



FALL 2018 VOLUME 76.3

BLUE JAY





6

In this issue's edition of The Nature Notebook, Jared Clarke discusses ecological loss and grief — why we feel it, acknowledging it, and a call to start talking about it.



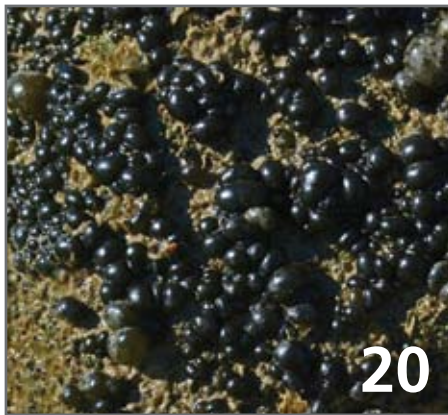
10

Laurence Bedford Potter was one of the first and most respected Saskatchewan ornithologists. Having lived a life close to nature, he loved the birds, beasts, and flowers, and intimately sensed his world around him. Turn to page 10 to read about Potter's accomplishments and his life.



16

Where many naturalist field guides can fail is in the reliability of their range maps — a shortcoming that can be alleviated with a regional checklist. In 2013, the need for a checklist for butterflies in the Saskatoon area was identified. Turn to page 16 to view this checklist.



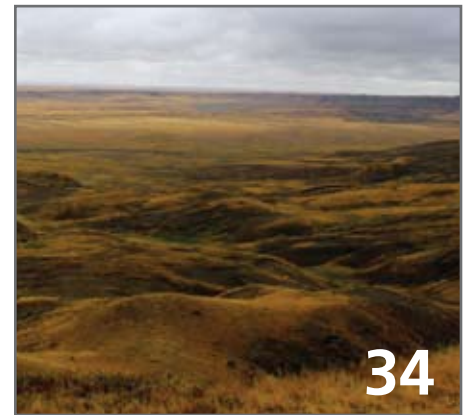
20

John R. Lawrence, Julie Roy, George D.W. Swerhone and Armelle Paule provide a record of *Nostoc parmelioides* in Swift Current Creek, Saskatchewan.



28

In this issue, two separate observations of Townsend's Solitaire behaviour are provided — one in Manitoba and one in Saskatchewan.



34

In this issue's edition of Human Nature, Luther High School graduate Joshua Christiansen shares his thoughts on the natural beauty of Grasslands National Park in Saskatchewan.

WHAT'S INSIDE

- 5 **30th Annual Winter Birding Contest Results**
Boyd Metzler
- 6 **The Nature Notebook: Dealing With Our Grief**
Jared Clarke
- 7 **Nature Saskatchewan 2018 Spring Meet: The Big Muddy**
- 10 **Laurence Bedford Potter: Pioneer Ornithologist of Southwestern Saskatchewan**
Julia Adamson
- 14 **Book Review: Best Places to Bird in the Prairies**
Annie McLeod
- 16 **A Checklist for Butterflies of the Saskatoon Area**
Craig Salisbury & Mike Gollop
- 18 **Nature Saskatchewan Fall Meet 2018**
- 20 **The Macroscopic Cyanobacterium *Nostoc Parmelioides* in Swift Current Creek, SK, Canada**
John R. Lawrence, Julie Roy
George D.W. Swerhone,
Armelle Paule
- 22 **Changes in Nesting Density of Baltimore Orioles (1976-1995) and Other Species in the Dune-Ridge Forest, Delta Marsh, MB: Response to an Outbreak of Forest Tent Caterpillar?**
Spencer G. Sealy
- 28 **An Encounter With a Townsend's Solitaire (*Myadestes Townsendi*)**
Redmond McV. Clarke
- 29 **Townsend's Solitaire Winter Behaviour**
Guy Wapple
- 31 **Nature Saskatchewan Welcomes New Board Members**
- 32 **Drumming Ruffed Grouse**
R. E. Gehlert
- 34 **Human Nature**
Joshua Christiansen
- 35 **Mystery Photo**

FROM THE PRESIDENT

Ed Rodger

President, Nature Saskatchewan

Hello Everyone,

It's my pleasure to write my first 'From the President' message for the *Blue Jay*. I'm honoured to be able to work with an organization that has such a long history, and numerous achievements, working for nature in Saskatchewan.

I'm entering my fifth year on the



ON THE FRONT COVER

A Wilson's Snipe (*Gallinago delicata*) calling from a fencepost in square 13UFQ63 of the Saskatchewan Breeding Bird Atlas, near Roche Percee, in June 2018.

For more information about the Saskatchewan Breeding Bird Atlas, or to register, view maps, and check out upcoming events, visit the project website at sk.birdatlas.ca.

Photo credit: Annie McLeod



ON THE BACK COVER

A Ruffed Grouse (*Bonasa umbellus*) drumming on a log behind R.E. Gehlert's house in Alberta. Turn to page 32 for more information and to view a succession of photos taken of this bird.

Photo credit: R. E. Gehlert

Nature Saskatchewan Board. Board members come from a variety of backgrounds and locations, bringing different perspectives to many interesting discussions.

Recent Board discussions have focused on what Nature Saskatchewan, as an organization, means for its members, and its broader community of volunteers, participants, supporters, employees and partners. We eventually looked at the question using the 'value proposition' concept – borrowed from the business world – to structure the discussion. For a business, the value proposition is understood as what makes a company attractive to customers. The parallel concept, for us, is what is most important about Nature Saskatchewan for members of our community.

In our discussions, we of course noted what Nature Saskatchewan provides as direct, personal benefits for members. This includes the *Blue Jay*; the chance to participate in enjoyable, good-value Spring Meets and Fall Meets; participation in 'citizen science' activities; and access to high-quality specialized publications (and there is still much to come in this area). We all agreed that it was important for Nature Saskatchewan to continue to provide these kinds of direct benefits for members.

For an organization such as Nature Saskatchewan, however, the value proposition will also come in a way that goes beyond direct personal benefit. Our community cares about nature in Saskatchewan, and the organization should provide a way for them to support and express that caring. This happens already through a variety of conservation, research and education activities, and



Ed Rodger

as the Board prepares for a round of strategic planning later this year, we will continue to ensure that we plan our activities in light of the 'value' concept for our community members.

Board members provided a lot of good insights about the Nature Saskatchewan value proposition, and I am in the process of editing this into a single document for us to refer to and share. But such a statement is something that evolves with the organization, and I expect to update it accordingly on the basis of other comments. In that vein, I'd be interested to know your thoughts about Nature Saskatchewan, either in 'value proposition' terms, or any other way. If you have anything you'd like to discuss, please feel free to contact me at (306) 539-2800 or at edrodger@sasktel.net.

Finally, I'd like to acknowledge this year's changes to the Nature Saskatchewan Board, from our Annual General Meeting. Our thanks go to Nicole Dunn, who has completed her terms as Secretary for the Board. We also welcome two new members to the Board: Brian Johnson, who will take over from me as Treasurer, and Jamie Sparrow. Thanks to you for joining, and thanks to all the other Board members who have renewed or are continuing their terms! 🐦



BLUE JAY

Blue Jay, founded in 1942 by Isabel M. Priestly, is a journal of natural history and conservation for Saskatchewan and adjacent regions. It is published quarterly by Nature Saskatchewan.

Editor: Annie McLeod
3017 Hill Avenue
Regina, SK S4S 0W2
E-mail: bluejay@naturesask.ca

Editorial Information

Blue Jay welcomes all submissions, preferably by e-mail (although hand-written or typed manuscripts will be considered to accommodate those who do not have access to computer equipment), polished or in need of some editorial assistance. All items for publication should be sent to the editor electronically (in a Microsoft Word document) by e-mail or on CD. Hard copies and CDs can be mailed to the editor at the address above.

Submission deadlines

January 1 for the Spring issue,
April 1 for the Summer issue,
July 1 for the Fall issue, and
October 1 for the Winter issue.
For detailed information, please see the "Guidelines for Authors" under the Publications section of the Nature Saskatchewan website.

Advertising Rates

\$45	1/12 pg	2.3" x 2.3"	S
\$65	1/6 pg	4.9" x 2.3"	H or V
\$115	1/3 pg	4.9" x 4.9"	S
\$115	1/3 pg	2.3" x 10"	V
\$175	1/2 pg	7.5" x 4.9"	H or V
\$200	2/3 pg	4.9" x 10"	V
\$300	Full pg	7.5" x 10"	V

S=Square, H=Horizontal, V=Vertical

- eNGO's receive 10% off ad rates.
- Book the same ad for all four quarterly issues and receive 15% off the total price.

See www.naturesask.ca/publications/blue-jay for complete ad submission guidelines.

Nature SASKATCHEWAN

Board of Directors

President
Ed Rodger
Vice President
Ken Ludwig
Secretary
Fraser Hunter
Treasurer
Brian Johnson
Past President
Branimir Gjetvaj
Honourary President
Gary Seib
Conservation Director
Lorne Scott
Directors
Amy Wheeler
Jamie Sparrow
Martin Boucher
Cheryl Loadman
Donna Bruce
Morley Maier
Vladimir Kricsfalusy

Office & Program Contacts

Executive Director
Jordan Ignatiuk
Species at Risk Manager
Melissa Ranalli
Conservation & Education Manager
Lacey Weekes
Communications Manager
Ellen Bouvier
Office Coordinator
Becky Quist
Habitat Stewardship Coordinator
Kaytlyn Burrows
Habitat Stewardship Coordinator
Ashley Vass
Habitat Stewardship Coordinator
Rebecca Magnus
Database Technician/
Habitat Stewardship Assistant
Emily Putz
Turkey Vulture Tracking Program
Dr. Stuart Houston
To report banded vultures, please
contact Dr. Houston at 306-652-2603

Main Office

Nature Saskatchewan
206 – 1860 Lorne Street
Regina, Saskatchewan S4P 2L7
(306) 780-9273
info@naturesask.ca
www.naturesask.ca

Publications

Blue Jay Editor
Annie McLeod
Acting Special Publications Editor
Donna Bruce

Contacts for Local Societies & Affiliates

Fort Qu'Appelle Nature Society
Keith Stephens
Indian Head Natural History Society
Irv Escott
Kelsey Ecological Society
Kathleen Pitt
Moose Jaw Nature Society
Lorna Arnold
Nature Prince Albert
Jim Bahr
Nature Regina
Elaine Ehman
Neudorf Trails &
Wild Bird Sanctuary Society
Keith Gerstner
Saskatoon Nature Society
Valerie Martz
Southwest Naturalists
Janet Payne
Weyburn Nature Society
Val Thomas
Yorkton Natural History Society
Geoff Rushowick
Yellowhead Flyway
Birding Trail Association
Martin Phillips
Meadow Lake 'Woodlanders'
Junior Forest Wardens
Neil Marsh
Friends of Wascana Marsh
Ramona Clarke

30TH ANNUAL WINTER BIRDING CONTEST RESULTS

Boyd Metzler
Whitewood, SK

The 30th Annual Winter Birding Contest, which is open to all members of Nature Saskatchewan, concluded on February 28, 2018. This year, there were five entries: Guy Wapple of Saskatoon (79 species), Annie McLeod and Joel Cherry of Regina (65 species), Orval Beland of Denholm (40 species), Boyd Metzler of Whitewood (38 species), and Kathy Eberhardt near Regina (nine species).

Guy had another great year especially considering that stragglers weren't as plentiful this year. He had an excellent year for rarer waterfowl, spotting the Red-necked Grebe, Pied-billed Grebe, Western Grebe, and the Ruddy Duck. He also spotted the Red-bellied Woodpecker, Mourning Dove, Northern Saw-whet Owl, Wilson's Snipe, Great Gray Owl, and the Red-tailed Hawk. Guy commented that in spite of some cold weather, this winter bird list represents one of his better totals. Of course, doing nine Christmas Bird Counts didn't hurt his efforts, either. His total of 79 species was well above his 30-year average of 66.6 species.

Highlights for Annie and Joel included Wood Duck, Townsend's Solitaire, and Sharp-Shinned Hawk at Wascana Park in their hometown of Regina, as well as boreal specialties such as Evening Grosbeak, Great Gray Owl, White-Winged Crossbill and Pileated Woodpecker during a trip to Candle Lake. Visits to Gardiner Dam netted waterfowl including Western and Pied-billed Grebe,



A male Wood Duck was present in Regina this past winter, spending much of its time at Pine Island in Wascana Park. Photo credit: Annie McLeod

Common Goldeneye and Common Merganser.

Orval observed a very impressive list of owls and hawks. He saw Snowy, Great Horned, Boreal, and Northern Hawk owls as well as the Northern Goshawk, Rough-legged Hawk, Cooper's Hawk and the Merlin.

Boyd noted a very different year in the lower Qu'Appelle. There was little water flowing; one weekend the entire river was open and the next weekend it was all frozen — very poor conditions for observing waterfowl. He did observe a Turkey Vulture in the Qu'Appelle Valley in early December. In this area, habitat

destruction continues to be a big problem but the upland game birds seem to have made a big recovery.

Kathy noted that she lives in an area near Regina where there are a lot of big farms but not much bird habitat. So her list isn't very long but it did include the winter-rare Mourning Dove. She remarked that it is still fun to take part in the contest.

A special thank you to everyone who is willing to share their winter bird lists. My apologies for not getting the reminder in the *Blue Jay* on time last fall. 🦉

THE NATURE NOTEBOOK: DEALING WITH OUR GRIEF



Jared Clarke

Have you ever driven to a longtime favourite wetland and found it drained and levelled out? Or stopped at a once-reliable place for that bird, bug, butterfly, or frog, only to realize that they have disappeared from that spot? Do you remember how you felt? I certainly do. Growing up in Regina, the Cinema 6 slough was a five-minute drive from my parents' home. Once I turned 16 and could drive, I spent many evenings there on my own, watching swarms of sandpipers, swans, thousands of ducks and nesting American Avocets. Last year, as a result of the exceptional drought and the efficient system of drainage canals in the area, the Cinema 6 slough dried up, was tilled up and planted for crop. I know the Cinema 6 slough has dried up before, but given the drainage system now in place I think it is gone for good. I felt sick to my stomach when I came upon it. Numerous emotions passed through me: anger, sadness, and frustration. Another important stop-over lost for dwindling shorebird populations. Another wetland lost for prairie frogs and nesting birds. Another birding spot lost for future and present birders.

Recently, during an interview on *The Prairie Naturalist*, I had the chance to talk with Dr. Katherine Arbuthnott, a conservation psychologist, about ecological grief. I had never really

thought about my feelings of environmental loss as grief, but it hit home for me. For a long time, I've held on to one of Aldo Leopold's quotes, as I am sure many other naturalists have, and now, having an understanding of ecological grief, it rings even truer: "One of the penalties of an ecological education is that one lives alone in a world of wounds."

I learned from Dr. Arbuthnott that grief is a natural response to loss. We are humans, and as humans we make connections to people, places, things, even nature. When we lose something like a favourite wetland, or patch of prairie, or an entire species, it is okay to feel sad about it. We need to acknowledge that sadness and loss, because it is a real emotion. Don't just dismiss it. Acknowledging these feelings doesn't make us weak or pitiful. Let the wound of our loss heal, so that we don't have to carry it with us all the time, through anger, bitterness, or frustration.

How should we deal with our ecological grief? Dr. Arbuthnott told me that we don't have many good grieving rituals of any kind in our society. She said to be creative. Honestly, I still haven't figured out what that should look like. But I think we need to start thinking and talking about it.

Many of us feel ecological loss, and we should start talking about it. I know for me, I felt better after talking about it with Dr. Arbuthnott, and I felt better after putting these thoughts down on this page.

Jared Clarke is a Grade 6/7 teacher and biologist who lives on a small farm near Edenwold, SK with his family. He hosts a nature radio program called The Prairie Naturalist on Thursdays at 6:00 pm on 91.3 FM CJTR in Regina. Follow him on Twitter @jaredclarke5 or on Facebook @ThePrairieNaturalist. 🐦

POETRY

Patience

Heron stands alone
at water's edge,
motionless, as minutes pass.
Then long neck
flashes downward,
snaps up tiny minnow,
gulps – and waits again.
Wish I could have
his patience.

Donna Firby Gamache

P.O. Box 453
MacGregor, MB
lucgam@mymts.net



Photo credit: Donna Firby Gamache



NATURE SASKATCHEWAN 2018 SPRING MEET THE BIG MUDDY

Becky Quist
Nature Saskatchewan

With stunning views and an intriguing history, it's no wonder that Nature Saskatchewan held its 2018 Spring Meet (June 8 to 10) in Coronach.

A gem in southwest Saskatchewan, the Big Muddy Valley was an ideal location to explore and enjoy. With 79 attendees who were ready to have a fun weekend, the Meet began with a captivating presentation by Kristin Catherwood, Intangible Cultural Heritage Development Officer with Heritage Saskatchewan. Storytelling

that connected us to the landscape, people and the history set us off with excitement for the day ahead.

A sunny and hot forecast presented itself for the journey from Coronach through the Big Muddy. Two buses were loaded to take attendees to Castle Butte, where many adventurous meet-goers climbed to the top to appreciate the view. Onward to Big Beaver to visit Aust's General Store and the Nature Centre, the tour guides fascinated everyone with the knowledge they had of the surrounding area, keeping up the enthusiasm for future stops. The group then traveled to a Buffalo

Effigy and a Ceremonial Circle, which offered the opportunity to learn about the many ways the Indigenous people of Saskatchewan have shaped our collective history, and about their deep connections to the landscape.

Meet-goers were treated to a riveting storytelling presentation on the outlaw past of the area by Tammy Burgess with a lunch stop at the Burgess Ranch and a view of her art gallery. When the buses were loaded for the last leg of the tour — to pasture land to view the Important Bird Area of Big Muddy Lake — we didn't know what adventure was lying ahead. The road in was not



exactly meant for a motor coach but our very funny and daring bus drivers led us up a steep incline to an outlook with a mesmerizing view of Big Muddy Lake. There we were able to enjoy the scenery, identify plants and birds (and laugh about making it up the hill) and we were treated to a bit more storytelling from Michael Burgess before returning to Coronach for the evening banquet.

With everything a small-town feast offers and more, our delicious

dinner moved us toward the end of our evening with Dr. Jon and Naomi Gerrard discussing the memories and findings of their research of Bald Eagles in Saskatchewan's Boreal forest at Besnard Lake.

The annual general meeting was held Sunday in the hall. Those in attendance were presented with highlights of Nature Saskatchewan's annual report and the financial statements, and the election of a new slate of directors for the Nature

Saskatchewan board took place. Stepping down was secretary, Nicole Dunn, while new directors are Brian Johnson (treasurer) and Jamie Sparrow (director at large). Ed Rodger is the new president, Ken Ludwig the new vice-president and Fraser Hunter is secretary.

Nature Saskatchewan extends its sincerest thanks to the dedicated and passionate work of Leanne and her team with Coronach Tourism and our daring bus drivers from BJ Bus Lines.

Another great meet in the books!





LAURENCE BEDFORD POTTER: PIONEER ORNITHOLOGIST OF SOUTHWESTERN SASKATCHEWAN



Isabel & Laurence Potter on Sunday, July 17, 1932 at their Gower Ranchhouse back door, up-river from Eastend, SK. Photo courtesy of the Eastend Historical Museum.

Julia Adamson

210 Appleby Court

Saskatoon, SK S7M 4B2

djadamson@sasktel.net

Laurence Bedford Potter (November 4, 1883 - November 6, 1943) was one of the first and most respected Saskatchewan ornithologists — “one of our few reliable bird observers” (Houston).⁵ A cattle rancher and resident at Gower Ranch, Eastend, Saskatchewan, Potter was born in Monmouth, Great Britain, emigrating to the North-West Territories, Canada in 1901. Having lived a life close to nature, he loved the birds, beasts, and flowers, and intimately sensed his world around him. He knew every portion and parcel of his Gower Ranch like the back of his hand. Oh! To have had the opportunity to be guided by Potter from nest to nest, to awaken every morning with gladness looking out on nature, birds, and relishing the health-giving air around us!

Potter first sent bird arrival dates each spring to the Territorial Natural History Society, published by the Department of Agriculture in Regina until 1909 (Willing 1902,¹⁷ Belcher 1996¹), and later to the U.S. Biological Survey in Washington until 1940 (Houston pers. comm.). Potter published nine Christmas Bird Counts,⁶ as well as 19 notes and articles in *Condor*, eight in *Canadian Field-Naturalist*, one in *Auk* and one in *Blue Jay* (Houston and Houston 1979,⁷ Godfrey 1950,⁴ Potter 1942).¹⁰ J. Dewey Soper (1944)¹⁵ described Potter: “In 1906, he

began to methodically write up his observations on the local avi-fauna, a habit which he continued faithfully thereafter. His journals are replete with interest and occupy a unique place in the annals of Saskatchewan ornithology ... he gradually gained distinction as an authority on the birds of southwestern Saskatchewan where he established many notable 'firsts' for the provincial bird list."

Potter's 'firsts' for Saskatchewan included the Screech Owl in 1904 (sight record at close range), Poorwill in 1905, Townsend's Solitaire in 1908, Pinyon Jay in 1910 (sight record only), Yellow-breasted Chat in 1922 (with first nest the same year), Gray-crowned Rosy Finch, Lark Sparrow and Rufous Hummingbird in 1932 (final three new species during one of the driest years on record). Potter had two first Saskatchewan nesting records, that of a White-crowned Sparrow in a gooseberry bush in 1919 and the first Bullock's Oriole nest on July 10, 1937. In 1922, Potter had the farthest-west nesting of the Eastern Bluebird (Smith, Houston and Roy 2019).¹³

Three fellow rancher naturalists in southwestern Saskatchewan were Charles Frederick Holmes south of Dollard (Houston 2012)⁵, who collected the first three Saskatchewan specimens of the Sage Thrasher and found the first nest of the Yellow-breasted Chat (Godfrey 1950),⁴ Spencer Pearse at Ravenscrag, and Steve Mann at Skull Creek post office (Belcher 1969).² Steve Mann was the only one of the four born in the Cypress Hills. He led spring field excursions to the Cypress Hills several times and became president of the Saskatchewan Natural History Society, 1962-1964. He also sighted the first Mountain Chickadee in Saskatchewan, present at his feeder from November 30, 1966 to April 22, 1967 (Belcher

1969).²

When Potter died, Holmes wrote to Mann of "the passing of a friend of thirty-five years and one of his calibre and irreplaceable. I shall miss him terribly for neither ever saw a new bird without going into a huddle over it. It was not that I saw very much of him, but one knew that he was always there." (Houston, 1979).⁷

Laurence Bedford Potter was born November 4, 1883 at St. Thomas Vicarage, Monmouth, the ninth child in a family of 12. His father, Peter Potter III B.A., M.A. (1841-1914), was the Vicar of St. Thomas. Potter came from an English family of distinction. Peter Potter I (d 1843), the chief land agent to Lord Bradford of Gorway House was the great-grandfather of Laurence Bedford Potter. Peter Potter I assumed duties for collecting rents, handling sales, and disputes for the Earl of Bradford who was the Lord of the Manor of Walsall — nearly the entire parish. In 1828, Lord Bradford built a villa at Wood End named Gorway House in Walsall, Stafford, England for Peter Potter I and his family of five girls and three sons. Reverend Potter III, who was very much admired in the community, often bicycled to see the birds, trees, and garden along the countryside (Soper, 1944).¹⁵

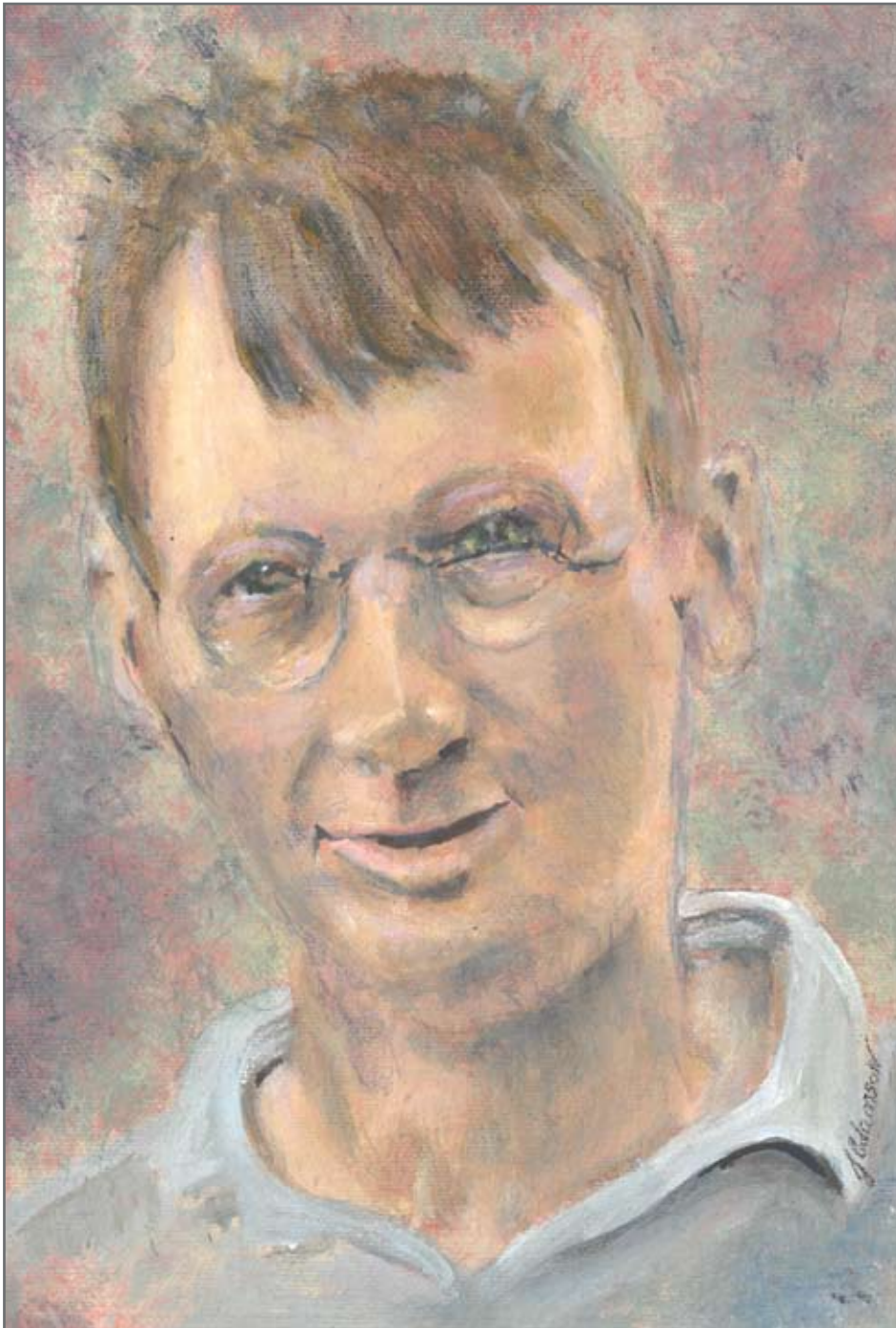
Potter was a self-taught naturalist and a pioneer writer of articles about birds. Potter could find no one around to answer his questions about the birds when he arrived in Saskatchewan from England in June 1901 (age 18) and began his life-long habit of observing the birds around him in his personal journals. His field trips covered especially the southeast corner of the Cypress Hills and the Frenchman River valley, as reported in his unpublished diaries. He accumulated a substantial library of books. Respected for his field

experience, he sent occasional rare specimens to the *Provincial Museum of Saskatchewan* (Regina), the *Grand Coteau Museum* (Shaunavon) and *The National Museum* (Ottawa). Readers of the 10-years-in-writing *Birds of Saskatchewan* (Smith, Houston and Roy, 2019)¹³ will this coming winter be surprised to read how much Potter contributed.

Potter and his sister Mary Isabella Potter (Isabel) (1871-1949) joined their elder brother Ernest Stileman Potter (1874-1956), who was ranching near Eastend along the Frenchman River valley. Ernest arrived near Eastend in 1894 at age 20. Their sister, Olive Spilsbury Potter (1882-1935), came to visit for two years between 1903 and 1905.

Considering the wide open plains of 1901 and the sparse settlements, Potter was very active in the naturalist community. In 1921, Mr. Percy Taverner came from the *National Museum* in Ottawa to southwest Saskatchewan and spent days together with Potter. Potter was both host and guide for other professional naturalists H. Hedley Mitchell, Fred Bradshaw, Fred G. Bard, and J. Dewey Soper. Potter wrote articles beginning around 1921 for *Condor*, *Auk* and *Canadian Field-Naturalist* and contributed bird counts to *Bird-Lore* before its name change to *Audubon Field Notes*. Potter travelled in October 1926 to the first AOU meeting held outside the United States — in Ottawa — and participated in the group photo of 48 attendees (Cranmer-Byng 1996). Potter published a summary of important bird observations in volume 1 of *Blue Jay*, 1942-43.¹⁰

Donald G. Wetherell noted that as there was "a growing public demand and interest during the interwar years, several publications began to run an increasing number of non-fiction articles and features about



Adamson, Julia. Laurence Potter (Painting). Photo reference courtesy of Eastend Historical Museum.

wildlife and natural history. Some examples include contributions by Laurence Potter, a bird enthusiast at East End in southwest Saskatchewan who provided notes on birds to Ernest Ingersoll, an American naturalist, [who] wrote a weekly column for a Montreal newspaper, *The Family Herald and Weekly Star*, in the 1920s” (Wetherell, 2016).¹⁶ During this era, a half million readers

looked to Ingersoll’s ‘The Natural History Club’ column, which delved into topics on natural history and answered questions. Most popular among readers was their interest in birds, particularly western birds, and Potter was considered as somewhat of an oracle and sage.

Potter’s keen observations brought him to the point of dismay as he noted the decline

in bird populations as settlement, agriculture and ranching extended their reach into the native grasslands of the southwestern prairies (Potter, 1930).⁹

On June 13, 1944, southwest stockmen were told that cattle numbers had already reached the capacity of the rangeland. In the *Regina Leader-Post*, Dr. S.E. Clark of the Swift Current Experimental Station reported that there were about 100,000 head of cattle in Canada, that pasture lands were reaching or even exceeding their full grazing capacity, and that ranchers should consider culling those herds, rather than expanding.

Besides his natural love for birds, Potter explored horticulture by planting crab apples, plums, cherries, raspberries, gooseberries, and currants. His specialties were the native red, amber, and yellow Ribes also known as the Missouri flowering currant. The *Morden Experimental Farm* lists 10 new varieties of wild currants in the “L.B. Collection.” The *Arnold Arboretum*, Harvard University, also received eight varieties.

Mary Isabella Potter, the eldest of the family came to Canada in 1901 (age 30), and returned to England after Laurence Potter died of cancer in 1943 at Eastend. The past 10 years or so of his life had been in poor health, and he sought surgical operations across Canada and the United States to no avail. According to Houston, Potter was admitted to the Grey Nuns Hospital in Regina between May 18 and 26, 1943. At this time, Potter had made arrangements to sell Gower Ranch to Reuben Stredwick of Eastend. Potter returned for surgery on bowel cancer June 11, 1943. Recovering, he spent a few months living with Isabel in Eastend. Just before passing away, Potter had an enjoyable supper with

naturalist J. Dewey Soper, a widely traveled Canadian ornithologist, explorer, zoologist, prolific author and the Migratory Bird Officer out of the *National Museum*, Ottawa. Soper wrote of Potter, "The Canadian West has lost not only one of its prominent pioneers, but also one of its best field ornithologists" (Soper, 1944).¹⁵ Potter passed away November 5, 1943, one day following his 60th birthday; his ashes were taken to England. His sister Isabel died in England on July 20, 1949 at the age of 78.

For further information about Potter, his family history and to delve into ornithology journal articles written by Laurence Potter, please contact the Eastend Historical Museum and Cultural Centre, 306 Red Coat Drive, Eastend, SK. There, Bryson LaBoissiere has taken the lead on preserving and commemorating the legacy of Laurence Bedford Potter.

Acknowledgements:

I must express my profound gratitude to Stuart Houston for his invaluable participation and input. I could not have imagined having a better advisor for the development of this research work into the ornithological life of Laurence Potter.

References

1. Belcher M (1996) *The Isabel Priestly Legacy: Saskatchewan Natural History Society, 1949-1990*. Special Publ. SNHS No. 19.
2. Belcher M (1969) Steve Mann, rancher-naturalist of Skull Creek, 1895-1968. *Blue Jay* 27:122-128.
3. Cranmer-Byng JL (1996) A life with birds: Percy A. Taverner, Canadian ornithologist, 1875-1947. *Canadian Field-Naturalist* 110:1-254. Group photo of 48 attending the AOU meeting, Ottawa.
4. Godfrey WE (1950) Birds of the Cypress Hills and Flotten lake regions, Saskatchewan. Bull. 120, Biological series 40, National Museum of Canada.

5. Houston CS (2012) A biographical sketch of prairie naturalist Charles F. Holmes, 1888-1948. *Saskatchewan History* 64(1):24-31.
6. Houston CS, Houston, MI (1976) Prairie Christmas Bird Counts, 1906-1941. *Blue Jay* 34:214-219.
7. Houston CS, Houston, MI (1979) Four Rancher Naturalists of the Cypress Hills Saskatchewan. *Blue Jay* 37:9-19.
8. Mitchell HH (1919) Bird notes from Saskatchewan. *Condor* 21:222-225.
9. Potter LB (1930) Bird life changes in twenty-five years in southwestern Saskatchewan. *Canadian Field-Naturalist* 44:147-149.
10. Potter LB (1943) Saskatchewan bird records made since the publication of Mitchell's catalogue of Saskatchewan birds in 1924. *Blue Jay* 1(3:25).
11. *Provincial Archives of Saskatchewan. Saskatchewan Historical Society. Collection Call Number SHS50. Description of Item LB Potter 1908-1950 referenced from Archives SAFA guide S44.*
12. Sieglinger J Beardsley (1928). Broomcorn Experiments at the United States Dry-land Field Station, Woodward, Okla. Issue 51 of *Technical bulletin* (United States. Department of Agriculture). U.S. Department of Agriculture. p. 15.
13. Smith AR, Houston CS, Roy JF (2019). *Birds of Saskatchewan*. Regina: Nature Saskatchewan. 816 pp.
14. Soper JD (1942). The Long-tailed Chat in Saskatchewan. *Canadian Field-Naturalist* 54:116.
15. Soper JD (1944). Laurence Bedford Potter, 1883-1943. *Canadian Field-Naturalist* 58:66-67.
16. Wetherell DG (2016). *Wildlife, Land, and People: A Century of Change in Prairie Canada*. Carleton library series 238. McGill-Queen's University Press, p. 607.
17. Willing TN (1902) Territorial Natural History Society, Appendix D in Provincial Archives of Saskatchewan, 1903, p. 197.

External Sources

Saskatchewan Historical Society. SK Archives Call Number SHS121 Description of Item Ranching Clippings File 1838-1945. 📄

POETRY

A CHANGING OF THE GUARD

Spent autumn's forces, slow, retreating, bed
 down for the night--not uniformed in reds
 and blazing yellows, but dun-clothed in tans,
 sere-brown, and dirty russet. Winter's slow
 advance, mere flake by slow-descending flake,
 soon covers all, creates a world of white,
 with soft-blue shadowing, and later mounds
 of morning diamonds or yellow glazing.

Victor C. Friesen

P.O. Box 65
 Rosthern, SK S0K 3R0
 victorcfriesen@yahoo.com

BEST PLACES TO BIRD IN THE PRAIRIES

JOHN ACORN, ALAN SMITH AND NICOLA KOPER

GREYSTONE BOOKS LTD., 2018. 280 PP. 5.5" X 8.5". PAPERBACK \$24.95. ISBN: 978-1-77164-326-9. EBOOK ISBN: 978-1-77164-327-6

Review by Annie McLeod
Blue Jay Editor

For anyone looking to expand his or her birding 'life list', increase the chances of finding a rare bird or local specialty, or simply just get out and bird some new areas, *Best Places to Bird in the Prairies* is a must-have resource. This guidebook provides readers with insights from three expert birders as they share the best places to bird throughout Alberta, Saskatchewan and Manitoba.

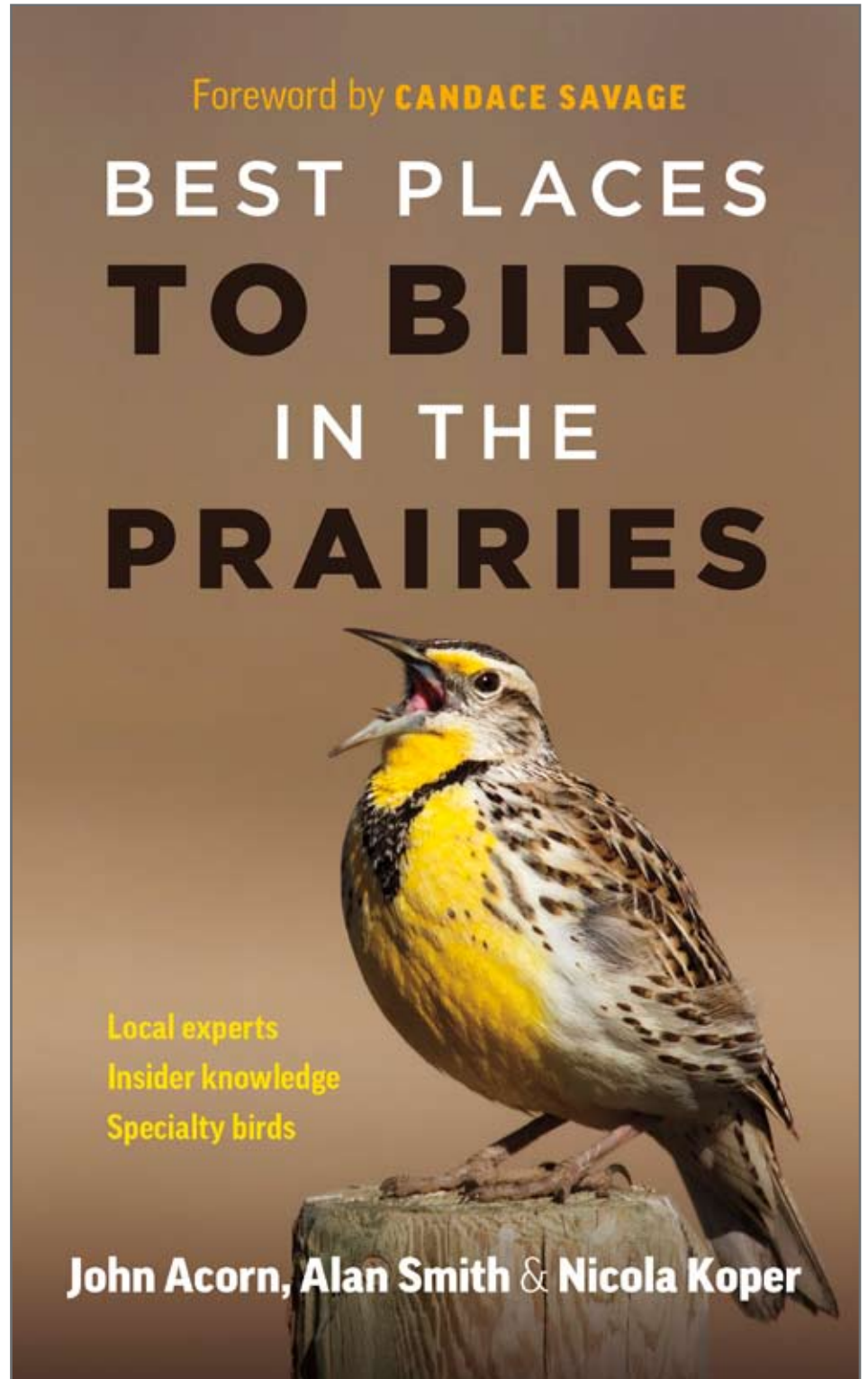
The book is logically broken down into three sections — Alberta, Saskatchewan and Manitoba — and 12 top birding places are shared for each province. These 36 locations are highlighted on a two-page legend/map at the beginning of the book. Each provincial map also stands on its own at the beginning of each section, if readers care to further refine their reference points or focus on a particular province.

The write-ups of the 36 places to bird are set up in the same way throughout the book. First, an overview of the particular place to bird is provided, including a description of the habitat, why it is a great spot for birding, what birds can be found there and what bird rarities have been spotted before. A nice touch is that the authors also share stories of birding in these locales in the past and even include some brief history notes about the area.

From there, readers are presented with a "Birding Guide". This section is particularly useful, as this is where the authors share their valuable insights as to where exactly to go,

tips for success and enjoyment, and what species to watch for at what time during the year. Finally, readers are presented with specific

instructions on "Getting There", including which roads to take to arrive to the place, but also where to go once there. A particularly useful



map is also provided at this point, which shows the roads/highways and trails previously explained, clearly marked so birders know where to go.

John Acorn, a naturalist and author of 17 natural history books, authors the section on Alberta. Acorn takes readers through a number of Alberta's habitats, detailing birding locales such as the Rocky Mountains of Banff National Park, the badlands of Dinosaur Provincial Park, Lake Newell and the adjacent marshes, and Pakowki Lake, which "has long held a mystique as a window into that biodiverse wonderland to the south, the place we call Montana." For those birding in and around the bigger cities, locations like the Alberta Grain Terminal near Edmonton (a fantastic spot to observe Gyrfalcons and Prairie Falcons) and Glenmore Reservoir in Calgary (for waterfowl, gulls and herons, to name a few) are also explored.

The Saskatchewan section of the book is authored by Alan Smith — a lifelong member of Nature Saskatchewan and author who helped to establish and run the Last Mountain Bird Observatory. Smith shares birding tips for some of the more popular Saskatchewan destinations, including the boreal forest of Prince Albert National Park, Cypress Hills Interprovincial Park and (the appropriately named) Grasslands National Park, which serves as possibly the only reliable place left in Saskatchewan to see Burrowing Owls. He also suggests nine other places to go birding ranging from spots along Last Mountain Lake and the areas in and around small towns such as Avonlea to well-known saline and freshwater lakes, such as Chaplin Lake, in which Sanderling numbers in late May consistently top 50,000 birds. Birding opportunities

within Saskatchewan's two largest cities, Regina and Saskatoon, are also presented.

The last section of the book, on Manitoba, is written by Nicola Koper, a professor of conservation biology at the University of Manitoba who has co-authored more than 60 scientific articles in ecology. The places covered in this section once again span across a variety of habitats, from what now remains of the grasslands of southwest Manitoba (Sprague's Pipits and Baird's Sparrows, to name a few birds that can be found here) to the restored wetlands of Oak Hammock Marsh and the boreal environment at Hecla/Grindstone Provincial Park, which is a migration stop-over for many passerines and provides habitat for Ruffed and Spruce Grouse, Boreal Chickadees and a host of woodpeckers. The various bird communities within each region of Winnipeg are also explored in detail. The Manitoba section concludes with a wonderful write-up about birding in Churchill, written by Rudolf Koes who has been conducting birding/nature tours in Churchill annually since 1980. Species here include a variety of sea ducks such as Common Eiders and scoters, as well as jaegers and a number of gulls.

With a lovely foreword by Saskatoon-based author Candace Savage, it is emphasized that there are a number of habitats within these three provinces, and that birding in Alberta, Saskatchewan and Manitoba is not to be overlooked. These sentiments are echoed in the book's introduction by British Columbian birders and authors Richard and Russell Cannings (also the 'Best Places to Bird' series editors) who say the term 'Prairie Provinces' is misleading due to the great diversity and that there are many discoveries

for novice and expert birders alike. Also included in the introduction is a small write-up on eBird, a citizen-science online database for people to report their bird sightings, and some good information on ethical birding.

Best Places to Bird in the Prairies is well laid-out, making it easy to read and user-friendly, and well-sized for taking it out on the road. The provincial sections are clearly marked and the titles of each birding hotspot grab the reader's eye, making the book easy to navigate. Each place to bird runs around five pages, but the text is nicely sized and spaced, so reading any one entry is simple and quick, yet informative. Throughout the book, 43 stunning photographs — some taken by the authors and some from local photographers — are presented, showing some of the birds that can be seen in each province. Most of the 'best places to bird' covered in this book are in the areas in which the majority of the provincial populations live, making them accessible and safe.

All in all, *Best Places to Bird in the Prairies* is a valuable resource for birders and birdwatchers of all ages and skill levels that are looking to enjoy the birds and the often-underrated beauty of the Prairie Provinces. For those who know the provincial birding areas well, there are still likely some new spots to learn about in the book and some good information and tips. For those newer to birding, grab a field guide and familiarize yourself with the birds that can be found in these places. Regardless of experience, the book will encourage readers to get out and explore. Enjoy the birds, take in the scenery and maybe you can find the next rare bird in the Prairie Provinces! 🦅

A CHECKLIST FOR BUTTERFLIES OF THE SASKATOON AREA



Red Admiral



Variegated Fritillary



Common Ringlet

Craig Salisbury

2232 Ewart Ave.
Saskatoon, SK S7J 1Y2

Mike Gollop

51 Welker Cres.
Saskatoon, SK S7H 3M3

Field guides are invaluable tools for naturalists. They allow the observer to compare sightings and field notes to a concise set of drawings and photographs, field marks, and descriptions. Where many field guides fail, however — especially for those of us in Canada — is the reliability of their range maps. This shortcoming can be alleviated with a regional checklist. A checklist created from the observations and field notes of local enthusiasts can significantly reduce the number of species that could be considered when a sighting is made, especially for the novice observer.

A checklist of Saskatchewan birds is available from Nature

Saskatchewan, and the Saskatoon Nature Society has prepared a checklist for birds identified in the Saskatoon area. Both lists are available on their respective websites. The original data used to compile these lists came from the many records kept by members of the birding community.

In 2013, the need for a checklist for butterflies in the Saskatoon area was identified. With considerably fewer observers of butterflies than of birds, creation of the initial list relied heavily on data extracted from two sources. One was the unpublished document *Saskatchewan Butterflies - An Annotated Field Checklist* prepared by Bernie Gollop and Ron Hooper in 1999, and the second was a series of annual reports released from 1998 to 2003 entitled *Saskatchewan Butterflies*. Combined with the field notes of local observers, a checklist was prepared which currently lists 82 species of butterflies found in the Saskatoon area. The following checklist is presented with the goal of encouraging other regional groups to prepare their own list.

Leighton, A., (compiler) (1998-2003). *Saskatchewan Butterflies*.

A series of annual reports by and for Saskatchewan butterfly watchers.



Melissa Blue



Painted Lady. All photos by Craig Salisbury

Saskatoon Area Butterfly Checklist

This checklist contains 82 species of butterflies known to be present in the Saskatoon Birding Area (see Saskatoon Area Birds - A Seasonal Checklist map for area boundaries). Common and scientific names are provided for each species, along with the 'banding' code, flight period and abundance. When only a single record exists, the year recorded is provided. The information provided in this checklist was extracted from Saskatchewan Butterflies - An Annotated Field Checklist (1999) by Bernie Gollop and Ron Hooper, Saskatchewan Butterflies (1998-2003), compiled by Anna Leighton, and from the field notes of local butterfly enthusiasts. Craig Salisbury, Anna Leighton and Mike Gollop April, 2018.

Abundance: VC - Very Common C - Common FC - Fairly Common U - Uncommon R - Rare

SPREAD-WING SKIPPERS				
Silver-spotted Skipper <i>Epagyreus clarus</i>	SILSS	May 18 - Aug 8	FC	
Northern Cloudywing <i>Thorybes pylades</i>	NORCL	May 20 - Aug 2	U	
Dreamy Duskywing <i>Erynnis icelus</i>	DREDU	May 9 - Jul 30	FC	
Afranius Duskywing <i>Erynnis afranius</i>	AFRDU	May 5 - Sep 1	U	
Persius Duskywing <i>Erynnis persius</i>	PERDU	May 4 - Aug 15	C	
Common Checkered-Skipper <i>Pyrgus communis</i>	COMCS	May 13 - Oct 13	FC	
GRASS SKIPPERS				
Arctic Skipper <i>Carterocephalus palaemon</i>	ARCTS	May 20 - Jul 9	U	
Least Skipper <i>Ancyloxypha numitor</i>	LEASS	Jun 23 - Jul 27	R	
Garita Skipperling <i>Oarisma garita</i>	GARIS	May 26 - Aug 9	C	
European Skipper <i>Thymelicus lineola</i>	EUROS	Jul 7 - Jul 11	R	
Plains Skipper <i>Hesperia assiniboia</i>	PLAIS	Jul 3 - Sep 13	FC	
Nevada Skipper <i>Herperia nevada</i>	NEVAS	May 27 - Sep 9	U	
Peck's Skipper <i>Polites peckius</i>	PECKS	Jun 14 - Oct 6	C	
Tawny-edged Skipper <i>Polites themistocles</i>	TAWES	Jun 13 - Aug 15	U	
Long Dash Skipper <i>Polites mystic</i>	LONDS	Jun 9 - Sep 13	C	
Woodland Skipper <i>Ochlodes sylvanoides</i>	WOODS	Jul 26 - Sep 15	R	
Hobomok Skipper <i>Poanes hobomok</i>	HOBOS	May 23 - Jul 9	U	
Dun Skipper <i>Euphyes vestris</i>	DUNSK	Jun 18 - Aug 20	FC	
Common Roadside-Skipper <i>Amblyscirtes vialis</i>	COMRS	May 11 - Jul 12	C	
SWALLOWTAILS				
Old World Swallowtail <i>Papilio machaon</i>	OLWSW	May 6 - Aug 20	R	
Canadian Tiger Swallowtail <i>Papilio canadensis</i>	CATSW	May 7 - Jul 29	VC	
WHITES				
Checkered White <i>Pontia protodice</i>	CHEWH	Jun 29 - Sep 19	R	
Western White <i>Pontia occidentalis</i>	WESWH	Apr 20 - Oct 13	C	
Cabbage White <i>Pieris rapae</i>	CABWH	Apr 4 - Oct 20	VC	
Olympia Marble <i>Euchloe olympia</i>	OLYMA	May 11 - Jul 18	U	
SULPHURS				
Clouded Sulphur <i>Colias philodice</i>	CDDSU	May 3 - Oct 30	VC	
Orange Sulphur <i>Colias eurytheme</i>	ORASU	May 12 - Oct 21	FC	
Queen Alexandra's Sulphur <i>Colias alexandra</i>	QUASU	May 27 - Aug 26	U	
Christina Sulphur <i>Colias christina</i>	CHRSU	Jun 7 - Sep 22	U	
COPPERS				
Gray Copper <i>Lycaena dione</i>	GRACP	Jun 24 - Aug 14	U	
Bronze Copper <i>Lycaena hylus</i>	BROCP	Jun 23 - Sep 19	U	
Purplish Copper <i>Lycaena helloides</i>	PURCP	May 18 - Oct 20	FC	
HAIRSTREAKS				
Acadian Hairstreak <i>Satyrium acadica</i>	ACADH	Jul 5 - Aug 24	U	
Coral Hairstreak <i>Satyrium titus</i>	CORAH	Jun 25 - Aug 24	FC	
Striped Hairstreak <i>Satyrium liparops</i>	STRIH	Jun 22 - Aug 27	U	
ELFINS				
Brown Elfin <i>Callophrys augustinus</i>	BROEL	May 13 - Jul 15	U	
Hoary Elfin <i>Callophrys polios</i>	HOAEL	Apr 30 - Jul	FC	
Eastern Pine Elfin <i>Callophrys niphon</i>	EAPEL	May 11, 2011	R	
Gray Hairstreak <i>trymon melinus</i>	GRAYH	May 19 - Sep 19	R	

BLUES				
Western Tailed-Blue <i>Everes amyntula</i>	WESTB	May 16 - Jul 31	C	
Spring Azure <i>Celastrina ladon</i>	SPRAZ	Apr 20 - Aug 20	VC	
Silvery Blue <i>Glaucopteryx lygdamus</i>	SILVB	May 2 - Jul 26	C	
Melissa Blue <i>Lycaeides melissa</i>	MELIB	May 16 - Oct 4	C	
Greenish Blue <i>Plebejus saepiolus</i>	GREEB	May 15 - Aug 5	C	
Arctic Blue <i>Agriades glandon</i>	ARCTB	May 14 - Oct 7	C	
FRITILLARIES				
Variagated Fritillary <i>Euptoieta claudia</i>	VARIF	May 20 - Oct 18	C	
Great Spangled Fritillary <i>Speyeria cybele</i>	GRESF	Jun 17 - Sep 13	C	
Aphrodite Fritillary <i>Speyeria aphrodite</i>	APHRF	Jun 7 - Sep 20	FC	
Regal Fritillary <i>Speyeria idalia</i>	REGAF	Aug 8, 2012	R	
Callippe Fritillary <i>Speyeria callippe</i>	CALLF	May 20 - Aug 20	FC	
Atlantis Fritillary <i>Speyeria atlantis</i>	ATLAF	Jun 19 - Sep 4	R	
Northwestern Fritillary <i>Speyeria atlantis hesperis</i>	NORTF	May 25 - Oct 4	C	
Mormon Fritillary <i>Speyeria mormonia</i>	MORMF	Jun 13 - Sep 30	U	
Silver-bordered Fritillary <i>Boloria selene</i>	SILBF	May 31 - Sep 15	U	
Meadow Fritillary <i>Boloria bellona</i>	MEADF	May 11 - Sep 21	C	
Freija Fritillary <i>Boloria freija</i>	FREIF	May 19, 2006	R	
TRUE BRUSH-FOOTS				
Gorgone Checkerspot <i>Chlosyne gorgone</i>	GORGC	May 17 - Jul 18	U	
Pearl Crescent <i>Phyciodes tharos</i>	PEACT	May 4 - Sep 27	C	
Northern Crescent <i>Phyciodes selenis</i>	NORCT	May 18 - Oct 7	C	
Tawny Crescent <i>Phyciodes batesii</i>	TAWCT	May 31 - Sep 12	FC	
COMMAS				
Question Mark <i>Polygonia interrogationis</i>	QUEMA	Jun 28 - Aug 5	R	
Satyr Comma <i>Polygonia satyrus</i>	SATCM	Mar 31 - Oct 21	C	
Green Comma <i>Polygonia faunus</i>	GRECM	Apr 17 - Oct 12	U	
Gray Comma <i>Polygonia progne</i>	GRACM	Mar 31 - Oct 12	C	
Compton Tortoiseshell <i>Nymphalis vaualbum</i>	COMTO	Mar 26 - Oct 29	VC	
California Tortoiseshell <i>Nymphalis californica</i>	CALTO	Aug 4 - Oct 7	R	
Mourning Cloak <i>Nymphalis antiopa</i>	MOUCL	Mar 13 - Nov 3	VC	
Milbert's Tortoiseshell <i>Nymphalis milberti</i>	MILTO	Mar 17 - Oct 30	VC	
Painted Lady <i>Vanessa cardui</i>	PAILA	Apr 30 - Oct 18	C	
Red Admiral <i>Vanessa atalanta</i>	REDAD	Apr 27 - Oct 24	C	
ADMIRALS AND RELATIVES				
White Admiral <i>Limenitis arthemis arthemis</i>	WHIAD	May 29 - Aug 22	C	
Viceroy <i>Limenitis archippus</i>	VICER	Jun 20 - Aug 23	U	
SATYRS				
Northern Pearly-eye <i>Enodia anthedon</i>	NORPE	Jun 14 - Sep 7	R	
Common Ringlet <i>Coenonympha tullia</i>	COMRI	May 11 - Sep 7	C	
Common Wood-Nymph <i>Cercyonis pegala</i>	COWNY	Jun 19 - Sep 14	C	
Red-disked Alpine <i>Erebia discoidalis</i>	EKAL	Apr 21 - Jun 29	C	
Common Alpine <i>Erebia epirodea</i>	COMAL	May 13 - Jul 12	C	
Ridings' Satyr <i>Neominois ridingsii</i>	RIDSA	Jun 10 - Jul 25	U	
Uhler's Arctic <i>Oeneis uhleri</i>	UHLAR	May 12 - July 14	C	
Alberta Arctic <i>Oeneis alberta</i>	ALBAR	May 3 - Jun 7	FC	
Monarch <i>Danaus plexippus</i>	MONAR	May 26 - Sep 19	U	

SEPTEMBER 14-15, 2018 SWIFT CURRENT, SK

Name(s): _____

Address: _____

Postal Code: _____

Telephone: _____

E-mail: _____

Do you have any dietary needs or allergies (please circle)?
YES or NO

If yes, what are they? _____

Registration includes Friday evening social (light snacks),
Saturday's lunch and the evening banquet meal.

Member Early Registration Fee

(prior to Sept. 7) **\$90** x _____ = \$ _____

Member Late Registration Fee

(after Sept. 7): **\$105** x _____ = \$ _____

Non-Member Early Registration Fee

(prior to Sept. 7) : **\$105** x _____ = \$ _____

Non-Member Late Registration Fee

(after Sept. 7): **\$120** x _____ = \$ _____

Notes:

PLEASE CHECK BOX IF YOU PLAN TO BE PRESENT
FRIDAY EVENING

TOTAL AMOUNT DUE: \$ _____

Payment by Visa/Mastercard:

Card #: _____/_____/_____/_____

exp: _____/_____

Payment by Cheque:

Make cheque payable to Nature Saskatchewan

Mail, e-mail or call our office to register for the
2018 Fall Meet:

Nature Saskatchewan
206-1860 Lorne Street
Regina, SK S4P 2L7
info@naturesask.ca
1-800-667-4668 or (306) 780-9273

SEPTEMBER 14-15, 2018 SWIFT CURRENT, SK

Friday, September 14

Dinner on your own

6:00 p.m. Registration

& Reception

Days Inn Conference Centre

Light refreshments provided

7:00 p.m. Program

Introductions

Presentation from Graham Saul,
Executive Director
of Nature Canada

Larry Morgotch

Photo Presentation

– bring your USB flash drive with
your nature photos to share

Explanation of details and logistics
for Saturday's tours

Saturday, September 15

Breakfast on your own

TOUR

(group will be travelling via bus)

8:00 a.m. Board bus

depart for Matador

9:00 a.m. Tour of former Matador

Farm Co-op, will include talks by
local ranchers on the Matador history
and present-day operations.

10:30 a.m. Tour of Sand Castles

12:00 p.m. Lunch

at Matador Hutterite Colony (bagged
lunch) with an option to do a short
tour of the Colony

1:00 p.m. Tour of the Matador
Community Pasture

2:30 p.m. Birding at Clearwater Lake

4:30 p.m. Business meeting

5:30 p.m. Cocktails
at the Days Inn Conference Centre

6:30 p.m. Dinner/Banquet

7:30 p.m. Awards

8:00 p.m. Presentation
by Branimir Gjetvaj and Trevor Herriot
on their book "Islands of Grass"

BREAKFAST OPTIONS

Tim Hortons

North Service Road

Smitty's Restaurant

North Service Road

ACCOMMODATION SUGGESTIONS

Days Inn

905 North Service Road

Swift Current

1-800-329-7466

Note: A block of 20 rooms has been
reserved for Nature Saskatchewan
until August 15, 2018

Caravel Motel

705 North Service Road

Swift Current

1-306-773-8385

Super 8

405 North Service Road

Swift Current

1-306-778-6088

Camping

Trail Campground

306-773-8088

THE MACROSCOPIC CYANOBACTERIUM *NOSTOC PARMELIOIDES* IN SWIFT CURRENT CREEK, SK, CANADA

John R. Lawrence

Environment and Climate Change Canada
11 Innovation Blvd.
Saskatoon, SK S7N 3H5
306-975-5789
John.Lawrence2@canada.ca

Julie Roy

Environment and Climate Change Canada
11 Innovation Blvd.
Saskatoon, SK S7N 3H5
306-975-5789

George D.W. Swerhone

Environment and Climate Change Canada
11 Innovation Blvd.
Saskatoon, SK S7N 3H5

Armelle Paule

Global Institute for Water Security
University of Saskatchewan
Saskatoon, SK

Although cyanobacteria or “bluegreen algae” are diverse and very common in Saskatchewan lakes, ponds and rivers they are for the most part only apparent when they form visible blooms, scums or large colonies. This is the case for a variety of common types of these photosynthetic bacteria – including *Aphanizomenon* spp., which may form characteristic colonies with the appearance of grass clippings or *Microcystis* spp., which typically form macroaggregates with gas vesicles allowing them to float and be visible in the open water.

However, several cyanobacteria can form colonies in streams large enough to be considered macroalgae. In general, these colonies are attached to substrata such as cobbles or large rocks and

form structures easily visible to the naked eye^{1, 2}. Several members of the cyanobacterial genus *Nostoc* form a variety of types and shapes of macrocolonies in freshwaters including: *N. caeruleum*, *N. commune*, *N. microscopium*, *N. pruniforme*, *N. verrucosum* and *N. zetterstedtii*.³

One common macrocolony former is *Nostoc parmelioides* which was first described in 1830 growing attached to rocks in fast flowing, acidic (pH <7), cold (4-5 °C) streams in Germany and northern Europe.³ *Nostoc parmelioides* is differentiated

from the other macroscopic members of this genus based on its discoid or spherical smooth surfaced thallus, which is variously described as ranging from 5 to 15 mm in diameter, or up to 350-700 mm, which is consistent with observations at Swift Current Creek.^{3, 4, 5}

Microscopic examination of the thallus revealed the presence of akinetes and vegetative cells typical of *Nostoc parmelioides*⁶ (subsequently it has been described from a wide variety of habitats, including streams of the tundra, coastal plains, coniferous forest,



FIGURE 1. Rock from Swift Current River, showing a typical array of macrocolonies with a range of coloration from near black to dark blue-green, less than 1 cm in diameter and frequently arranged in tight masses. Photo credit: Julie L. Roy.

hardwood forest, tropical rain forest, boreal forest, and desert chaparral¹). In North America, *N. parmelioides* has been found in fast flowing streams that are seasonally warm (+20 °C), alkaline (pH >8.3) and more nutrient rich.¹ Although *N. parmelioides* appears widely distributed, it has not been described from streams in the northern prairie grasslands.

In their survey, Sheath and Cole (1992) did not sample grasslands since they considered the habitat to have a “high degree of disturbance”.¹ The genus forms typical “spherical” structures anchored to the rock surface, generally dark blue green in colour and up to 1 cm in diameter but range, depending upon age and habitat, from microscopic initial colonies to large masses of colonies on the rock surface.

Figure 1 illustrates a typical array of colonies that are in general much less than 1 cm in diameter and frequently appear as tightly arranged masses. The site in Swift Current Creek (50°36'4.41 "N,

107°43'28.80"W -Hwy 738) was typical of many North American habitats in terms of high light levels, rapid water flow, pH 8.4, summer temperatures exceeding 20 °C and the presence of large rocks (Figure 2).

At some locations in North America, *N. parmelioides* has an interesting relationship with the fly larvae *Cricotopus* spp. that lives inside the macrocolony structure, tunneling through it and creating a colony type described as an ear-shaped flattened structure compared to the spherical ball typical of the colony.⁷ We did not observe this phenomenon in Swift Current Creek, although it has been reported in streams in Oregon.⁸

In conclusion, these observations provide a record of this species in a grassland biome with a range extension into southern Saskatchewan.

References

1. Sheath RG, Cole KM (1992) Biogeography of stream macroalgae in North America. *Journal of Phycology* 28:448-60.
2. Dodds WK, Gudder DA, Mollenhauer D

(1995) The ecology of Nostoc: Review. *Journal of Phycology* 31:2-18.

3. Mollenhauer D, Bengtsson R, Lindström E-A (1999) Macroscopic cyanobacteria of the genus *Nostoc*: a neglected and endangered constituent of European inland aquatic biodiversity. *European Journal of Phycology* 34:349-360.
4. Holmes, N.T.H., Whitton, B.A. (1975). Notes on some macroscopic algae new or seldom recorded for Britain: *Nostoc parmelioides*, *Heribaudiella fluviatilis*, *Cladophora aegagropila*, *Monostroma bullosum*, *Rhodoplax schinzii*. *Vasculum* 60:47-55.
5. Mollenhauer D, Budel B, Mollenhauer R, (1994) Approaches to species delimitations in the genus *Nostoc* Vaucher (1803 ex Bornet et Flahault-1888). *Algological Studies* 75:189-209.
6. Bornet, E. Flahault, C. (1886-88) Revision des *Nostocacees heterocystees*. *Ann. Sci. Nat. Bot.* 7th series 3, 4, 5, 7: 323-380, 343-373, 51-129, 171-262.
7. Brock EM (1960). Mutualism between the midge *Cricotopus* and the alga *Nostoc*. *Ecology* 41:474-83.
8. Dodds WK, Marra JL (1989) Behaviors of the midge, *Cricotopus* (Diptera: Chironomidae) related to mutualism with *Nostoc parmelioides* (Cyanobacteria). *Aquatic Insects* 11:201-208. 🐦



FIGURE 2. The site in Swift Current Creek (50°36'4.41 "N, 107°43'28.80"W -Hwy 738) illustrating the habitat with high light levels, rapid water flow and the presence of large rocks. Stream width at this point was 12 m and flow rates may occasionally be as high as 100 m³/sec more typically they are < 5 m³/sec. Arrow indicates same location in each image. Photo credit: John R. Lawrence

CHANGES IN NESTING DENSITY OF BALTIMORE ORIOLES (1976-1995) AND OTHER SPECIES IN THE DUNE-RIDGE FOREST, DELTA MARSH, MB: RESPONSE TO AN OUTBREAK OF FOREST TENT CATERPILLAR?

Spencer G. Sealy

Department of Biological Sciences
University of Manitoba
Winnipeg, MB R3T 2N2
Spencer.Sealy@umanitoba.ca

For nearly a century, naturalists and ornithologists noted that Baltimore Orioles (*Icterus galbula*) and several other species of songbird nest at high densities in the riparian woodland that separates the southern basin of Lake Manitoba and Delta Marsh, Manitoba.¹⁻⁴ In 1973, studies of habitat use and breeding ecology of these species were initiated in the dune-ridge forest. The dynamics of the Baltimore Oriole population became a focus three years later, the year that turned out to be the first year of an outbreak of Forest Tent Caterpillar (*Malacosoma disstria* Hbn.) in the dune-ridge forest³, and the surrounding parkland habitat.⁵ Known to forage opportunistically⁶, Baltimore Orioles fed on the post-egg stages of the tent caterpillar and fed them to their young⁴, despite a diet in the ridge forest that otherwise consisted predominantly of midges and other dipterans.^{7,8} Elsewhere, Baltimore Orioles had been determined to take predominantly lepidopteran larvae and pupae^{6,9}, including the Forest Tent Caterpillar.¹⁰

Observations in upstate New York had previously revealed a functional response¹¹ by Baltimore Orioles to an outbreak of this tent caterpillar. Orioles "... not only devoured [tent caterpillar] larvae and pupae, and moths, but wholly cleared many trees of the pupae, ripping the cocoons so fast that the young were given hundreds of pupae per day."¹² However, despite

the superabundant food supply to which the orioles responded, there was apparently no increase in the number of nesting pairs.¹² Similarly, the closely related Bullock's Oriole (*I. bullockii*) was recorded taking larvae of another species of tent caterpillar, in California, but the nesting density did not increase during the four years of that study. The conclusion was that this species is not particularly attracted to areas of local tent caterpillar abundance.¹³

At Delta Marsh, Baltimore Orioles not only preyed on Forest Tent Caterpillars that suddenly became available in the ridge forest, the nesting density doubled the following year, then declined a year later when tent caterpillars were no longer present.³ These changes in nesting density were interpreted as a numerical response to the presence of this new and abundant prey.³ Strengthening support for this hypothesis would be whether a similarly sudden increase in nesting density was recorded during a subsequent tent caterpillar outbreak in the ridge forest, or, without one, if no abrupt increase in nesting density occurred in the absence of tent caterpillars. To test this hypothesis, I recorded nesting densities in this population through 1995, by which time erosion of the north side of the dune-ridge forest was altering the habitat. In addition, I compared these densities to the regional trend in densities using data derived from the Breeding Bird Survey.¹⁴

Baltimore Orioles were not the only species that responded to the sudden availability of prey in the ridge forest in 1976 and 1977.

Observations summarized below show the nomadic Black-billed Cuckoo (*Coccyzus erythrophthalmus*) nested in both years of the outbreak, laying eggs exceptionally early; a small population of Bay-breasted Warblers (*Setophaga castanea*) nested for the first and only time in 1976; and a pair of Evening Grosbeaks (*Coccothraustes vespertinus*) fed on caterpillar pupae in 1976, its only appearance during the breeding season.

Study area and Methods

Research in the ridge forest spanned 1973 to 2010. Baltimore Orioles were studied in a 1.2-km (10 ha) portion of the forested dune ridge that stretched westward from the Assiniboine River Diversion (50°11 N, 98°19 W; Figure 1)^{15,16}, a diked waterway that carries water from the Assiniboine River north to Lake Manitoba during springs when run-off water is excessive. This stretch of narrow riparian habitat was situated on the properties of the Delta Marsh Field Station (University of Manitoba) and, immediately to the west, Portage Country Club.

The vegetation of the ridge forest is an early successional stage of the Aspen-Oak Section of the Boreal Forest Region, which was dominated by flood-resistant species¹⁶: Peach-leaved Willow (*Salix amygdaloides*), Manitoba Maple (*Acer negundo*), and Green Ash (*Fraxinus pennsylvanica*). Eastern Poplar (*Populus deltoides*) occurred intermittently and American Elm (*Ulmus americana*) was rare. Common shrubs included Sandbar Willow (*S. interior*), Red-berried Elder (*Sambucus pubens*), Red-osier Dogwood (*Cornus stolonifera*), Choke

Cherry (*Prunus virginiana*), and Pin Cherry (*P. pensylvanica*). Manitoba Maple was the most abundant tree species in the dune-ridge forest, followed by Peach-leaved Willow and Green Ash, plus Sandbar Willow, all of which are adapted to different soil conditions, which result in considerable heterogeneity of the vegetation within this forest.¹⁶

I banded and colour-marked Baltimore Orioles in 1974 and 1975 in preparation for initiation of the study in 1976.³ I determined nesting density by counting nests each autumn from 1976 to 1995 on 1-3 days between October 27 and November 3, by which time most leaves had dropped and nests were visible (Figure 2). The neatly woven, pensile nests were attached strongly to the supporting branches, from which they hung^{17,18}, and were generally placed high in the canopy⁴, frequently out of my reach. Recording these nests was an accurate index of the breeding population each year. Of 78 nests at which I determined clutch size from 1976-1978³, all but one nest (98.7%)

persisted until leaf-fall; the missing nest and the others were included in the annual totals of nests. Persistence of nests has been reported elsewhere between 50% and 66%, albeit those nests had overwintered.¹⁹ Only three cases of replacement nesting and no second broods were recorded. In 1976, a pair that deserted a nest after only a few strands of nest material had been assembled reared a brood in a new nest constructed nearby.

I counted nests by walking back and forth along the north and south sides of the ridge forest and down the middle along its length, recording each nest and the species of tree in which it was constructed. Nests were not counted after 1995 because the ridge and characteristics of the habitat had begun to change. Sandbar Willow was dying along both edges of the ridge forest and erosion was starting to eat away at the north (lake) side due to storm-driven, excessively high water levels of Lake Manitoba that were being maintained to control flooding.²⁰ Further degradation of the dune ridge and riparian forest

occurred during a particularly destructive storm in the spring of 2011, which forced water and ice into the ridge forest, and prolonged flooding along the south side of the dune ridge.²¹

Results

The presence of Forest Tent Caterpillar in the ridge forest was part of a broader outbreak across portions of the Canadian Prairie Provinces, which was recorded initially in 1971⁵, although larvae were not detected in the ridge forest until 1976. According to the known life stages outlined for this insect⁵, adult moths dispersed in summer and laid eggs in the ridge habitat the previous year. Eggs hatched in 1976 and the first larvae were sampled in regular sweep-netting of tree foliage in mid-May, peaking by mid-June.^{3,22,23} Caterpillars emerged about one week earlier in 1977 but generally had died by mid-June. Tent caterpillars were not detected in regular sweep-net sampling and visual searches through 1985^{8,24}, or during visual searches conducted thereafter.

The first three years of nest counts (1976-1978) encompassed the outbreak of Forest Tent Caterpillar in the ridge forest. The nesting density doubled from 5.4 nests/ha in 1976 to 10.5/ha in 1977, but declined to 5.3/ha in 1978, essentially the level recorded in 1976. Densities were similar through 1980, but declined again, in tandem with the regional population, before increasing to 1.8 nests/ha in 1985 and 2.6/ha in 1992 (Figure 3, Appendix 1).

The number of nests from which at least one young fledged was 94.7% in 1976 (n = 36 nests), 84.4% in 1977 (n = 38), and 88.2% in 1978 (n = 15).³ Analyzed previously³, mean brood size at fledging in 1976 (4.9 young/successful nest; n = 17 nests) and in 1978 (4.8 young; n = 12) did not differ significantly. Mean brood size in 1976 was significantly larger than

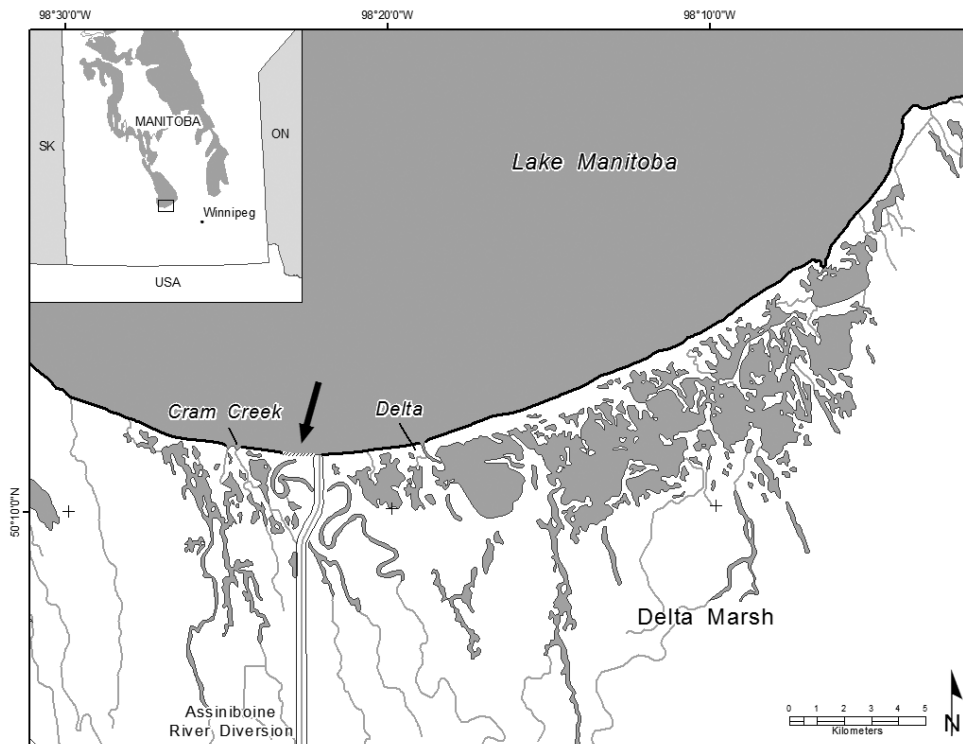


FIGURE 1. Map of Delta Marsh, Manitoba, showing the narrow dune-ridge forest (black line) and 1.2-km (10 ha) portion of the ridge (indicated by arrow) in which Baltimore Oriole nests were surveyed. Map prepared by Mapmonsters GIS.



FIGURE 2. Pensile nest of the Baltimore Oriole, this one suspended in a Green Ash (*Fraxinus pennsylvanica*). The nest became visible after leaf-fall in the autumn. Photo credit: S.G. Sealy

in 1977 (3.8; n = 37). Mean brood size was significantly larger in 1976 than in 1977 (3.8; n = 37). Sample sizes I used to calculate nest success were greater than those for mean brood size because fledging of at least one young was recorded at some inaccessible nests where brood size was not determined.³

Discussion

Changes in nesting density of Baltimore Orioles

The dramatic changes in density of nesting Baltimore Orioles (Figure 3) in the early years of this study apparently reflected responses to the sudden availability of an abundant but short-lived food source, and were not a coincidence. That similar increases were not recorded in subsequent years in the absence of tent caterpillars supports this hypothesis. Had another caterpillar outbreak occurred, to which

Baltimore Orioles responded with an increase in numbers, even stronger support for the hypothesis would have been recorded. Following the increase in the number of nests in 1977, the density returned to the level recorded in 1976 and remained there for three years before declining further, generally in tandem with the provincial population (Figure 3). The orioles' responses to this prey may have promoted the short-term recovery of the population in the ridge forest, before the population succumbed to regional/continental factors affecting declines of the species on a broader scale. This is conjecture, however, without knowledge of the orioles' nesting density in the ridge forest prior to the outbreak of tent caterpillars in the mid-1970s.²

The greater number of nesting pairs in 1977 was augmented by unbanded males and females. These

individuals probably included second-year males^{3,26}, which originated from populations outside the ridge forest or from elsewhere in this habitat, or, individuals that were present but not banded in 1976 may have returned the following year, as fidelity to a previous breeding site is well developed in Baltimore Orioles.^{3,6} The increase was not due to the return of young produced in the ridge forest in 1976. Nestling Baltimore Orioles exhibit weak fidelity to their natal site (birthplace), as recaptures of banded nestlings and fledglings have confirmed in Massachusetts (zero of 51 nestlings returned²⁰) and in the dune-ridge forest (of 512 banded in 1976, 17 [3.3%] were recorded in 1977; of 339 banded in 1977, two were recorded [0.6%] in 1978).

Data posted by the Breeding Bird Survey for the Baltimore Oriole^{14,27} also revealed an increase from 1976-

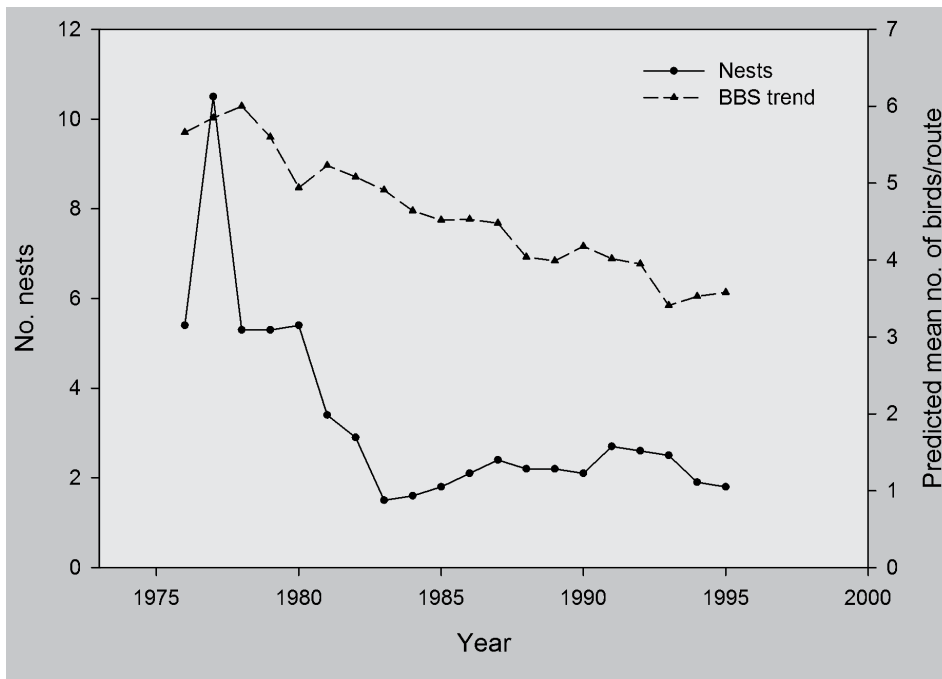


FIGURE 3. Abundance of Baltimore Orioles (nests/ha) in the dune-ridge forest, Delta Marsh and in Manitoba (BBS trend), 1976-1995.

78 (Figure 3). I interpreted this as a response to short-term availability of superabundant prey.³ This increase was generally followed by a decline over the next 15 years in the absence of tent caterpillars, with no subsequent short-term increases in nesting density, which further supports the hypothesis. Responses to the new prey source may have enhanced the oriole's short-term recovery or maintenance at the local scale, before eventually succumbing to regional or continental stressors.

Other species' responses to tent caterpillars in the ridge forest

Evidence suggests strongly that Baltimore Orioles responded reproductively to the presence of Forest Tent Caterpillars in the ridge forest in 1976-77, by feeding themselves and their young on caterpillars and by increasing their numbers. Three additional species also apparently responded to this sudden availability of prey: Black-billed Cuckoo²⁸, Bay-breasted Warbler²³, and Evening Grosbeak²⁹.

Not only did more Black-billed Cuckoos lay larger "clutches" in

1976 and 1977, they initiated them earlier than in years when the caterpillars were absent, if they nested at all.^{28,30} The large clutches were later determined likely to have been products of conspecific brood parasitism³⁰ – in this case, one cuckoo laying in another cuckoo's nest – a reproductive strategy that has been documented previously in the genus *Coccyzus* during similar outbreaks of superabundant prey.³¹

The migratory Bay-breasted Warbler nested in the ridge forest for the first and last time in 1976²³, although this species stopped over irregularly in spring in subsequent years. Larval caterpillars were present in the ridge forest when the first individuals arrived in 1976.²³ Six active nests were recorded and adults fed on recently hatched, clustered tent caterpillars, although their diet was supplemented with other insects normally available at this site.²³ Bay-breasted Warblers are known to track prey in spring, which results in variable numbers settling locally during the breeding season, particularly in response to outbreaks of spruce budworms (*Choristoneura* and *Acleris*).^{32,33} Predation recorded

on Forest Tent Caterpillars by Bay-breasted Warblers added another species to the list of predators on this insect.¹⁰

A pair of Evening Grosbeaks fed on pupae in a defoliated Manitoba Maple on June 18, 1976, the only year this species was recorded in the ridge forest during the breeding season.²⁹ Both birds consumed at least two pupae during 15 minutes of observation, but they left the area and were not observed again. Evening Grosbeaks are known to respond to outbreaks of Spruce Budworm (*Choristoneura fumerifana* Clem.) and other larvae³⁴, but predation on Forest Tent Caterpillar documented here added another species to the list of predators.¹⁰ This was the species' only recorded occurrence in the ridge forest during the breeding season during nearly 40 years of work in this habitat.

Regardless of the Evening Grosbeak's propensity to move widely in search of prey³⁴, the appearance of one pair in the ridge forest in 1976 certainly did not confirm that its presence was in response to tent caterpillars, or that it was a coincidence.²⁹ Other pairs of Evening Grosbeaks may have gone undetected, although we worked intensely over more than 20 km of the ridge forest without additional observations.

Summary

Results of several studies revealed that songbirds nesting in the ridge forest preyed predominately on emergences of adult midges, which were generally at levels of superabundance.^{8,22,36} Between successive emergences, when midges were less abundant, most species preyed on a broader range of taxa until the next hatch occurred, usually within a few days.⁸ Tent caterpillars provided food on top of that available through exploitation of the midges, thus, augmenting the reproductive effort of several species. Despite that midges provided the usual abundant

food in 1976 and 1977^{8,22}, Baltimore Orioles responded to this new prey source and apparently enhanced their short-term maintenance at the local scale, before succumbing to conditions experienced more broadly in the region.

Acknowledgements

I am indebted to personnel of the former Delta Marsh Field Station (University of Manitoba) for accommodation and in-kind support, and to many students and other co-workers who assisted with field work, including banding. The board of the Portage Country Club granted permission to conduct some of this work on their property. I thank Todd J. Underwood for comments on an early draft of the manuscript and Stephen K. Davis for assistance with later drafts. An anonymous reviewer offered constructive comments on the final draft of the manuscript. Baltimore Orioles were banded under permits issued by the Canadian Wildlife Service (Environment Canada). The map was prepared by Mapmonsters GIS, Victoria, British Columbia, with assistance from Nikola Zukanovic.

This work was funded chiefly by the Natural Sciences and Engineering Research Council of Canada, with ancillary funding provided by the Canadian National Sportsmen's Show, Manitoba Conservation (Wildlife Branch), and University of Manitoba Research Grants Program.

1. Thompson ET (1891) The birds of Manitoba. *Proceedings of the United States National Museum* 13:457-643.
2. Hochbaum PW (1971) The Delta Marsh. Conservation Extension Branch, Manitoba Department of Mines, Resources and Environmental Management, Winnipeg.
3. Sealy SG (1980) Reproductive responses of Northern Orioles to a changing food supply. *Canadian Journal of Zoology* 58:221-227.
4. MacKenzie DI, Sealy SG, Sutherland DG (1982) Nest site characteristics of the avian community in the dune ridge forest, Delta Marsh, Manitoba: A multivariate analysis. *Canadian Journal of Zoology* 60:2212-2223.
5. Hildahl V, Campbell AE (1975) Forest Tent Caterpillar in the Prairie Provinces. Northern Forest Research Centre, Edmonton, Information Report NOR-X-185.

6. Rising JD, Flood NJ (1998) Baltimore Oriole (*Icterus galbula*), version 2.0. In *The Birds of North America* (Rodewald PG, editor). Cornell Lab of Ornithology, Ithaca, NY. <https://doi.org/10.2173/bna.384>.
7. Morgan JL (1979) Aspects of foraging behaviour in Northern Orioles. *Annual Report of the University of Manitoba Field Station (Delta Marsh)* 15:25-31.
8. Pohajdak GC (1988) Feeding guilds, diets and foraging behavior of insectivorous passerines in a riparian habitat in Manitoba. Ph.D. dissertation, University of Manitoba, Winnipeg.
9. Timken RL (1970) Food habits and feeding behavior of the Baltimore Oriole in Costa Rica. *Wilson Bulletin* 82:184-188.
10. Witter JA, Kulman HM (1972) A review of the parasites and predators of tent caterpillars (*Malacosoma* spp.) in North America. *University of Minnesota Agricultural Experimental Station Technical Bulletin*, Number 289.
11. Holling CS (1959) The components of predation as revealed by a study of small mammal predators of the European Pine Sawfly. *Canadian Entomologist* 91:293-320.
12. McAtee WL (1927) The relation of birds to woodlots in New York State. *Roosevelt Wildlife Bulletin* 4:1-152.
13. Root RB (1966) The avian response to a population outbreak of the tent caterpillar, *Malacosoma constrictum* (Stretch) (Lepidoptera: Lasiocampidae). *Pan-Pacific Entomologist* 42:48-53.
14. North American Breeding Bird Survey - Canadian trends website, data-version 2015, accessed May 15, 2018 <https://wildlife-species.canada.ca/breeding-bird-survey-results/P004/A001/?lang=e&m=s&r=BAOR&p=L>
15. Löve A, Löve D (1954). Vegetation of a prairie marsh. *Bulletin of the Torrey Botanical Club* 81:16-34.
16. MacKenzie DI (1982) The dune-ridge forest, Delta Marsh, Manitoba: Overstorey vegetation and soil patterns. *Canadian Field-Naturalist* 96:61-68.
17. Nickell WP (1958) Variations in the engineering features of the nests of several species of birds in relation to the nest sites and nesting materials. *Butler University Botanical Studies* 13:121-139.

WANTED

			
Burrowing Owl	Piping Plover	Loggerhead Shrike	Monarch Butterfly
To help determine population size and distribution of Species at Risk			
Please Report Sightings To:			
1-800-667-HOOT (4668)			
			
Funding Available for habitat enhancement projects on land with species at risk, including native grass seeding, wildlife-friendly fencing, and water development sites.			
Contact Nature Saskatchewan at 306-780-9833 for more information.			

18. Schaefer VH (1976) Geographic variation in the placement and structure of oriole nests. *Condor* 78:443-448.
19. Pank LF (1974) Nesting biology of the Baltimore Oriole. M.S. thesis, University of Massachusetts, Amherst.
20. Anonymous (1974) Flood control. Manitoba Department of Mines, Resources, and Environmental Management, Water Resources Division, Winnipeg, MB.
21. Hobson KA, Norris DR, Goldsborough G, Sealy SG (2012) Requiem for a field station: The loss of a Canadian ornithological treasure. *Avian Conservation and Ecology* 7(2):7. <http://dx.doi.org/10.5751/ACE-00553-070207>.
22. Busby DG, Sealy SG (1979) Feeding ecology of a population of nesting Yellow Warblers. *Canadian Journal of Zoology* 57:1670-1681.
23. Sealy SG (1979) Extralimital nesting of Bay-breasted Warblers: Responses to forest tent caterpillars? *Auk* 96:600-603.
24. Biermann GC, Sealy SG (1982) Parental feeding of nestling Yellow Warblers in relation to brood size and prey availability. *Auk* 99:332-341.
26. Sealy SG (1979) Prebasic molt of the Northern Oriole. *Canadian Journal of Zoology* 57:1473-1478.
27. North American Breeding Bird Trend Results, accessed May 15, 2018 www.mbr-pwrc.usgs.gov/cgi-bin/atlas15.pl?05070&1&15&csrfmiddlewaretoken=3YKak k7LxT2ki6NSpl4mstudYCqdW02C
28. Sealy SG (1978) Possible influence of food on egg laying and clutch size in the Black billed Cuckoo. *Condor* 80:103-104.
29. Sealy SG Evening grosbeaks feeding on pupae of the Forest Tent Caterpillar in the dune-ridge forest, Delta Marsh, Manitoba, spring 1976. *Blue Jay* 76(1):24-25.
30. Sealy SG (2003) Laying times and a case of conspecific nest parasitism in the Black-billed Cuckoo. *Journal of Field Ornithology* 74:257-260.
31. Nolan V, Jr, Thompson CF (1975) The occurrence and significance of anomalous reproductive activities in two North American nonparasitic cuckoos *Coccyzus* spp. *Ibis* 117:496-503.

YEAR	No. of nests	Nests/ha
1976	52	5.4
1977	101	10.5
1978	51	5.3
1979	51	5.3
1980	52	5.4
1981	33	3.4
1982	28	2.9
1983	14	1.5
1984	15	1.6
1985	17	1.8
1986	20	2.1
1987	23	2.4
1988	21	2.2
1989	21	2.2
1990	20	2.1
1991	26	2.7
1992	25	2.6
1993	24	2.5
1994	18	1.9
1995	17	1.8

APPENDIX 1: Density of Baltimore Oriole nests (number nests/ha) in a 1.2-km (10 ha) portion of the forested dune ridge, Delta Marsh, Manitoba, 1976-1995.

32. Morse DH (1978) Populations of Bay-breasted and Cape May warblers during an outbreak of the spruce budworm. *Wilson Bulletin* 90:404-413.
33. Gage SH, Miller CA, Mook MJ (1970) The feeding response of some forest birds to the Black-headed Budworm. *Canadian Journal of Zoology* 48:359-366.
34. Venier LA, Pearce JL, Fillman DR, McNicol DK, Welsh DA (2009) Effects of Spruce Budworm (*Choristoneura fumiferana* (Clem.)) outbreaks on boreal mixed-wood bird communities. *Avian Conservation and Ecology - Écologie et conservation des oiseaux* 4(1):3. [online] URL: <http://www.ace-eco.org/vol4/iss1/art3/>
35. Guinan DM, Sealy SG (1987) Diet of House Wrens (*Troglodytes aedon*) and the abundance of the invertebrate prey in the dune ridge forest, Delta Marsh, Manitoba. *Canadian Journal of Zoology* 65:1587-1596. 🐦

2018 GRADUATE SCHOLARSHIP WINNER



The Margaret Skeel Graduate Student Scholarship was established by Nature Saskatchewan to stimulate research of all aspects of the natural world and human relation with nature, and to promote conservation and sustainable use of natural resources. The \$2,000 scholarship is awarded annually to assist a graduate student attending a post-secondary institution in Saskatchewan.

The 2018 scholarship recipient is Katie Doke Sawatzky, who is a master's of journalism student at the University of Regina. She is tackling the public debate surrounding prairie grasslands use and preservation. In the past decade, the province has sold 1.1 million acres of Crown land in the prairie ecoregion, while Ottawa has closed the Community Pasture Program. Katie will travel throughout Saskatchewan to document the views of ranchers, mixed farmers, hunters, pasture patrons, new leaseholders, naturalists and government officials. She will also delve into the economics and scientific aspects of grasslands, and chart changes to the ecosystem since settlement. The results of her investigation will be published on a multimedia website that incorporates articles, videos, audio podcasts, and infographics. The purpose of the project is to provide a place where diverse perspectives on native prairie can be seen alongside one another in order to raise the public's awareness of this endangered ecosystem and to create understanding between interested groups. 🐦

AN ENCOUNTER WITH A TOWNSEND'S SOLITAIRE (*MYADESTES TOWNSENDI*)

Redmond McV. Clarke
211 Victoria Cr.
Winnipeg, MB R2M 1X6
rmclarke@mts.net

The Townsend's Solitaire (*Myadestes townsendi*) is a western North American thrush (Turdidae), sometimes referred to as the "juniper bluebird".¹ During the breeding season it inhabits open pine, fir and spruce forests in mountainous regions from about 350 m to 3,500 m altitude.² During the non-breeding season some Townsend's Solitaires migrate short distances to lower elevations especially where juniper berries are abundant, while some vacate more northerly breeding areas and range into the western prairies and more eastern Mexico, and some migrate south.¹⁻³ It is an occasional migrant and winter visitor to southern Manitoba.⁴ One or two usually are reported in Manitoba most winters.



FIGURE 1. The Townsend's Solitaire in Winnipeg, February 5, 2018. Photo credit: Redmond McV. Clarke

In December 2017, one Townsend's Solitaire was reported in the Riverview area of Winnipeg. It was still present in early February 2018. I went looking for it on February 5, 2018, a cold (-17 °C), sunny day. I arrived at the reported location, and quickly saw it at 10:10 h while parking my car. I got out of the car to see the bird better and to try to take some photographs (Figure 1), but the bird's movements, shrubs, fences and light conditions hampered this. I did hear it sing a few phrases of its song. When I was about to leave, after about 20 minutes, the Townsend's



FIGURE 2: The Townsend's Solitaire settling on the car's side-mirror. Photo credit: Redmond McV. Clarke

Solitaire flew directly from the shrubs and landed on the driver's side-mirror of my car. It adjusted itself (Figure 2) and then sat on the mirror for about 10 minutes (Figure 3) before I disturbed it. I was becoming cold, and reluctantly moved towards the car. The Townsend's Solitaire flew away. I drove off, marvelling at the encounter.

My thanks to the observers on Manitobabirds for reporting this occurrence of this Townsend's Solitaire in Winnipeg.

References

1. Dunne, P (2006) Pete Dunne's Essential Field Guide Companion. Houghton Mifflin Co., New York, NY.
2. Cornell Lab of Ornithology (2018) All About Birds. Townsend's Solitaire. www.allaboutbirds.org.
3. Bowen, RV (1997) Townsend's Solitaire (*Myadestes townsendi*), version 2.0. In: Poole AF, Gill FB (eds) The Birds of North America. Cornell Lab of Ornithology, Ithaca, NY.
4. Manitoba Avian Research Committee (2003) The Birds of Manitoba. Manitoba Naturalists Society, Winnipeg, MB 



FIGURE 3. The Townsend's Solitaire sitting on the car's side-mirror. Photo credit: Redmond McV. Clarke

TOWNSEND'S SOLITAIRE WINTER BEHAVIOUR



Photo credit: Guy Wapple

Guy Wapple

322 Gillam Crescent
Saskatoon, SK S7N 3R9

On January 20, 2018, I went birding at the Forestry Farm Park and Zoo in Saskatoon.

The weather was almost perfect. It was an unseasonably warm -3 °C under mostly cloudy skies with light west breeze. I parked in the old Zoo parking lot at 11:45 h, and as I got out of my truck, I immediately noticed a flock of 23 Bohemian Waxwings feeding in the fruit trees near the old pumphouse, which is adjacent to the parking lot.

I enjoyed watching these beautiful birds for about five minutes, when a Townsend's Solitaire (*Myadestes townsendi*) suddenly flew in from the zoo area to the north. The solitaire immediately commenced a vigorous territorial defence of the area by continuously harassing the flock of Bohemians.



Photo credit: Guy Wapple

On several occasions, it would hover above a waxwing in the tree, giving fairly loud "waaa" calls. In turn, the waxwings would respond by throwing their heads back and hissing loudly back at the solitaire.

While I never witnessed any direct physical contact between the two species, on at least one occasion, the solitaire practically landed on a waxwing's back as it perched on the branch of the fruit tree. During most of the confrontations, the birds

were in very close proximity to one another. This behaviour went on for at least 10 minutes, with the solitaire driving off several waxwings, only to have others fly in to attempt to feed on the numerous berries.

Finally, the Townsend's Solitaire appeared to give up chasing the waxwings. It landed on the ground under one of the trees and briefly fed on some fallen fruit. The solitaire then flew into to the larger eastern-most fruit tree, which it shared peacefully with a female Pine Grosbeak for about five minutes. The Grosbeak was about two metres above the Solitaire.

Then, as suddenly as it had arrived, the solitaire flew north back into the zoo from where it had initially appeared. I tried to take some images of the two species interaction, but the birds were very agitated and hard to capture. I did manage to obtain a few images of the Townsend's Solitaire. 🐦



Photo credit: Guy Wapple

Nature SASKATCHEWAN

*Without your voice, ours becomes a whisper.
Help us protect Saskatchewan's ecosystems and wildlife.*

Name: _____
Address: _____ City: _____
Province: _____ Postal Code: _____ Phone: _____
E-mail: _____
Would you like to subscribe to all electronic communications? Yes
Would you like to receive our e-newsletter? Yes

1. I wish to enroll/renew my annual membership

* All memberships run on a calendar of January 1st - December 31st

	Print Version	Electronic Version
Individual	<input type="checkbox"/> \$40	<input type="checkbox"/> \$25
Family	<input type="checkbox"/> \$45	<input type="checkbox"/> \$30
Student	<input type="checkbox"/> \$35	<input type="checkbox"/> \$25
Senior 65+	<input type="checkbox"/> \$35	<input type="checkbox"/> \$25
Foreign/Outside Canada	<input type="checkbox"/> \$60	<input type="checkbox"/> \$30
Institution/Business (CDN)	<input type="checkbox"/> \$60	<input type="checkbox"/> \$30

*I would like to purchase a Life Membership (You will receive a tax receipt for \$725) \$750
 Print OR Electronic

2. I wish to make a one time tax-deductible donation in support of:

- General Programs
- Last Mountain Bird Observatory
- Scholarship Fund
- Bird Species at Risk Programs (OBO/SFS/POS)
- Land Conservation Fund
- Rare Plant Rescue Program
- Nature Legacy Fund

Donate Online @ www.naturesask.ca/support

3. I wish to become a monthly donor by joining the Nature Savings Plan:

(Income tax receipts are issued annually-- please provide credit card information or void cheque)

Amount: \$ _____

Fee Totals

Nature Saskatchewan Membership \$ _____
Nature Saskatchewan Donation \$ _____
Total \$ _____

Cheque (payable to Nature Saskatchewan) Visa MasterCard Cash

Card # _____ / _____ / _____ / _____ Expiry: _____

Cardholder's Name: _____ Signature: _____

NATURE SASKATCHEWAN WELCOMES NEW BOARD MEMBERS

The following new board members were elected at the Annual General Meeting in Coronach on June 10, 2018. We welcome their expertise and energy to help advance the vision and mission of Nature Saskatchewan.

Brian Johnson

Brian was born and raised in Shaunavon, Saskatchewan. He then went to the University of Regina and received a Bachelor of Music in violin performance in 1983.

He began playing professionally in 1979 with the Regina Symphony — playing as a section player for four years while attending the U of R.

In 1983, Brian moved to Thunder Bay, Ontario to work with the Thunder Bay Symphony Orchestra. He played with the Thunder Bay Symphony until 1987. While in Thunder Bay, he also worked as an interpreter at the historic fort, Old

Fort William, during the summer months. He met his wife, Lisa, in Thunder Bay.

In 1987, Brian returned to Regina to work with the Regina Symphony as Principal Second Violin. He worked in this position until December of 2015. During these years, he also taught violin at the conservatory of music, ran a part-time music instrument repair business, made and sold professional violin, viola and cello bows and created an adult string orchestra in Moose Jaw, which he conducted from 2000 until 2016.

Due to injuries sustained in playing music for a living, Brian decided to pursue another career path. In 2009, he began studies in the CGA program and completed the courses by the summer of 2015. He began working in the accounting field in January of 2016 for KPMG in Regina.

Brian is married and has a son with autism. His son is grown and continues to live at home. The family is very involved in bird watching. Hans (Brian's son) is especially interested in birds and loves to learn about them and observe them at home and when the family travels.

Jamie Sparrow

Jamie attended the University of Alberta, Augustana Campus, where she completed a Bachelor of Science majoring in Environmental Science. She currently works as a Terrestrial Ecologist at Golder Associates Ltd. and is responsible primarily for designing and completing wildlife studies and completing data analysis and reporting to assist with Environmental Assessments and wildlife mitigation and monitoring programs.

With Golder, Jamie has worked as an Ecologist throughout Saskatchewan and Alberta, in northern British Columbia, Northwest Territories and northern Ontario completing ecological surveys. She has also been involved in wildlife surveys including: waterbird brood and breeding, piping plover, yellow rail, common nighthawk, burrowing owl, sharp-tailed grouse lek, raptor stick-nest, winter track count, wolverine hair trapping, aerial ungulate, and woodland caribou monitoring programs using remote cameras. She has also been involved in vegetation surveys including: invasive species identification and wetland classification, to a lesser extent. James has worked for numerous projects primarily in the oil and gas, mining, and wind and solar power project development.

Prior to employment with Golder, Jamie worked as a wildlife field technician with the Canadian Cooperative Wildlife Health Centre (CCWHC) in Cabri, Saskatchewan as part of their Chronic Wasting Disease research team. In this role, she was responsible for the tracking and capture of mule deer using radio telemetry, as well as monitoring of mule deer health through daily observation and using remote cameras. Jamie spent a summer with Camrose County to implement a biomass boiler system associated with a willow plantation for wastewater cleanup of an Alberta hamlet and also worked in agriculture during her school years milking cows and operating the air seeder on a large grain farm near Borden, Saskatchewan. 🦉

POETRY

ABLOOM

Morning's merciful mist
And dew
The leavings of the night's
Fierce storm
Meet the dawn's
Warm rays
And people the plain's
Rolling slopes
With a waving profusion
Of graceful, regal
Bluebells.

George Grassick

P.O. Box 205
Lumsden, SK S0G 3C0
ggrassick@sasktel.net

DRUMMING RUFFED GROUSE

May 15, 2018 7:00 p.m. to 9:30 p.m. When I arrived home from a field trip one day last spring, my wife mentioned she had heard a Ruffed Grouse drumming behind the house. Later in the evening I found the grouse displaying on a log just a few feet off our back lawn. Photographing wildlife in your own backyard is just one of the many perks of living in the country.

– R. E. Gehlert, Beaver County, AB



Photo credit: R. E. Gehlert



Photo credit: R. E. Gehlert



Photo credit: R. E. Gehlert



Photo credit: R. E. Gehlert

If you have any photos you would like to share, please send them to the editor (contact information on page 4) for inclusion in an upcoming issue of Blue Jay.

HUMAN NATURE

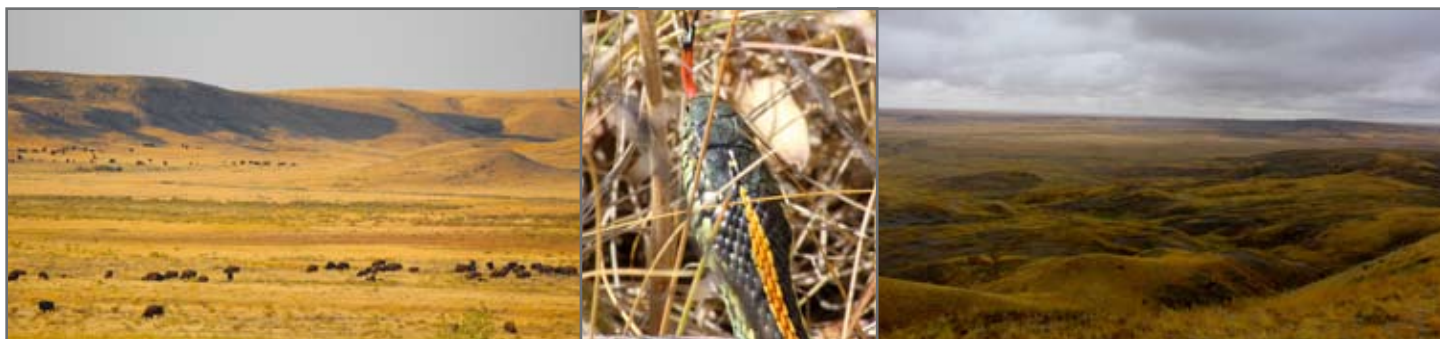


Photo credit: Joshua Christiansen

Joshua Christiansen

Luther College High School Graduate
Regina, SK

Growing up surrounded by family members that enjoy nature, like my grandfather who would take me birdwatching in the mornings when I was young, it was natural that I came to love the environment. I've had so many spectacular experiences in nature, and am very fortunate to have been exposed to the natural world at a young age, but my favourite place that I have travelled to so far is Grasslands National Park.

Grasslands is located south of Swift Current on the Canada-U.S. border and has many hiking trails. It is also one of the darkest dark sky preserves in Canada and is host to a multitude of flora and fauna species. My favourite hike was 70 Mile Butte, which takes you to the highest point in the park and overlooks the grassland valley. Living in Saskatchewan I've become used to the squares and rectangles that shape the prairie landscape, but on the top of 70 Mile Butte all I could see was natural land with natural vegetation and it was stunning. With no obstructions I could see forever. I sat on the hill top and I looked and looked and I kept finding little details — the winding Frenchman River, a prairie dog colony and a herd of plains bison.

One of the nights I camped there, my friends and I decided to ditch the tents and sleep outside under the stars. It was the most amazing, spectacular

and beautiful sight I've ever seen. I love the sky, and looking at the stars, and Grasslands is one of the few places that has allowed me to see the stars without the effects of light pollution. I laid on the ground for what felt like hours on end staring into the sky, catching glimpses of shooting stars, constellations, and the Milky Way. As I looked into the infinite blanket of stars I felt so small and insignificant to the universe and it gave me a newfound respect for the fragile design of the environment.

My favourite things in the environment are animals, and Grasslands provided three unique experiences with creatures that I will never forget. One of these experiences was with a Plains Garter Snake. Our campsite was very near to a snake hibernaculum and one of the days we went to find some snakes and we came across this garter snake that was basking in the sun on a rock. I love photography as well, so I had my Canon Rebel T5i out and ready and got some great shots of the garter in the grass as someone had startled it. Reptiles are my favourite class of animals, but they are not common in Saskatchewan and very difficult to photograph, so this garter snake encounter was very special.

Another species we sighted was the endangered Burrowing Owl. There were a couple residing amongst the prairie dog colonies and one of them flew to a road sign. I told my teacher I was going to get a super close picture

of the little owl. My teacher thought I was crazy thinking I could get the shot but he stopped the group and I crept forward, one step at a time, every time the owl turned its head away. Eventually I got within 15 feet of the road sign and got some great pictures before the owl flew away. That is one of my favourite encounters with wildlife ever.

The last encounter is one that comes to mind every time I think of Grasslands — it is the first time I looked upon a bison herd. I was hiking up a small ridge and it was evening; the sun was setting and the sky was a blazing mixture of yellows and oranges. I reached the top of the ridge and there, spread out across the prairie landscape in front of me and painted by the setting sun, was a herd of close to 300 bison. It was an incredible scene to witness. The landscape was so calm yet so alive and to make the experience even better, the landscape was no longer calm as the bison started stampeding to the hills in the distance. I could feel the ground shaking as the herd thundered up the hills and disappeared like the setting sun.

Having left Grasslands National Park, there is a little piece of my heart somewhere among the grasses. Providing refuge to many species, some of which are endangered, Grasslands is awe-inspiring both day and night and I hope that others can travel to the park and leave feeling the same way I did — calm, happy and wanting to go back. 🦉



Photo credit: Julie L. Roy, Environment and Climate Change Canada



Photo credit: Fran Kerbs

Mystery Photo Fall 2018 (left)

THE QUESTION IS: What type of fly larva is pictured here?
Hint: Adult females commonly have a yellow banded abdomen.

Please send your answers to Blue Jay editor Annie McLeod at bluejay@naturesask.ca or by letter mail: 3017 Hill Ave. Regina, SK S4S 0W2.

Those with correct answers will be entered into a draw for a prize from Nature Saskatchewan.

Mystery Photo Summer 2018 (above)

ANSWER: Several bluegreen algae (Cyanobacteria) can form a variety of types and shapes of macrocolonies in freshwaters. The Summer 2018 mystery photo shows macroscopic ball shaped colonies of the bluegreen alga *Nostoc parmelioides* growing on a rock from Swift Current Creek, Saskatchewan. Please see the article on page 20 of this issue for more details.

Have you taken a picture that may make for a good mystery photo? Send it to the editor for possible inclusion in an upcoming issue.



Nature
SASKATCHEWAN

206 – 1860 Lorne Street
Regina, SK S4P 2L7

