protection through provincial parks, these too are subject to numerous disturbances such as light and noise pollution from campgrounds, invasive species introduction, and recreational watercraft. Additionally, due to their frequent association with manmade features and modified landscapes, the ecological value of countless IBAs is overlooked, as roadside dams, canals, campgrounds, boat launches, playgrounds and fluctuating reservoirs do not fit the typical image of a biologically-rich, lush, and diverse landscape. Advocacy for these sites is

therefore imperative, as many Albertans are left unaware of just how special many of their favourite recreational destinations are from a wildlife conservation viewpoint.

The characteristics of prairie IBAs which impose immense conservation challenges could also prove beneficial. Since many of these sites are associated with human use, most prairie IBAs are easily accessible, with many located along or close to major roadways; southern Albertans are never far from at least one IBA. This "close to home factor", coupled with extensive development throughout the region, can facilitate monitoring efforts, as a site visit is but a casual morning drive away, not requiring access to remote off-road landscapes like untouched portions of the Boreal Forest or Rocky Mountains.

Another significant aspect in conserving IBAs and other wild spaces within the province is the fact that "we have the power". That is, if the largest threats to wildlife and their habitats within the Grasslands Natural Region are human imposed, then we have the equal ability to stop, mitigate, or reverse such threats if we so choose.

Despite their unassuming looks, the IBAs of Alberta's grasslands contain some of the most diverse ecosystems in the province and are an important part in conserving

**THE NEED TO BALANCE MULTIPLE LAND USES IS ESPECIALLY APPARENT WITHIN ALBERTA'S PRAIRIE IBAS, AS MANY OF THESE SITES HOLD DEEP SOCIAL, RECREATIONAL, AND ECONOMIC VALUE.** BROOK SKAGEN



the fragments of Albertan prairie that remain. Unfortunately, the under-monitoring of these locations has led to deep knowledge gaps regarding the flora, fauna, and geological features within these unique areas, and has allowed environmental threats to continue unchecked. It is within the hands of future volunteers driven to advocate for these precious spaces that the fate of the program ultimately relies on, as dozens of grassland and other IBAs across Alberta await their upcoming and eager caretakers.

TO LEARN MORE ABOUT THE IBA PROGRAM AND HOW YOU CAN GET INVOLVED, VISIT: [HTTPS://WWW.IBACANADA.ORG/CARE\\_WHAT.JSP?LANG=EN](https://www.ibacanada.org/care_what.jsp?lang=en)



**OUR ABILITY TO MITIGATE THREATS TO WILDLIFE IN DEVELOPED IBAS, SUCH AS REDUCING SPEEDS TO REDUCE VEHICLE COLLISIONS, CAN LEAD TO SIGNIFICANT STRIDES IN GRASSLAND CONSERVATION.**

BROOK SKAGEN

## First Hand: An Epic Experience!

BY AMOS WIEBE

“Had one of the most epic experiences of my life last night! I was driving down a backroad in the forest [near Grand Prairie] when I saw some movement about 80-100 feet up the tree! Two Lynx were screaming at each other and appeared to be fighting! The male chased a female Lynx up a tree and she started swatting at him. He retreated down the tree - then after about an hour and a half came back and ran up a tree for round 2! She won the battle again and he walked away for the last time, all sad that she wasn't ready for love! Tomorrow I will be posting a wild video of all this! Enjoy and Feel Free to Share.”

[Lynx fighting In the Trees! Mating Behaviour](#)



AMOS WIEBE

March 28: Wiebe first thought it was a male and female lynx fighting in the tree. “I had spoken with a really experienced person at National Geographic [which signed a contract with Amos for use of the video] that studies lynx. He says that was actually a male up in the tree. The male that was on the ground with the female on the ground was trying to run the other male out of that territory.

He kept treeing him because he was already paired up with a female.”

### EDITOR'S NOTE:

You won't regret checking out “Famous Amos Photography” on Facebook; his photography – still and video – is fantastic!

*Grand Prairie photographer Amos Wiebe has a passion for landscape and wildlife photography.*

# First Hand: “Dining on the Bow”: American Bald Eagles

BY INGHAM NATURE PHOTOGRAPHY INC.

Visiting a favourite “duck stop” along the Bow River in Calgary, a mature American Bald Eagle was spotted in a tree close to the shore.

Walking down to the river’s edge, to hopefully catch a few shots, I was surprised to hear the eagle chattering and even more amazed that the eagle tolerated my presence. Being perched between branches of the tree, it soon became apparent that it would be impossible to get a clear shot. Unfortunate, as the eagle was truly gorgeous but still a wonderful close-up sighting.

It kept up its eagle chatter until eventually it flew, and I assumed it would go straight up river. Instead the eagle flew away from the bank and into a small grove of trees along a small footpath. I walked slowly along the path and stood to one side. There was the eagle in a tree with its dinner, a previously killed duck, which it had stashed on a large branch.

With both taloned feet securely anchoring the carcass, the eagle proceeded to eat as the usual “suspects” showed up, i.e. Magpies

and Ravens. Some time passed with Magpies and Ravens calling to their comrades but knowing that approaching too close to the large bird and its meal was not an option.

And then the eagle chatter began again, just as before, not so much of a warning but more of a “come and take note” cry. Within a few minutes, an immature Bald Eagle circled the vicinity and then landed in a tree next to the tree where the adult was perched. A little more gentle chatter ensued and then, simultaneously, the adult flew away and the immature eagle flew onto the carcass.

More time went by now with the young eagle eating the duck remains, the Magpies and Ravens looking on. Eventually, the eagle stopped and began to clean its beak. First, it rubbed the beak along the large tree branch and then by grabbing a twig attached to the branch, running its beak back and forth. The finishing step was a complete head turn and cleaning the bottom of the beak. This eagle certainly had paid attention to

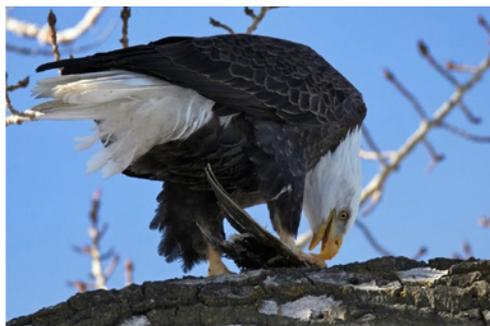
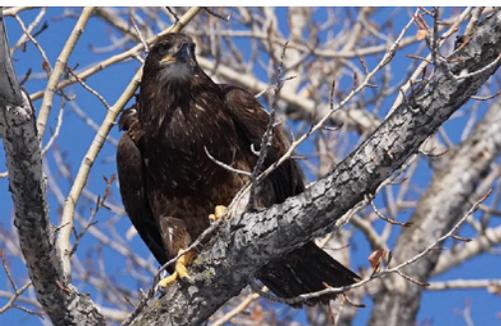


lessons from its parents and knew “to clean its beak after every meal”.

Shortly thereafter, a third eagle circled around and decided to join the party, landing in a tree nearer to the river but still within easy sight of “the tree”. With more white feathers on its head, this third eagle was older than the first immature by at least a year or two but not yet having reached maturity.

And that was where I left the two large birds. There couldn’t have been much left of the duck, but nothing is wasted in the wild. If it was too small for the eagles, the Magpies and Ravens would have completed the clean-up.

An extraordinary hour and an experience long to be remembered. To be allowed in to witness a very intimate act of Bald Eagles in the wild was a great privilege. Although they might not have understood, I gave thanks before leaving, the only words spoken in that entire hour.



# Putting a Landscape to “Work”

BY LORNE FITCH, P. BIOL.

*Listening to some planners, loggers, corporate executives and bureaucrats you would think landscapes are “lazy” if they are not “working”, as in a “working landscape”.*

Honestly, it paints a picture of a bunch of indolent landscapes lounging on a couch, remote control in hand, drinking beer and eating chips. They just lie there, capturing and storing water, transferring solar energy into plant growth, building soil, creating space and opportunity for biodiversity and a bunch of other slothful activities.

Apparently, that’s not enough; landscapes have to “pay the rent”, be contributing members of our society, meeting our varied economic, social, recreational and cultural wants. They have to make a living, hold down a job, as we can’t have a bunch of ne’er do well landscapes dragging down the GDP. How would it look to the neighbours?

Working landscapes with logging, mining, agriculture, oil and gas,

motorized recreation, random camping, fishing, hunting, hiking, with a healthy dollop of tourism development thrown in for good measure are, to some, ideal. That’s a landscape that has pulled itself up by its own boot straps, one to be admired, emulated, instead of those parks and protected areas thought of by some as wasted space.

The term is often code for “multiple use”, itself a euphemism for “multiple abuse”. These tend to be landscapes where we cram too much activity onto a finite land base by doing everything, everywhere, all the time, any time.

Maybe these should be called “indentured” landscapes, slaves to our wants and needs, heedless of the cost of overuse, and irrespective of the inherent values. Our language, especially the choice of the word “working”, may undercut our ability and will to manage and respect a landscape for the countless things it does for us, over and above our own selfish aspirations. Those

are the things it does for us and society in its current lazy state.

Do we need to whip every landscape into increased economic productivity, at the expense of many ecosystem goods and services? When the whip marks are evident, like a loss of native vegetation, erosion and weeds, those are some signals we have achieved a “working landscape”.

More appropriately, others describe a working landscape in more meaningful terms. *Working Landscapes*, a not for profit organization in North Carolina describes these as “places that work”, economically, environmentally and socially. The setting is a productive landscape where farms, forests and small towns all contribute to a vibrant economy and community. Contextually, these landscapes are healthy in terms of environmental and human health. These are places where it is recognized opportunity exists in natural, cultural and human assets: “an authentic landscape”.



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

The antithesis is, as Peter Cannavo describes, places where, “rampant development, unsustainable resource exploitation and commodification ruin both natural and built landscapes, disconnecting us from our surroundings and threatening our fundamental sense of place”.

In conservation a conflict has developed between development and preservation, often stated as: “parks vs. playgrounds”; “economy vs. environment”, and; “people vs. protection”. The conflict creates a “crisis of place” especially with islands of parks and protected areas.

“Place” is not an object, not a foundation of raw resources for solely economic endeavor, and for manipulation for primarily human wants and desires. It is the recognition of a coherent, enduring and valuable landscape in its own right, where development requires integration with preservation. It is not the piling on of more development and saying we will somehow mitigate our inability to set thresholds and limits.

To achieve real working landscapes, we need to see them as places where we humans work as responsible members of a natural landscape, not as owners, extractors and short-term renters. Working landscapes should thrive under human influence where our needs are met (and moderated) in ways that maintain the landscape and landscape functions. “Mutual sustainability” should be the goal and test of a working landscape.

Not all landscapes are true working landscapes, and care needs to be taken to avoid the use of the term to subvert and diminish non-human values in favor of development. A thousand acre canola field with no fencerows, no wetlands, no intact riparian areas, nor any vestige of natural vegetation is not a working landscape. Nor is an industrial complex, a mine site, an industrial logging clear-cut or urban sprawl. These are “worked on” and “worked over” landscapes, akin to being taken on by a prize fighter. While they provide economic and, to a lesser extent social benefits, many, if not

most ecological values have been sacrificed.

Marjorie Kinnan Rawlings, Pulitzer Prize winning American author provided something to consider when she said:

“It seems to me that the earth may be borrowed but not bought. It may be used, but not owned. It gives itself to response to love and tending, offers its seasonal fruits and fruiting. But we are tenants and not possessors, not masters.”

In *A Sand County Almanac* Aldo Leopold addressed the issue with: “The land-relation is still strictly economic, entailing privileges but not obligations.” In the Foreword of this book Leopold wrote: “We abuse land because we regard it as a commodity belonging to us. When we see land as a community to which we belong, we may begin to use it with love and respect.”

The words of Leopold and Rawlings provide us with the best sense of what a working landscape is and how to measure whether we have achieved that goal.

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# The New Invaders

BY MYRNA PEARMAN

*Who knew that a lowly dove would hold the title for being the fastest spreading invasive bird species ever recorded in North America?*

Even the rapid dispersal of our continent's two most famous and insidious invaders - House Sparrows and European Starlings - pales in comparison to the speed with which the Eurasian Collared-Dove has spread since it was first documented in Miami, Florida in 1982.

It arrived on U.S. soil via the Bahamas, where some individuals escaped from a pet shop during a mid-1970s burglary. The shop owner

then released the rest of his stock - about 50 birds. Apparently, there was another release of individuals on the island of Guadeloupe in 1976, just before a forecasted volcanic eruption.

It took these doves only a decade to spread all the way from Florida to Alaska. Their dispersion has followed a northwesterly direction, with

the most rapid expansion tracking along a southeast-to-northwest path between the two areas.

Judy Boyd, coordinator for the Central Alberta Christmas Bird Count (CBC), reports that Eurasian Collared-Doves were first documented in Central Alberta in 2005, with nine individuals counted. CBC records confirm an increase: from the four individuals recorded in 2006 to 24 documented at feeders at the most recent count in December 17, 2017.

Eurasian Collared-Doves are so named because their nape is ringed by a black half-collar. They are quite large and can be easily distinguished from our only native dove - the summer-dwelling Mourning Dove - by their larger size,





squarish tail, black collar and distinctive, rhythmic three-part coo.

Eurasian Collared-Doves prefer highly modified landscapes over forested areas, so they are typically found around human habitation, not in more remote or natural habitats. At a feeding station, they will dine on sunflower seeds (they gobble the seed, shell and all), wild bird mixes, millet, milo, wheat and cracked corn.

It appears that these birds are non-migratory, choosing to remain year-round in their newly settled regions. Although they are obviously hardy, many of the birds that I have photographed exhibited severely frost-bitten toes (either stubs or festering sores on their feet), an obvious ravage of extremely cold temperatures to which they have not yet become acclimatized.

It remains to be seen what, if any, impact these new and very successful newcomers will have on the ecosystems they are invading.

*Myrna Pearman is the Biologist and Site Services Manager at Ellis Bird Farm ([ellisbirdfarm.ca](http://ellisbirdfarm.ca)). She can be reached at [mpearman@ellisbirdfarm.ca](mailto:mpearman@ellisbirdfarm.ca). Myrna is a very well-known author, photographer, biologist and naturalist, and we welcome her as she becomes a regular columnist to Nature Alberta.*



FEATURE ARTICLE



# The Burrowing Owls of Southern Alberta

BY SHARIF GALAL

Sharif Galal  
PHOTOGRAPHY

*Restricted to a very few remaining uncultivated prairies, the Burrowing Owl is one of a handful of true Canadian prairie birds among all other Canadian birds.*

It took me almost six years scouting the prairies of southern Alberta, aiming to have a glimpse of one of these birds, until last summer. I was driving on the backcountry roads and suddenly saw one owl perching on a post at dusk; the light was faint, and I was barely able to see the bird, but I had no doubt it was a Burrowing Owl. I could feel my

heart racing like a little kid who found something he has been trying to find for a long time. In fact, it was one of my dreams to see one of these owls in nature.

I was very thrilled to the point that I stayed in a motel in the area in order to go back to the same location early in the morning to have another look at these little charming birds. I was lucky enough to locate the burrow and set a blind in a far enough distance to observe their behavior

and be able to document this with my camera. All birding ethics and endangered species laws and acts were respected when I captured these photos.

In spring, these little birds mate in the prairies of southern Alberta and Saskatchewan. Given its name, this bird is probably the only bird in Canada that lives underground in abandoned gopher, prairie dog, fox, Coyote, and Badger holes. Rough-winged and Bank Swallows may also nest in burrows, but usually on the



*Sharif Galal is a science researcher, naturalist and writer residing in Canada. He is a strong nature advocate and a conservation wildlife photographer.*

river banks, and they dig their own burrows with their bill and feet. The Burrowing Owls rarely do any digging themselves other than for the purposes of maintaining the burrow.

The Burrowing Owl is one of the smallest owls in North America. The adult measures anywhere between 20–28 cm and weighs approximately 150 g, with round head lacking ear tufts, yellow eyes, brown body and long legs with very short feathers. Males and females have a similar appearance without any distinctive features; however, during the breeding season the male may appear lighter

in colour and can be identified when performing his mating call.

This little owl is an uncommon inhabitant of short-grass and mixed-grass prairies throughout the Great Plains. In recent years it has suffered massive declines, especially in Canada where the population is estimated to be as low as 300 in Alberta. It is now believed that the widespread use of insecticides, and the cultivation and conversion of native grasslands to crop lands, are the main contributing factors to this decline.

In Alberta, and other areas, some researchers found that this owl has developed an evolutionary

impressive array of behavioral traits to avoid depredation, where it lines the tunnel leading to its nest and at the entrance to its nesting burrow with dried, shredded cattle manure. A research group in the US suggests that the manure conceals the owl's odor and hides their presence and make it harder on predators such as coyotes and foxes to find their burrows, a strategy called olfactory camouflage. This survival strategy to avoid depredation has been implicated in only a few species of birds. Indeed, the Burrowing Owl is one of them. Some other ornithologists suggested that manure functions as bait to attract prey, particularly beetles, and provide the





young owlets with a continuous easy food supply.

Burrowing Owls are opportunistic predators. Small mammals are part of the adult and chick diet, including Deer Mice, ground squirrel and voles. Big insects like crickets, beetles and grasshoppers also form a large part of their diet during the breeding season.

There are 18 recognized subspecies of Burrowing Owls in North and South America, of which one occurs in southwestern Canada: "*Athene cunicularia hypugaea*".

Burrowing Owls in Alberta typically arrive on their Canadian breeding grounds in early April. The nesting cycle starts by laying a clutch of nine eggs (Range 5-14 eggs) and lasting approximately 10 weeks. The youngsters first emerge from the burrow after roughly two weeks since the time they hatched; this usually happens from May-July in Alberta. During the daytime, the little owlets cluster around the opening of the burrow waiting for the parents to feed them. Once chicks leave the burrow, their survival rate until migration is estimated to be less than 50%, with

most mortalities caused by predators and vehicle collisions.

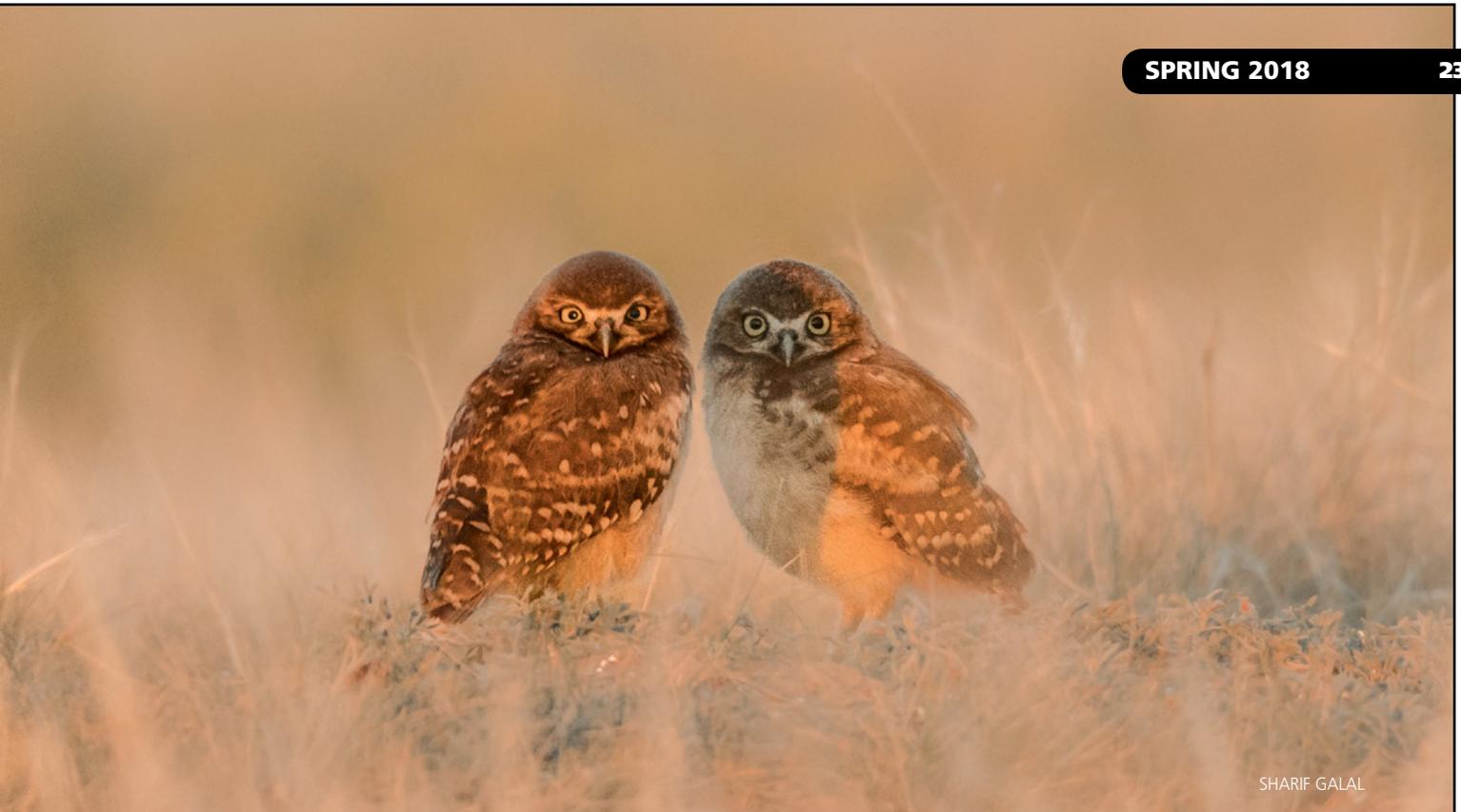
Owls migrate in fall. The migration routes and wintering grounds of Canadian Burrowing Owls are poorly understood despite several attempts to track owls during migration. There is some published data suggesting that Canadian Burrowing Owls typically winter in southern Texas, California and northern and central Mexico. It is believed now that Alberta populations of Burrowing Owls are impacted by mortality factors and habitat influences on migration and wintering areas outside of Alberta.

The Burrowing Owl is currently listed as an endangered species in Alberta under the Wildlife Act. It is also a federally protected species across Canada under the Species-At-Risk Act (Environment Canada 2012).

#### **WHY THE NUMBER IS DECLINING?**

The major contributing factor to the decline of Burrowing Owls is habitat loss due to expanding agricultural activities. It is estimated now that only 20% of former native prairie remains undisturbed. As a result, burrowing owls are moving out of prairies to occupy sites such as ditches, railway allowances, and





SHARIF GALAL

other sites that are exposed to traffic, spraying and other dangers.

The other main factor is the wide use of pesticides in agriculture. Spraying with some chemicals significantly reduces the breeding success of the owls, decreases the availability of their prey, and reduces the number of burrowing mammals. Pesticides, especially Carbofuran sprayed over the burrows, often kill the owls or lead to birth defects. When Burrowing Owls consume contaminated grasshoppers, they die as a consequence of the poison. Carbofuran has been responsible for at least 50 major bird kills, involving thousands of birds.

It is critical to note that responsibility for preservation of the species in Canada does not lie merely on the government. In fact, the public need to be involved in this responsibility as well.

Some of the conservation strategies that may support the remaining population of Burrowing Owls may include initiatives like:

- 1- Conducting public education and awareness campaigns about the Burrowing Owl and its habitat.
- 2- Encouraging farmers and other landowners not to disturb areas in which Burrowing Owls live and provide financial rewards for those who have maintained a population of Burrowing Owls on their land.
- 3- Encourage landowners to use alternative measures to control pests other than using harmful pesticides.
- 4- Protecting the remaining wild habitats and creating a newly suitable grassland habitat for Burrowing Owls.

Groups like Operation Burrowing Owl are working hard to protect both the owl and its habitat. Despite the efforts, the owl continues to be threatened by pesticide use and habitat loss. If you spot a Burrowing Owl, or have Burrowing Owls on your land and/or you would like to be involved in protecting them, then call:

**Operation Burrowing Owl toll free at 1-800-667- HOOT (4668).**

#### References:

- Alberta Burrowing Owl Recovery Plan 2012-2017
- Fish and Wildlife Policy Branch: Species Assessed by Alberta's Endangered Species Conservation Committee © 2014 Government of Alberta
- Fisher, R.J. and Bayne, E.M. 2014. Burrowing Owl Climate Change Adaptation Plan for Alberta
- Nature Canada: Species Spotlight: Burrowing Owl
- Parks Canada/Wayne Lynch/08.81.10.02(03), 1980 – The Burrowing Owl

# Comparing Sightability of Pronghorns:

## Using Land-based and Unmanned Aerial Vehicle Surveys

BY LOREN SEITZ

*Unmanned aerial vehicles (UAVs) have become increasingly useful for wildlife research. UAVs are useful tools that are cost-effective, efficient, safe, and allow access to areas that are otherwise difficult to reach by foot or vehicle.*

UAVs can produce high-resolution photographs and videos that can later be used for analyses for a wide array of wildlife research applications. Three categories of wildlife have been observed with the use of UAVs including large terrestrial mammals, aquatic wildlife, and birds.

Researchers have integrated UAV technology for ecological surveys that help determine their effectiveness for wildlife

observation, monitoring, and management. Here, the effectiveness of an UAV for Pronghorn surveys was determined for an area within Cypress County, Alberta. The study area is located in the dry mixed-grass prairie region within wildlife management unit 148, northeast of Medicine Hat, Alberta.

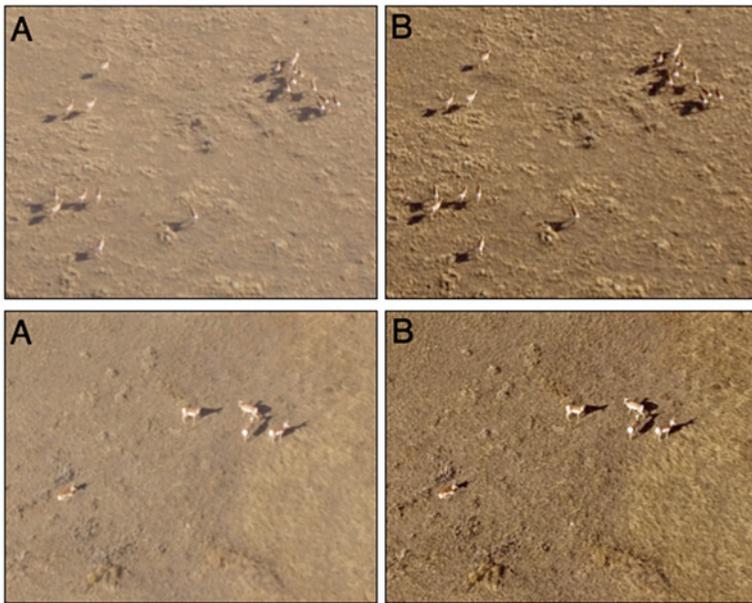
The objective of this study was to expand on existing knowledge

on the effectiveness of UAVs for wildlife surveys while providing information specific to Pronghorn populations. The study helped determine if an UAV improves sightability of Pronghorns when compared to a ground-based Pronghorn survey method. Data was used to classify Pronghorns and determine ratios of bucks to does and fawns to does, and count Pronghorns within the study area.



**DJI INSPIRE 1  
QUADCOPTER EQUIPPED WITH A  
DJI ZENMUSE Z3 ZOOM CAMERA. DJI**





**AERIAL PHOTOGRAPHS BEFORE (A) AND AFTER (B) IMAGE ENHANCEMENTS. COLOR ENHANCEMENT, SHARPNESS, AND DEFINITION WERE MANIPULATED TO AID IN PRONGHORN CLASSIFICATION. LOREN SEITZ**

Pronghorns were counted and classified from the ground at observation points along the study area roadway and then observed for a second time from an aerial perspective using a DJI Inspire 1 quadcopter, equipped with a Zenmuse Z3 zoom camera.

Photographs were taken for later analyses where Pronghorns were counted and classified. Data sets revealed total counts and buck:doe, and young of the year:doe ratios of 104 Pronghorns including 1:1.9 and 1:3.2 respective ratios using the ground-

based survey compared to a total count of 125 Pronghorns including 1:5.8 and 1:1.8 ratios using the UAV survey.

It is important to note that 70.2% of Pronghorns were unable to be classified using the ground-based method. This is largely due to the movement of the animals and the rolling topography that is characteristic of the study area. In addition, 36.8% of the observed Pronghorns using the UAV survey method were unable to be classified. This is primarily due to

the orientation of the animals in the photographs and the similar color of the background and color of the animals, which disallowed classification certainty.

Although the study and data analysis is currently ongoing, results to date show that the UAV enabled higher pronghorn counts and classifications. With further statistical analysis, it is expected that the UAV survey demonstrated improved sightability of pronghorns compared to the ground-based method.



# Observations of water levels in Beaverhill Lake in 2017

BY SARA PEARCE MEIJERINK, ASSISTANT BIOLOGIST, BEAVERHILL BIRD OBSERVATORY

## HISTORY OF THE LAKE

Beaverhill Lake, located just east of Tofield, Alberta was historically known for being a large (139km<sup>2</sup>) shallow lake with a maximum depth of only 3m (BBO, 2017). This body of water was world renowned for being a birding hotspot because of the abundant number of shorebirds, waterfowl, grebes and many other species that either nested there or stopped during migration (BBO, 2017).

It had large mudflats along the south and east shores for waders to feed on, an island on the north side of the lake that had an American White Pelican colony, and a Franklin's Gull and Eared Grebe breeding colonies along its southeast shorelines (Lister, 1976). Beaverhill Lake was declared a Wetland of International Importance in 1987 and an Important Bird Area of Global Significance in 1997 (BBO, 2017). Still to this day, it is a great place to go birding for abundant bird diversity seen in the summer and on migration.

Lister Lake, located near the southeastern shores of Beaverhill

Lake, is connected to the larger lakebed and is a permanent body of water with the level controlled by a weir built by Ducks Unlimited to create duck habitat. It provides vital water habitat for numerous waterfowl that pass through and breed in the area. As well, the aspen forest and willow stands that edge the lakebed are great habitat for migrating and breeding passerine bird species.

Beaverhill Lake has been dry since 2005 (BBO, 2017). In 2005 staff of the Beaverhill Bird Observatory (BBO), located along the southern shores of the lake, recorded that the lakebed had receded dramatically, and they noted a shift in bird species presence because of this change in water levels (BBO, 2017). 2005 was not the first time Beaverhill Lake had dried up. It has been dry twice before in recorded history - once in the early 1930s and again in the 1950s (Lister, 1976), suggesting a cycle of dry and wet years. It has remained dry since 2005 until the BBO staff recorded the return of water in 2016.

## 2016 WATER LEVELS

During the summer of 2016, the BBO staff observed water returning to Beaverhill Lake during heavy rains that occurred in July. Snowfall and rains from January 1st to October 31st 2016 resulted in a total precipitation accumulation of 495.3mm, which compared to the average accumulated precipitation in the last decade of 320.7mm, is a significant increase (Agriculture Alberta, 2017). This resulted in a high water table that fell when the ground froze and this likely helped lead to the high water levels seen in the subsequent year.

## 2017 WATER LEVELS

April 1st, 2017 BBO staff and volunteers returned to their work site and took a walk out to the weir, where Lister Lake flows into Beaverhill Lake. The normally Page 3 grassy "Duck Drive", a trail that parallels the Beaverhill lake bed, was inundated with water flowing into the lake at levels deeper than 30 cm, unfortunately just above the levels of rubber boots! The weir, which normally receives a trickle of water, was

overflowing with large volumes of water re-filling the lake.

### WHAT DOES THIS MEAN?

It would seem that the large amount of precipitation in 2016 must have refilled the water table back to a reasonably high level. Since there was still so much water present that fall, it is safe to assume that when winter hit, the water table froze solid. In the spring of 2017, this then allowed the snowmelt to run off the frozen water table and drain back into the historical Beaverhill Lake bed. This could be why there is water back in Beaverhill Lake in 2017. Interestingly enough, even though 2017 seemed to be the “high water year” in comparison to 2016, looking at the Environment Canada Shonts Weather Station data, we can see that in reality it was 2016 that was the high year with an added 136.4mm more precipitation than in 2017 (Agriculture Alberta, 2017).

With the high water levels that have been documented [in 2017], a number of species have been recorded for the first time in many years along Beaverhill Lake by BBO Staff and visitors. This year there was a confirmed sighting of local breeding Virginia Rails out at the weir. They were observed on the mud flats that formed for a couple of months along the southeast shore of Beaverhill Lake.

These high water levels could be the start of the return of Beaverhill Lake, which would greatly impact and change the waterbird diversity. Already in 2017, during the spring migration,



BEAVERHILL LAKE. [BEAVERHILLBIRDS.COM](http://BEAVERHILLBIRDS.COM)

BBO staff saw a huge spike in the number of Clay-coloured Sparrows captured compared to previous years. This could be due to the flooded lakebed forcing the Clay-coloured Sparrows to migrate along the shoreline instead of flying straight across the dry lakebed. Also, with the return of water, we would potentially see the number of shorebirds and waterfowl increase back to their historic numbers of thousands, like back in the 1920s and 1940s (Lister, 1976).

### CONCLUSION

In conclusion, it seems that the amount of precipitation that has fallen over the Tofield and surrounding area over the last two years is leading to encouraging signs that Beaverhill Lake might be returning. High water levels have been documented in the fall of 2016 and water remained in the lake for the duration of the 2017 season. With above average precipitation over the upcoming year Beaverhill Lake may well return to support the thousands of waterfowl and other birds that are attracted to this vast wetland ecosystem.

### ACKNOWLEDGMENTS

A big thank you to Geoff Holroyd, Helen Trefry, Kevin Methuen and Meghan Jacklin for helping to edit and provide feedback on this article.

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Cochrane Research Institute  
Cochrane Wildlife Reserve  
WHERE IDEAS BECOME REALITY



# On Wilderness, Wildlife and Human Interaction

*Pre-European Contact Canada was a landscape of unimaginable plenty that was viewed by Canada's European immigrants as an unending harvestable resource provided for their use alone.*

By the 20th Century, the management of landscape, wilderness, wildlife and indigenous peoples had become a function of governments. Walled off from public input behind a tangle of legislation North America's amazing natural richness has become and is now managed as a resource solely for consumptive use, its costs and benefits distributed unequally. Over the 150 years Canada has been a country, under the current wildlife management paradigm, we have rendered species extinct, or extirpated, destroyed biodiversity, and ruined vast tracts of unique habitat. This isn't good for wilderness, its wildlife or Canadians.

Change is essential, but how can it be brought about? The Cochrane Ecological Institute believes a new perspective is essential. In 2016, we started an annual series of educational Symposia on **Wilderness, Wildlife & Human Interaction** to work out in an informed, non-confrontational and inclusive manner ways

to change the current wildlife management paradigm, to see if there are better, less coercive, more sustainable and less exploitative ways of conserving wilderness and wildlife and restoring our ecosystem without job losses. The Symposia are purely educational, designed to attract the widest demographic and are not fundraisers. You can see and hear both 2016 and 2017 Symposia on the website [www.cochraneresearchinstitute.org](http://www.cochraneresearchinstitute.org).

**On November 9th 2018, we will hold our first workshop** on the new concept of 'Community Based Conservation' techniques showing how conservation actions can be designed with community interests in the forefront rather than the 'Top-Down' approach now used. The Workshop will be followed on November 10th, by our **3rd Wilderness Wildlife & Human Interaction Symposia on New Visions: Changing the Paradigm**, which will examine the importance of considering a place-based anthropological approach to wildlife management integrating environmental history,

species behavioural and habitat requirements, political ecology, law and local people's social and cultural systems in successful ecosystem restoration and wildlife management strategies. This is a completely new concept in conservation but one that we know, from experience with Swift Fox reintroductions in the USA and Canada, works.

Symposium's Speakers will examine the influences of wilderness and wildlife on our society's psychological and spiritual values, culture, art, science, law, recreation, industry and agriculture. Over lunch the Bow Valley Fiddlers will provide their usual vivid show. The Winners of the 2018 Photographic Competition will be on exhibit, plus an exhibition of 3-Dimensional Sculpture. Speakers confirmed to date are Leroy Little Bear, Dan Fox, Francis First Charger, Jody Allair, Cristina Eisenberg and Marcello di Cintro; we hope Max Foran and Paul Paquet will also agree to speak at our Symposium.

# In Memoriam

## Charlie Russell

AUG 19, 1941 – MAY 8, 2018

Well-known Alberta naturalist, researcher and writer Charlie Russell – “a bear’s best friend” – passed away on May 8 at the age of seventy-six.

Russell grew up on a ranch in southwestern Alberta. He spent many decades trying to teach people how to live with Grizzly Bears, as opposed to fearing them.

He spent 12 years living alongside Grizzlies on Russia’s Kamchatka Peninsula and studying their behaviour. He also taught local guides how to lead bear-viewing tours.

Always a rancher, he opened his cattle ranch to Grizzlies and led ecotourists on bear-viewing trips. He tried to convince wildlife

officials in Alberta to treat bears with respect and trust, arguing that it is people’s fear of bears and aggressive actions toward them that makes them dangerous. His efforts mostly fell on deaf ears, whether it was because of appeasement to cattlemen and trophy hunters, the “cowboy” mentality of many officials, or political expediency.

Russell wrote four books on his work with the bears. He was featured in documentary programs on TV, including on PBS in the United States and the BBC in Great Britain.

Russell grew up in a ranching family, the son of famed conservationist Andy Russell. Charlie and his three brothers learned about the wilderness from their father, assisting him as adventure guides and cameramen. His brothers went to college and became biologists, while Charlie became a rancher. In addition to his brothers, he is survived by a sister, Anne Raabe, and a granddaughter.

**CHARLIE RUSSELL AND A CLOSE FRIEND.**



## BOOK REVIEW

# Best Places to Bird in the Prairies

In *Best Places to Bird in the Prairies*, three of Canada's top birders - John Acorn, Alan Smith and Nicola Koper - reveal their favorite destinations for spotting local birds in Alberta, Manitoba, and Saskatchewan. They highlight thirty-six highly recommended sites, each of which has been expertly selected for the unique species that reside there.

With exclusive lists of specialty birds, splendid color photography, and plenty of insider tips for finding and identifying birdlife year-round, the book is accessible and easy-to-use - an indispensable resource that will inspire both novice and seasoned birders to put on their walking shoes, grab their binoculars, and start exploring. The destinations they feature are as varied as the birds that are found there, ranging from rural to urban, easily accessible to remote. The authors provide clear maps, detailed directions, and alternative routes wherever possible to ensure the experience is satisfying for first-time visitors and experienced birders alike.

John Acorn is a lifelong naturalist and Nature Alberta's Patron. He was the writer and host of two television series and is the author of seventeen books on natural history. He teaches at the University of Alberta in the Department of Renewable Resources. Nicola Koper, a professor of conservation biology at the University of Manitoba, is actively involved in volunteer programs such as the Manitoba Breeding Bird Atlas and has coauthored over fifty scientific journal articles in ecology. Alan Smith spent thirty-seven years with the Canadian Wildlife Service, during which time he helped establish and run the Last Mountain Bird Observatory. He is a life member of Nature Saskatchewan, sits on the board of directors of Bird Studies Canada, and is the author of three previous birding books.

Foreword by **CANDACE SAVAGE**

## BEST PLACES TO BIRD IN THE PRAIRIES

Local experts  
Insider knowledge  
Specialty birds



**John Acorn, Alan Smith & Nicola Koper**

**By John Acorn, Alan Smith & Nicola Koper;  
Series Editors: Richard Cannings & Russell  
Cannings**

**Paperback • \$24.95 CAD**

**ISBN: 978-1-77164-326-9;**

**Ebook ISBN: 978-1-77164-327-6**

**280 pages; 43 colour photos throughout,  
39 maps**

# The Supreme Predator – Part Three: Shorebird vs Peregrine

BY THEODORE DEKKER

*How do shorebirds manage to evade the fastest raptor on earth? And how do Peregrines maximize their chances of catching these shifty prey species?*

A good way to see migrating Peregrine Falcons in Alberta, on their way to and from Arctic breeding grounds, is to keep an eye on the shores of wetlands where other Arctic migrants congregate. Soaring a mile high in the blue and spotting a flock of sandpipers far ahead, the falcon descends in a spectacular, parabolic dive with wings pulled in close to the streamlined body. In the last stage of its attack, the falcon levels out low over the ground or water, its strategy to take the unsuspecting prey by surprise and seize a sandpiper the moment it spreads its wings.

Suddenly aware of their peril, panicked sandpipers flush in the

nick of time. Birds that are directly in line with the attack instantly plunge back down, so that the falcon passes by overhead. It might then look as if these birds were struck by the Peregrine's claws, which may indeed be the case, but more often than not, these sandpipers got up again in an instant and escaped into the opposite direction.

The surest way to accurately interpret these split second attacks

is to watch the hunting sequence from start to finish. It's important to keep your binoculars still, and the best angle to see what actually happens is when the falcon travels directly away from you, so that you can follow it from behind and see the shorebirds rise just ahead and drop down to immediately get up and away again, while the falcon overshoots the mark.

What follows varies from one event to the next. Some Peregrines may continue on their low trajectory

**IN REGIONS WHERE SHOREBIRDS AND RAPTORS ARE COMMON, ADULT MALE PEREGRINES LIKE TO CARRY CAPTURED SANDPIPERS TO AN ELEVATED PLUCKING POST, WHICH WOULD GIVE THEM A HEAD START IN CASE OF APPROACHING PIRATES SUCH AS FEMALE PEREGRINES OR EAGLES. JUVENILE PEREGRINES COMMONLY TAKE LIGHT-WEIGHT PREY HIGH INTO THE SKY AND FEED ON THEM WHILE SOARING AROUND AT A HIGH ALTITUDE. MIKE TABAK**



and launch other attacks some distance ahead. Others put on the brakes with an abrupt somersault to reverse direction and pursue the fleeing prey.

During half a century of watching, my deliberate strategy to observe the interaction of Peregrines and shorebirds has been to sit down by a high fence line bordering the fields and pastures just inland from the open shores of Beaverhills Lake. With a large stone or fence post to lean against, I selected a spot overlooking two or more ponds and sloughs brimming with meltwater and attracting the first yellowlegs, sandpipers, and plovers of the season.

Key to the arrival of bird hunting falcons—Peregrines or Merlins—was when one of the ponds suddenly exploded with shorebirds and gulls, flushing all at once and flocking together defensively. If the uproar was caused by a Peregrine, and if its attack has failed, the falcon probably flew away at once again. Searching the sky above, I might find it soaring on spread wings, gradually rising to a great altitude. As it dwindled to a minuscule silhouette in eight-power glasses, I fervently hoped that it would come closer instead of drifting farther away, and that it would launch its next attack over one of the other ponds I am monitoring.

After 15 consecutive years of watching for migrating Peregrines at Beaverhills Lake, from mid-April to the end of May, my observations were published in the *Canadian Field-Naturalist*. The data also include observations

from the fall season. In total, I recorded 958 hunting sequences aimed at shorebirds or ducks. The outcome of 30 percent of these hunts remained unknown, but in 674 attacks I could see whether or not the attack had been successful (from the falcon's point of view) or whether the prey had made a narrow escape. Only 52 prey were captured, representing a kill rate of 7.7 %. This means that of every ten birds attacked, seven or eight managed to escape capture.

As part of my field studies, I wanted to know whether adult Peregrines were better hunters than the immatures. As expected, falcons of two or more years of age, identifiable by their blue-grey back and white chest, proved to be more successful than the brownish first-year birds. But the difference wasn't great. The capture rate of adults turned out to be about nine percent, whereas the rate of immatures was seven percent. Apparently, after a winter of hunting on their own, first-year Peregrines had gained experience and were now almost as good as their elders. The difference between adult and young falcons was much more pronounced during fall. In August and September, the success rate of juvenile Peregrines was no more than two or three percent.

In the field, I also noted a major difference in hunting methods used by the two age groups. As mentioned above, the primary tactic of adult falcons was to take shorebirds by surprise. By comparison, first-year juveniles all too often failed in their initial approach. Instead, they ended

up tail-chasing fleeing sandpipers and making exhaustive pursuits, although this should not be seen as a problem for them. In my view, juvenile Peregrines actually enjoy long chases. After all, securing their food in one quick pass, as adults often do, would be no fun at all.

If you watch a juvenile Peregrine in an all-out attempt at overtaking a fleeing sandpiper, climbing higher and higher into the sky, you will be awed by their stamina and dexterity. Instead of a quick hit or miss, these two unequal contestants -- one a tiny sandpiper, the other a much larger, long-winged falcon -- may spend ten or more minutes in a race of olympic intensity. An erratic shift in the sandpiper's flight path might throw its pursuer off course, widening the space between them. Many chases that I have seen covered so much distance that I lost sight of the sandpiper. But don't lower your binoculars too soon. The direction of the chase can suddenly change and both birds may come back into view.

When stressed to the limit, the sandpiper will turn downwind and eventually plunge headlong to earth to find safety in bushes or reeds. Boosted by gravity, the falcon follows the prey down with closed wings, trying to intercept it before it reaches the protective cover of dense vegetation. Sometimes, though, it is the falcon that gives up, relaxing its frantic wingbeats and gliding away out of sight.

The most spectacular hunting flights occur when roosting and foraging shorebirds are super numerous at their traditional staging sites on lake shores or ocean coasts. According to a well-known adage, there is safety in numbers. With sharp-eyed sentinels everywhere, alerted sandpipers flush



**ADULT PEREGRINE IN HOT PURSUIT OF A YELLOWLEGS AT COOKING LAKE. DON DELANEY**

early, frustrating the Peregrine's typical attack strategy of taking the prey by surprise. Drawing together in dense globular flocks well offshore, the sandpipers careen and turn, alternately flashing their white undersides and dark backs, which may serve to confuse the attacker or as a long-distance semaphore to warn other shorebirds.

High over the ballooning flocks, the Peregrine waits on and manoeuvres until it finds the best angle for a vertical stoop. Pulling in its long wings, the falcon tilts over and drops like a stone. To the human observer, binoculars at the ready, it may seem as if the falcon stoops right through the flock, but that is very seldom the case. Its usual target is a bird on the outside or bottom end of the flock. Narrowly evading the strike, some sandpipers splash down into the water to get up at once again. A bird that stays down may have

been hit by the falcon's claws, resulting in a broken wing or other injuries.

Adult Peregrines have little or no trouble picking up a dead or crippled sandpiper from the water, but immature falcons frequently fail. Trying again and again, they are often joined by one or more competing conspecifics. At Beaverhills Lake and on the Pacific coast of British Columbia, I have seen four or five falcons alternately swooping at the same downed or fleeing sandpiper. The game is soon over with the arrival of an adult falcon, who quickly secures the prize or robs a young falcon that just got lucky.

An extraordinary observation of an adult Peregrine fishing a submerged shorebird out of the water took place one early May afternoon near Beaverhills Lake. Sitting on a field stone, I was watching a flock of Dowitchers foraging in a pool of snowmelt

when they suddenly panicked and took off. One of them plunged back into the water to dodge a high-speed attack by an adult male Peregrine. Instead of rising at once again and making its escape into the opposite direction, this Dowitcher stayed submerged. Hovering over the spot for three or four seconds, the Peregrine could probably see the bird holding on to the bottom vegetation. Diving down feet first, like an Osprey, the Peregrine dropped chest-deep into the pool and came back up with the Dowitcher in his claws. Observed at close range, this was one of my rarest and most memorable observations at the lake.

Watch for the Supreme Predator Part 4, about their hunting habits around the nest site.



# Up Close Naturally: Spring is a Time for Courting!

BY MARGOT HERVIEUX

*For many people, spring is the season for courtship and weddings. If you have trouble understanding human romance, however, consider the challenges of attracting a mate in the natural world.*

Some of the most interesting animal behaviours have to do with finding and keeping a mate. The males may go after the females or the females may tempt the males, but somehow the two sexes have to get together.

We are most familiar with the many displays that males use to convince females to give them a try. The bright feathers and melodic songs of birds help the males establish a territory and draw females. A great rack of antlers is a sign of vigour and the drumming and dances of grouse showcase the male's endurance.

Display flights are also used to signal potential mates. Male Northern Harriers can be seen diving over marshes in late April and hummingbirds use similar diving flight on their nesting territories. Common Snipe add sound to their diving display. At the bottom of their repeated dives the wind in their tail feathers makes a hollow, whooping sound.



*Margot also writes a column for the Peace Country Sun, archived copies of which are available at [www.peacecountrysun.com](http://www.peacecountrysun.com).*

Maintaining the pair bond is also an important part of courtship. Raven partners stay together year-round and you can often spot a pair grooming each other and babbling "sweet nothings". They are also masters at aerial courtship, flipping and turning together as they ride the wind.

For Great Horned Owls and House Wrens, singing duets is a great way to keep the pair connected. As spring advances, many birds can also be seen sharing treats. Bohemian Waxwings pass berries to potential mates while male kestrels offer a tasty mouse or grasshopper.

Courtship in the spider world can actually be life threatening. Some males will bring a gift a food to keep the female occupied while others immobilize the female's mandibles during mating. Male jumping spiders remain at a distance, waving their brightly marked legs, until the female recognizes them as a suitor instead of lunch.

In other insects, the females release pheromones, a sort of perfume, to attract the males. A wide variety of insects, including pine beetles and a number of different moths, use this trick to draw potential mates across long distances. If you find a moth with feathery looking antennae, you can tell your friends that it uses those antennae to detect the sweet scent of the female.

The world of animal courtship is as diverse as the creatures themselves and it is always full of surprises. A few of our winter residents, including Ravens, chickadees, Grey Jays and Great Horned Owls actually started their courtship in February but for most species the real action doesn't take place until spring.

**JUMPING SPIDER.** WIKIPEDIA



# First Hand: Chestnut-backed Chickadee Delight

BY STAN AND KELTIE MASTERS

As a self-taught wildlife photographer, I often photograph the various birds that frequent the feeders at our Back to Nature Retreat. On January 7, while out capturing the flurry of birds around our feeders, I noticed a chickadee that at first glance looked a lot like the Boreal Chickadee but seemed to be a bit smaller in size. Upon looking closer at my images later that day and consulting Chris Fisher's *Birds of Alberta* book, I realized that this was a Chestnut-backed Chickadee, a species that is rarely seen in Alberta.

From then on, we have seen up to three of these little guys at our feeders daily and have enjoyed the opportunity to have such rare visitors to our B&B!

Some observations about our Chestnut-backed Chickadees:

- They start feeding usually around 10am and continue until about 4 pm.
  - They are very timid and don't like to feed amongst other birds, especially anything much larger than themselves.
  - As ground feeders, they like to sit lower in the bushes then quickly dart in to grab a seed and take it to a nearby branch or deeper into the forest
  - The trees they're in is a mixture of evergreens and deciduous trees and shrubs.
- We haven't yet been able to decipher their song from the other chickadees nearby
  - They are smaller than the other three species we have at our feeders: Black-capped, Boreal and Mountain. However, their legs seem to be slightly longer than the other species.
  - We have been feeding them black oil sunflower seeds but will soon be offering them sunflower chips as well.

Daytime temperatures have been averaging around -10 C with nighttime lows as cold as -25 C during their time here, with a mixture of sun and cloud. We have had 35 cm of new snow since we first saw them.

**Description:** Chestnut-backed Chickadees have a dark brown cap, a black band at eye level and white cheeks. They have a black to dark-brown bib with a chestnut back and flanks. Their wings and tail feathers are black and white, and their tail feathers are slightly longer than the other species of chickadees. Their underparts are grayish-white and they sport a short black beak and dark brown eyes. They are about 12 cm in length.

As Bed & Breakfast owners of Back to Nature Retreat, located near Water Valley, AB we love sharing the beauty of nature



MYRNA PEARMAN



STAN MASTERS



STAN MASTERS

with our guests, and in doing so our bird feeders are often the subject of conversation with all the various species we have come visit us daily.

We would love to share these little Chestnut-backed Chickadees, as well as the multitude of other beautiful winter birds with our guests, so we currently are offering two Bird Lover's packages at our Back to Nature Retreat. For more info feel free to check them out at <http://backtonatureretreat.com/bird-lovers-specials/>

**BACK TO NATURE RETREAT, WATER VALLEY AB.**

STAN MASTERS



## CLUBS PAGE

# Bighill Creek Preservation Society

Bighill Creek Preservation Society (a registered entity) is a group of local residents who recognize that unrelenting development and population pressure from the town of Cochrane and surrounding County have the potential to significantly erode the many beneficial attributes of the watershed. The mission of the society is “To ensure the natural and historical values of Bighill Creek Watershed are preserved for this and future generations.”

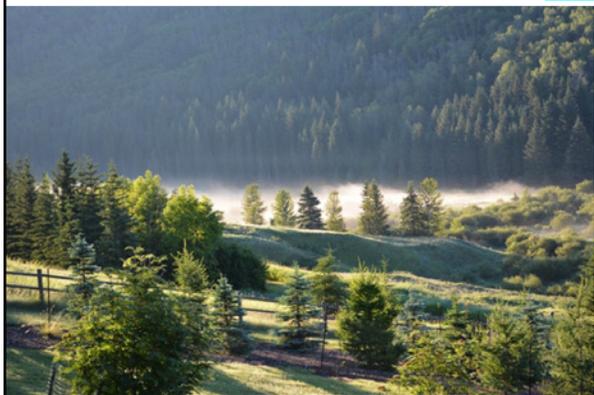
The Bighill Creek Watershed stretches for several miles north and east from the town of Cochrane. It is a significant local and regional ecological, historical and recreational asset. The main valley is believed to have been created

during several weeks near the end of the last ice age.

It provides habitat for numerous species, from birds to bears and cougars. It is a valuable wildlife corridor to and from the Bow River valley. The spring-fed creek, though currently somewhat degraded, is an important spawning area. The valley is believed to contain a number of buffalo jumps and other pre-contact archeological sites as well as early Alberta historical sites. The watershed

currently includes nature conservancy lands, Big Hill Springs Provincial Park and municipal environmental reserves. In addition, virtually all of the drainage has been identified by Rocky View County as an environmentally significant area.

Objectives include maintaining and enhancing the full range of biodiversity, improve watershed health, encourage stewardship and public education.





PHOTOS BY BIGHILLCREEK.CA



THE PRAIRIE BUTTERCUP  
(*RANUNCULUS RHOMBOIDEUS*),  
TAKEN ON DON CARLYLE FARM.

CHARLEY BIRD



## Charley's Nature Note: The Prairie Buttercup

BY CHARLES BIRD

*After a long and dreary winter, we look forward to spring with the snow going, gophers running around, the birds returning and the earliest flowers starting to show up in the few remaining patches of native prairie.*

The very first are the Prairie Crocuses which I wrote about in a Nature Note of April 3, 2016. Perhaps the next to appear is the Prairie Buttercup, *Ranunculus rhomboideus*. My records are of them being in flower from late April to early June. It is characteristic of native short-grass and mixed-grass prairie and is often found on south-facing hillsides. This is perhaps so as much of the level ground has been broken for cultivation and the plants destroyed, whereas a hillside may have been too steep for cultivation.

Like the Prairie Crocus, the Prairie Buttercup is a member of the Ranunculus or Buttercup family. It is a low-growing perennial that

bears 3-12 flowers each of which is 1/3 to 1/2 of an inch across. Each flower usually has five petals and five sepals. The petals are bright yellow and shiny while the sepals are pale yellow and less noticeable. There are numerous yellow stamens. The fruits which develop in a globular head are dry achenes. The stem leaves are dark green, deeply cleft into three lobes and are hairy. Bumblebees and smaller bees are often seen visiting the flowers.

Also appearing around the same time, and in the same habitat, is the Early Cinquefoil (*Potentilla concinna*); see photo, inside front cover. Its larger, wider petals and more noticeable 5-9 foliate leaves

that are white tomentose below make it easily separable.

You can read more about the Prairie Buttercup in the classic "Flora of Alberta" written by Ezra Moss and revised by John Packer. It is illustrated and described in "Wildflowers Across the Prairies" by F.R. Vance, J.R. Jowsey and J.S. McLean. There is also a nice account at <https://www.minnesotawildflowers.info/flower/prairie-buttercup>.

Two of nature's treasures. Admire, photograph and protect for future generations.



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

## CELESTIAL HAPPENINGS

# Spring/Summer 2018

BY JOHN MCFAUL

**Sun:** Rise – May 1 (5:58 MDT), June 1 (5:11 MDT), July 1 (5:09 MDT)  
Set – May 1 (9:04 MDT), June 1 (21:53 MDT), July 1 (22:06 MDT)  
Summer Solstice is on Monday, June 21, 2018 at 4:07 AM in Edmonton

**Moon:** Full – May 29, June 27, July 27  
New – May 15, June 13, July 12

**Planets:** **Mercury** will be visible quite low in the WNW sky shortly after sunset the last week of June into the first week of July.

**Venus** will shine brightly in the western sky throughout the spring and summer. Look for the crescent moon to be nearby on May 17, June 15 and July 15.

**Mars** is best seen in the early morning southern sky from May through July. It will rise earlier as the month's progress from about 2 AM in May to a little after 10 PM in late July. From May to the end of July it will continue to brighten until it is brighter than Jupiter. On July 27th the Earth will be directly between the Sun and Mars. On July 31st Mars will be the closest to the Earth since its historical close approach of 2013.

**Jupiter** rises at sunset in early May. In late June and July, it will be about 25 degrees above the southern horizon after sunset. The moon will be close by on June 23rd and July 20th.

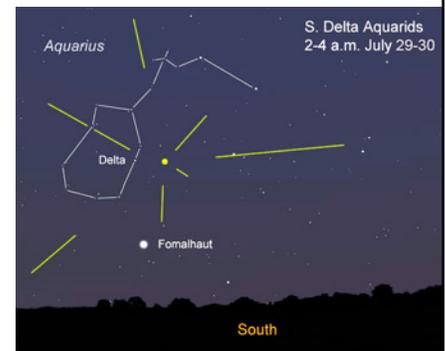
**Saturn** starts off May being best seen in the early morning southern sky. It rises earlier each day and by late June it will rise at sunset. The moon will be nearby on June 1st and 27th and again on July 24th.

**Meteor Shower:** Delta Aquirids (July 29th, 20/hour in a dark sky).

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

With the Southern Delta Aquarid meteor shower peaking, the summer meteor season's officially underway. While not a spectacular shower from mid-northern latitudes, why not chance a look anyway. With a rate of 10-15 per meteors an hour from a dark sky you're bound to catch at least a few.

The farther south you live, the better it gets. Observers in the southern hemisphere can expect double that number because the shower's radiant will be much higher in the sky. Any meteors flashing south of the radiant won't get cut off by the southern horizon like they do further north.



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# Cypress Hills versus Cypress Hill



*The Cypress Hills are a geographical region of hills that spans the SE corner of Alberta and the SW corner of Saskatchewan. But did you know that Cypress Hill is an American hip hop music group from South Gate, California?*

Cypress Hill was the first Latino American hip hop recording group to have platinum and multi-platinum albums, selling over 18 million albums worldwide. They are considered to be among the main progenitors of West Coast rap and hip hop in the early 1990s, being critically acclaimed for their first four albums. The band has also advocated for medical and

recreational use of cannabis in the United States. Why Cypress Hill? It is named after a street in South Gate.

But wait! Cypress Hills also serves as a border between Brooklyn and Queens. The neighborhood has a polyglot makeup that includes large Latino and African-American populations as well as South Asian and Caribbean immigrants. The

Cypress Hills title is taken from the cemetery, which in turn is thought to have been named for the abundance of cypress trees in the area. The cemetery is the last resting place of a number of notables, including Jackie Robinson and Mae West.

And now you know. Go ahead; wow your friends with your knowledge of trivia.

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