

BLUE JAY





David Raitt of The Pas, Manitoba shares a number of noteworthy bird sightings in west central Manitoba during 2020.



Jared Clarke presents data from nine nesting attempts, on his farm near Edenwold, SK, of Rubythroated Hummingbirds between 2015 and 2020.



The results of the 79th annual Saskatchewan Christmas Bird Count are in. Find out which count took the crown for most species observed.



After being asked to confirm the identity of a black witch moth that was photographed southeast of Saskatoon, Cedric Gillott examined records of the moth in the Prairie provinces.



R. Mark Brigham and Shelby J. Bohn determine where bats — particularly Big Brown Bats and Little Brown Bats — occur in southeastern Saskatchewan, to aid in the development and implementation of conservation action plans.



In the fall of 2020, Least Chipmunks were observed and photographed as they harvested Thorny Buffaloberry and Silver Sage seeds along the prairie portion of the Red Deer River valley in Alberta. This animal had not previously been reported to gather seeds of either species.

WHAT'S INSIDE

- **Noteworthy Bird Sightings** in West Central Manitoba in 2020 David Raitt
- **Ruby-throated Hummingbird Nests Near Edenwold, SK** Jared Clarke
- 79th Annual Saskatchewan 8 Christmas Bird Count – 2020 Alan R. Smith
- 48th Annual Saskatchewan 21 **Christmas Mammal** Count - 2020 Alan R. Smith
- **Chimney Swifts** 26 on the Prairies Amanda Shave

- 28 The Black Witch Moth -A Rare Prairie Visitor Cedric Gillott
- **Poetry: Grifter** 30 George Grassick
- The Nature Notebook: How 31 **Are Wildlife Viewing Ethics Being Taught Today?** Jared Clarke
- 32 Distribution of Bat Species in Southeastern Saskatchewan **Based on Acoustic Surveys** and Captures

R. Mark Brigham Shelby J. Bohn

- 34 **Poetry: Dawn Beat** George Grassick
- Arbor Day 2021: Share Your 35 Photos and Stories

- Nature Saskatchewan 2021 Annual General Meeting & **Spring Meet**
- **Least Chipmunk Fall** Foraging of Thorny **Buffaloberry and Sage** Along the Red Deer River Valley, Alberta D. (Tim) Schowalter,

Lawrence D. Harder, Ryan Wilkes, Heather Blanchette

- **Nature Saskatchewan** Awards
- Poetry: LICHENS Brian K Jeffery
- **Human Nature** 42 Kaytlyn Burrows
- **Mystery Photo** 43

FROM THE PRESIDENT

President, Nature Saskatchewan edrodger@sasktel.net

Hello everyone,

When I was a young man, and probably a long time before that, efforts to protect nature were often said to be 'anti-progress'. Unfortunately, such arguments can be made without any real, agreed definition of 'progress', or acknowledgement that there are ways to improve our lives and protect



ON THE FRONT COVER A male Mourning Warbler photographed at Anglin Lake, Saskatchewan. Photo credit: Nick Saunders.

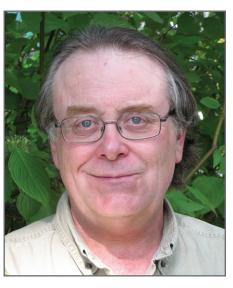


ON THE BACK COVER A Prairie Lily (Lilium philadelphicum) surrounded by Hedysarum and bedstraw. Photographed at Hidden Valley in the Qu'Appelle Valley, Saskatchewan. Photo credit: Paule Hjertaas.

nature as well. In recent years, this characterization has persisted in many new and stronger ways, usually as some variation on the theme that conservation is 'resisting change', and its advocates reject modern comforts. Though this may be true in a few individual cases, the fact is that many, many people both value protection of nature, and want to enjoy the benefits of modern society — and are willing to put in the work to find ways to do that.

This brings to mind for me the vision of Nature Saskatchewan — 'Humanity in Harmony with Nature'. When I joined the Nature Saskatchewan Board of Directors and first heard this slogan, it struck me a bit as a very broad vision for a small, localized organization. But I've come to appreciate it and realize its value in always keeping the large goal in mind — that we should seek ways to protect nature as we improve our lives, both as individuals and as a society. Approaching conservation with this attitude fosters many challenges, and is most successful when the resulting discussions promote solutions rather than labels, on the part of all participants.

I suppose I'm reflecting on such fundamental matters because, according to current succession plans, this should be my last time writing this column. I haven't had a chance to say everything that I might about Nature Saskatchewan as an organization, its story and its activities, so I'm going to have to make up for that with one last, large news item: that Nature Saskatchewan is the 2020 recipient of Nature Canada's Conservation Partner Award. This annual award is where Nature Canada recognizes "the conservation



Ed Rodger

efforts of a partner organization whose work has significantly contributed to conservation in Canada". Nature Canada's citation for this year's award speaks to Nature Saskatchewan's "incredible enthusiasm in collaboration with us and your tireless work to protect nature and species at risk in Saskatchewan". It goes on to describe Nature Saskatchewan as a "steadfast partner, always eager to collaborate and provide guidance for our work in Saskatchewan".

We are, of course, pleased and honoured with this recognition, and my fellow board members and I agree that the work of the Nature Saskatchewan staff and volunteers is well worthy of this praise. We hope that our organization's contributions, working with Nature Canada and many other notable partners, continue to support the vision of humanity in harmony with nature. And that, for me, is progress.

Thanks to all *Blue Jay* readers for your continued support of Nature Saskatchewan. It's been my pleasure to talk with you through this forum.



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 handwritten 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

- eNGOs 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.



Board of Directors

President

Ed Rodger

Vice President **Ken Ludwig**

Secretary

Jamie Sparrow

Treasurer

Brian Johnson

Past President

Vacant

Honourary President

Gary Seib

Conservation Director

Lorne Scott

Directors

Jacqueline Bolton Diego Steinaker Katelyn Guignard

Morley Maier John Patterson Joe Schmutz

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

Rebecca Magnus

Habitat Stewardship Coordinator

Ashley Vass

Database Technician

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

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

Rich Pickering

Nature Prince Albert

Gwen Klebeck

Nature Regina

Elaine Ehman

Neudorf Trails &

Wild Bird Sanctuary Society

Keith Gerstner

Saskatoon Nature Society

Blair McCann

Southwest Naturalists

Arnie Ens

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

Wild About Saskatoon

Candace Savage

NOTEWORTHY BIRD SIGHTINGS IN WEST CENTRAL MANITOBA IN 2020



Sabine's Gull at Clearwater Lake Provincial Park, 11 June 2020. Photo credit: David Raitt.

David Raitt 14 Guymer Cr. The Pas, MB R9A 1S9 drcawa@gmail.com

The period from 20 May to 11 June 2020 brought a flurry of three rare bird sightings at and near The Pas, Manitoba. In the fall, two more noteworthy sightings occurred to the northeast and southeast (each about 110 km from The Pas).

On 20 May, a Eurasian Collared-Dove (Streptopelia decaocto) was photographed by Marilyn Meyer in The Pas. The most northerly record for this species during the Manitoba Breeding Bird Atlas (data collection 2010-2014) was in the Russell area, more than 300 km south of The Pas.1

On 7 June, at Sunset Beach in Clearwater Lake Provincial Park, the author observed a bird in close pursuit of a gull or tern. Subsequent sightings and poorquality photographs confirmed that the bird was a Parasitic Jaeger (Stercorarius parasiticus). A 1993 review mentioned five June records of this species in central and southern Manitoba.2

On 11 June, also at Sunset Beach, the author observed and photographed a Sabine's Gull (Xema sabini). In a 2003 publication, the Manitoba Avian Research Committee noted four spring records for this species in Manitoba away from the Hudson Bay Coast.3

On 5 September, the author observed two jaegers at the south shore of Cedar Lake. Though they could not be assigned to a particular species, any jaeger sighting in this region is noteworthy.

On 18 October, in the south basin of Tramping Lake, the author and two co-workers observed a Surf Scoter (Melanitta perspicillata). The author had seen a Surf Scoter in this same bay on 25 September 2007, and two adult male Surf Scoters were photographed on this lake on 18 September 2018 (Darryl Langlois, pers. comm.). A 3 October 1997 sighting of a Surf Scoter by Peter Taylor on Wekusko Lake (the next lake east in the Grass River chain), and the author's sighting of eight Surf Scoters on Rocky Lake on 1 October

2011 may be the only other records of this species in central Manitoba.3 However, this paucity of records may reflect a lack of observers and/or communication more than a lack of scoters.

Acknowledgements

Thanks to Marilyn Meyer for providing the Eurasian Collared-Dove sighting, and Darryl Langlois for his Surf Scoter sighting. Thanks also go to Peter Taylor for providing information, context, comments, and editing that greatly improved this article.

- 1. Koes RF, Parsons RJ (2019) Eurasian Collared-Dove in Artuso C, Couturier AR, De Smet KD, Koes RF, Lepage D, McCracken J, Mooi RD, Taylor P (eds.). The Atlas of the Breeding Birds of Manitoba, 2010-2014. Bird Studies Canada. Winnipeg, Manitoba http://www.birdatlas.mb.ca/accounts/ speciesaccount.jsp?sp=ECDO&lang=en [25 Jan 2021]
- 2. Taylor P (1993) Mid-continental jaegers: a Manitoba perspective. Blue Jay 51:157-164.
- 3. Manitoba Avian Research Committee (2003) The Birds of Manitoba. Manitoba Naturalists Society, Winnipeg, Manitoba. 🖊

RUBY-THROATED HUMMINGBIRD NESTS NEAR EDENWOLD, SK

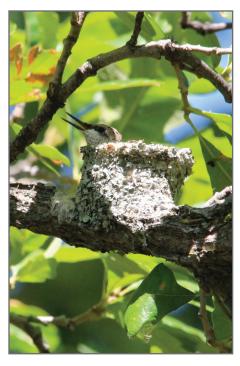
Jared Clarke
Box 216
Edenwold, SK S0G 1K0
clarkejared@hotmail.com

Ruby-throated Hummingbirds (Archilochus colubris; hereafter ruby-throats) are considered a fairly common summer resident in many parts of Saskatchewan but large gaps exist in our basic life history knowledge of this species in the province.1 Here I present data from nine nesting attempts on our farm near Edenwold, Saskatchewan (50° 39' 31" N, 104° 17' 58" W) by ruby-throats between 2015-2020. The farmyard is situated on the southern edge of the Aspen Parkland eco-region and is surrounded by cropland and tame pastureland, with numerous small wetlands. The yard

site is treed with large spruce trees (*Picea sp*), hybrid poplars (*Populus sp*) and Trembling Aspen (*Populus tremuloides*).

Nests were located opportunistically. Generally, the presence of a female rubythroat in a specific location twice suggested a nest was nearby and a more thorough search was then conducted. I did not keep many records on individual nest attempts, mostly taking photos as documentation, but I did observe the nests regularly once they were discovered.

Four out of nine nest attempts successfully fledged seven young (Table 1), while another four nests failed and one nest was too high to determine the outcome. Reasons for nest failure are unknown, although



One of two Ruby-throated Hummingbird chicks in the Net 6 nest on 5 August 2020. The other chick is behind the visible nestling. Photo credit: Jared Clarke.

the observation of a damaged nest suggests a predation event may have occurred. No dead chicks or eggs were ever found in or below the nest. Eastern Kingbirds and Baltimore Orioles have been documented killing adult hummingbirds, while



The Oak Tree Row nest with two Ruby-throated Hummingbird nestlings on 1 August 2017. Photo credit: Jared Clarke.

TABLE 1. Ruby-throated Hummingbird nest attempts near Edenwold, Saskatchewan, 2015-2020.

YEAR	NEST NAME	TREE SPECIES	HEIGHT (M)	OBSERVATION DATE	NEST CONTENTS	NOTES	NEST OUTCOME
2020	Net 5	Spruce	2.2	20 June 26 June	Unknown Empty	Female observed sitting on nest. No sign of female - nest damaged and empty.	Failed
2020	Chicken Coop	Spruce	8.8	4 July	Unknown	Female observed flushing from nest. This nest was too high to make any observations on.	Unknown
2020	Goat Path	Spruce	2.7	4 July 3 August 5 August 12 August	Unknown 1 chick 1 chick Empty	Female sitting on nest. Photo taken. Photo taken. Nest empty. Chick old enough to have fledged.	Successful
2020	Net 6 Oak	Oak	3.6	5 July 5 August 12 August	Unknown 2 chicks Empty	Female observed flushing from nest. Photo taken. Nest empty. Chick old enough to have fledged.	Successful
2018	Net 6	Spruce	2.9	16 July	Empty	Nest looks new, but damaged. No females observed near it.	Failed
2018	Storage Shed	Trembling Aspen	2.9	21 May 26 May	N/A Unknown	Female observed nest building. Nest just beginning. Female sitting on nest. Nest failed sometime later.	Failed
2017	Oak Tree Row	Oak	2.4	12 July 31 July	2 eggs 2 chicks	Observed female flushing from nest. Photo taken.	Successful
2016	DU Quarter	Trembling Aspen	Unknown	13 June 19 June	Unknown	Exact same spot as 2015. Female seen on nest. Nest appears damaged. No adult present.	Failed
2015	DU Quarter	Trembling Aspen	Unknown	15 June 6 July 10 July	Unknown 2 chicks 2 chicks	Female observed on nest. Photo taken. Very large - close to fledging.	Successful

a Blue Jay has been documented depredating nestlings, so many avian species likely pose a threat to rubythroat eggs and nestlings.²

Nests were located in three tree species; Trembling Aspen (n= 3), Burr Oak (n=2, Quercus macrocarpa) and Blue Spruce (n= 4, Picea pungens). The four instances of nests in spruce trees is interesting, as the ruby-throat account in Birds of Saskatchewan does not list any known nests occurring in spruce out of 23 records (one in a Tamarack is noted). Nests were generally not reused as nests deteriorate to almost nothing over the winter, however, the DU Quarter nest was rebuilt in 2016 in the exact same spot as it was in 2015.

Nest height was measured for seven of the nine nests and ranged from 2.4 to 8.8 m, with an average of 3.6 m (Table 1). However, six out of seven nests were between 2.4 and 3.6 m. It is possible the mean height is biased low, as it is easier to detect nests at lower heights than higher as females are more likely to flush due to my proximity. In 2020, when three

nests were active at the same time. the distance between the closest nests was 60 m and 82 m.

It takes approximately 36-44 days for a female to initiate a nest and fledge young (nest building 6-10 days, incubation 12-14, nestlings 18-20).² Ruby-throats are known to raise two broods of young in a year in their more southern range.² However, given the average spring arrival of this species in Saskatchewan of mid to late May and subsequent fall migration departure by the first week of September, two broods would be challenging to complete here. Most dates of nest initiation and fledging are lacking in my data, but in one instance, a female was observed nest building on 21 May 2018 (the Storage Shed nest). This would place fledging around the end of June to beginning of July. Females will continue to feed young 4-7 days post fledging.² It is thus possible for an early nester like this to double-brood, although it would be very tight to fit in a second brood before migration.

One of the four successful nests did fledge in mid-July, while the other three fledged in early August. These three August nests would have been initiated in late-June and could have been renesting attempts after the first nest failed. It is also possible the females delayed nest initiation until lune

One observation of note was of the nest building by the Storage Shed nest female (Table 1). She was observed flying back and forth between a willow tree (Salix sp) collecting white fuzz from the tree. On returning to her nest the bird would scrape her bill from the base of her bill to the tip on the side of the nest to remove the fuzz and then stamp on the fuzz to pack it down.

- 1. Smith AR, Houston CS, and Roy, JF editors (2019) Birds of Saskatchewan. Nature Saskatchewan, Regina.
- 2. Weidensaul S, Robinson TR, Sargent RR, Sargent MB, Zenzal TJ (2020) Ruby-throated Hummingbird (Archilochus colubris), version 1.0. In Birds of the World (P. G. Rodewald. Editor). Cornell Lab of Ornithology, Ithaca, NY, USA. 🖊

79TH ANNUAL SASKATCHEWAN CHRISTMAS BIRD COUNT - 2020

Alan R. Smith
Box 154
Avonlea, SK S0H 0C0
alanrandi@sasktel.net

The Counts

A possible effect of the COVID-19 pandemic has been the increase in the number of counts conducted in the province. Last year only 76 were received; this year we received 82. More strikingly, the number of observers rose by 13 per cent from 752 to 853 — a clear indication that more of us stayed closer to home than usual.

The Weather

Average minimum and maximum temperatures for the count period (with 2019-20 records in brackets) were -11 to -6 C (-11 to -6 C), wind speeds 9 to 20 km/h (8 to 16 km/h), and snow depths 12 to 26 cm (5 to 12 cm). As can be seen, there was little difference in the averages for temperature and wind speed; snow depths were, however, far greater than last year.

The Birds

The 175,761 birds counted was much higher than last winter's 126,813 and the century average of 125,000. This is largely due to a record high count of 61,700 Canada Geese on the Estevan count, nearly doubling last year's previous high of 33,735 — also from Estevan (Table 6).

The 95 species recorded on count day was about average for the century, while the average number of species per count at 18.98 was the second highest since 2012 with its record high of 19.4.

For the first time since 2014, Saskatoon won the crown for the most species at 44. The runner up was Regina with 36 species.

Population Trends

Except for the new provincial high for Canada Geese, waterfowl were generally found in normal numbers. Thirty-two Herring Gull were recorded at Gardiner Dam, quadrupling the previous high of eight noted at the same location in 1988 (Table 6).

Most raptors (hawks, falcons and owls) were generally found at or near normal numbers. A prominent exception was the Great Gray Owl, which invaded the forest fringe with 18 birds on eight counts compared to only one bird the previous winter (Table 3).

Due to much greater average snow depths, numbers of Horned Larks declined from 1,414 on 35 counts last winter to only 447 birds on 19 counts this count (Table 3).

The range expansion of the introduced Eurasian Collared-Dove and House Finch appears to come to a halt. Numbers of the finch were, however, at an all-time high with 1,545 birds on 28 counts (Table 3).

It was also a good early winter for most other species of finch. Numbers of the Common Redpoll rebounded with 3,052 birds on 61 counts compared to 617 birds on 28 counts last winter. Both grosbeaks were up as well, with 1,612 Pines and 1,829 Evenings compared to respective numbers of 405 and 870 in 2019-20. White-winged Crossbill were also up substantially with 663 birds on 18 counts compared to eight birds on three counts last winter (Table 3).

White-throated Sparrow were more widespread and abundant than usual with 37 birds in nine localities including 10 at Davidson-Craik and an incredible 18 at Prince Albert (Table 6).

Rarities

Few rarities of note were recorded. An Eastern Bluebird seen on the Balgonie Count was the most unusual. The only previous record was of two birds seen during the count period at Craven in 1998. Other rarities included our fifth Hermit Thrush, and seventh Lincoln's Sparrow (Table 6).

Note: for purposes of Saskatchewan Counts as published herein, the count period extends from 14 Dec to 5 January; Audubon counts include only those species recorded three days prior to and after the count day.

Count Areas and Participants (names of compilers are in italics)

- 1. ARCHERWILL. Gerald Hiron, Susan Hiron, Audrey Hnetka, Perry Hnetka, *Elaine Hughes*, Dorothy Klettberg, Willie Klettberg, Annette Kozak, Judy Revoy.
- 2. AVONLEA. Randi Edmonds, Liz Holland, *Alan Smith,* Blaine Sudom, Larissa Sudom, Larraine Sudom.
- 3. BALGONIE. Joel Cherry, Jared Clarke, Rowan Clarke, Teal Clarke, Ken Feltin, Chris Harris, Dale Hjertaas, Paule Hjertaas, Fran Kerbs, Kristen Martin, Annie McLeod, *Brett Quiring*, Jacqueline Roy, Dan Sawatzky, Brenda Schwartz.
- 4. BIGGAR. Dale Booth, Sheila Jezowski, Murray Newton, Mark Pickett, Lorrie Sielski, Monika Slowski, *Guy Wapple*, Marguerite Wapple, Rob Wapple.
- 5. BORDEN-RADISSON. Greg Fenty, Jennifer Fenty, Hannah Giesbrecht, Wendell Giesbrecht, *Kyron Giroux*, Terri Jackson, Ron Jensen, Jennipher Karst.

- 6. BROADVIEW. Barb Weidl, *Don Weidl*.
- 7. CANDLE LAKE. Bea Kolbialko, John Lundgren, *Vicki St. Germaine*, Warren St. Germaine.
- 8. CHATSWORTH. Herb Cross, Jean Cross, Robert Mess, Wyonna Mess, *George Murray*, Laurie Murray, Kerri Rooke, Stewart Rooke, Carol Tangedal, Rudy Tangedal.
- 9. CHRISTOPHER LAKE. *Jeannie Walker.*
- 10. CLARK'S CROSSING. Kyla Bas, Dale Booth, Dave Cook, Louise Cook, Lorne Duczek, Bob Godwin, Dawn Hall, Jeff Harder, Marilyn Haskins, Ron Jensen, Robert Johanson, Heney Klypak, LeeAnn Latremouille, Blair McCann, Janine McManus, Lynn Oliphant, *John Patterson*, Jan Shadick, Stan Shadick, Rhonda Shewfelt, Marten Stoffel, Guy Wapple, Diane Wells.
- 11. CRAVEN. Brian Armstrong, Carolyn Armstrong, Greg Belisle, Tracy Belisle, Stephane Canevet, Jared Clarke, Rowan Clarke, Stephen Davis, Ryan Fisher, Jeff Gamble, Chris Harris, Kate Herriot, Trevor Herriot, Louise Holloway, Phil Holloway, Andrew Huculak, Bonnie Huculak, Jones Irving, Keri Irving, Joan Karasin, Marty Karasin, Jackie Lane, Lauretta Lane, Judy Lynn, Barbara Mader, Jaret McDonald, John Menzies, Maxine Menzies, Barry Mitschke, Valerie Mitschke, Janet Ng, Dave Phillips, Rhonda Phillips, Brett Quiring, Ed Rodger, Jacqueline Roy, Dan Sawatzky, Brian Sterenberg, Jeanette Taylor, Robb Taylor, Randy Teed.
- 12. CROOKED LAKE. Barb Weidl, *Don Weidl*.
- 13. CROOKED RIVER. *Margaret Mehler*, Morley Mehler.

- 14. CYPRESS HILLS PROVINCIAL PARK (Centre Block). Jacquie Bolton, Dwight Dobson, Nancy Dobson, David Larson, Margaret Larson, Marin Lewis-Ladezma, Valerie Lewis-Ladezma, Brin Martin, Mimi Martin, Melody Nagel-Hisey, Coralie Smith, Seamus Smith.
- 15. DAVIDSON-CRAIK. Edward Kammer, Maureen Kammer, *Sharlane Toole*.
- 16. DENHOLM. Beverly Beland, Gerard Beland, Linda Beland, *Orval Beland*.
- 17. DORINTOSH. Vicky Pryor, *Joe Twidale*, Lorraine Twidale, Tim Wahl.
- 18. DUNDURN. Ryan Dudragne, *Ron Jensen*, Guy Wapple.
- 19. E. B. CAMPBELL DAM. *Bert Dalziel*, Joan Dalziel, Sara Dalziel, Mitch Simon, Stacie Simon, Bill Weighill, Clara Weighill.
- 20. EASTEND. Loraine Armstrong, Roxie Binkley, Duane Bristow, Diane Dohei, *Robert Gebhardt*, Alan Gorrie, Sherry Gorrie, Joan Hodgson, Harvey Johnson, Mary Thompson, Sean Virgo, Jack Wilkinson, Janet Wilkinson.
- 21. EBENEZER. *Carol Wagner*, Harvey Wagner.
- 22. ESTEVAN 1. *Craig Palmer*, Kevin Perkins.
- 23. ESTEVAN 2. *Barry Dies*, Kathy Hedegard, Larry Preddy.
- 24. ESTUARY NORTH. Cathy Cocks, *Dean Francis*, Fran Francis.
- 25. ETTERS BEACH-LIBERTY. Aren Norberg, Sel Norberg, *Sharlane Toole*.
- 26. FENTON. Carman Dodge.
- 27. FLORAL. Ryan Dudragne, Moe Keoting, *Guy Wapple*.
- 28. FORT QU'APPELLE. Jean Ashcroft, Pete Ashcroft, Mark Geremia, Carol Horsman, Don Horsman, Alice

- Isfan, Jack Lowe, Marg Lowe, Tom McDougall, Jean McKenna, Wendy Paquin, *Keith Stephens*, Kim Stephens, Ted Stevenson, Colette Stushnoff, Richard Stushnoff, Sandra Williams.
- 29. GARDINER DAM. Ryan Dudragne, Greg Fenty, Ron Jensen, Lorrie Sielski, Marten Stoffel, *Guy Wapple*, Robert Wapple.
- 30. GOOD SPIRIT LAKE. *Joyce Anaka*, Dorothy Riesz, Ray Riesz.
- 31. GREENWATER. Bill Gudjonson, *Brian Shuya*, Helen Toomey.
- 32. GRENFELL. Ethel Reiger, Barb Weidl, *Don Weidl*.
- 33. HARRIS. Ryan Dudragne, Bruce Trapp, *Guy Wapple*, Rob Wapple.
- 34. HUDSON BAY. Jean Chalus, Ian Daisley, *John Daisley*, Rosalie Daisley, Darlene Dickson, Abby Eckert, Caleb Eckert, Cash Eckert, Jada Eckert, Marilyn Eckert, Meredith Eckert, Nixon Eckert, Alana Gelhorn, Agnes Lewellin, Verna Nagy, Bev Soules, Gloria Stang, Nancy Steinbachs, Rich Zens, John Zolkavich.
- 35. INDIAN HEAD. Carol Blenkin, Chester Blenkin, Kay Dixon, Betty Duran, Mike Duran, Irvin Escott, David Gehl, Roberta Gehl, Branimir Gjetvaj, Ed Haid, Edith Haid, Gordon Howe, Jim Jinks, Linda Jinks, John Kort, Linda Kort, Dan Loran, Kyle McClintock, Doug McKell, Judy McKell, Nicole McKell, John Mich, Lilian Mich, Bruce Neil, Dora Nichols, Laurie Norman, Laura Poppy, Dave Pickett, James Rudack, Ruthanne Rudack, Gary Schmidt, Erica Schuurmans, Brian Scott, Lorne Scott, Myrna Scott, Chris Skinner, Fred Skinner, Joan Taylor, Donna Thompson, Elaine Williamson.
- 36. KENASTON. Doug Beckie, *P. Lawrence Beckie*.
- 37. KENOSEE LAKE. Boyd Metzler, *John Pollock.*

- 38. KETCHEN NORTH. Dallas Fairburn.
- 39. KINLOCH. Andy Arnold, Carolyn Arnold, Don Forbes, Doreen Forbes, Ashley Messner, Darcy Snider, Doreen Wickstrom.
- 40. KYLE. David Hamilton, Marten Stoffel, Ken Waldner, Dan Zazelenchuk.
- 41. LA RONGE. Sharon Feschuk, Linda Mikolayenko, Sid Robinson, John Schisler, Jan Shewchuk, Dave Zarazan, Laurie Zarazan.
- 42. LOVE TORCH RIVER. Bert Dalziel, Joan Dalziel, Sara Dalziel, Scott Edwards, Janice Evans, Neal Evans, Marie Fafard, Adrik Kurbis, Coulter Kurbis, Duane Kurbis, Renee Kurbis, Riley Kurbis, Eileen L'Heureux, Shawn Paschke, Hannah Rushby, Sara Rushby, Audrey Schrader, Eric Schrader, Josh Turtle, Leonard Turtle.
- 43. LUSELAND. Estelle Finley, Kim Finley, Liam Finley, Valerie Finley, Brent Honeker, Kim McKenzie.
- 44. MACDOWALL. Dawn Hall, John Patterson, Stan Shadick, Marten Stoffel.
- 45. MEADOW LAKE. Bob Wilson, lan Wilson.
- 46. MELFORT. Bert Dalziel, Gordon Dodds, Shirley Dodds, Kim Eskowich, Wendy Eskowich, Scott Green, Travis Liddle, Darlene Thompson.
- 47. MOOSE JAW. Joel Cherry, Chris Harris, Jeff Mander, Annie McLeod, Brett Quiring, Jacqueline Roy, Ryan St. Louis, Dan Sawatzky.
- 48. MOOSE MOUNTAIN. Bill Fletcher, Dorothy Fletcher, Tanis Thomas, Val Thomas.
- 49. MORSE. Elizabeth Enns, Stella Enns, Mike Francis, Dave Gardner, Roxanne Johnson, Randy McCulloch, Joel Priebe, Ken Priebe, Myrna Priebe, Lori Wilson.

- 50. NICOLLE FLATS. Gale Fennell, Dale Hjertaas, Paule Hjertaas, Fran Kerbs, Jeff Mander, Karen Mander, Vera Raschke.
- 51. NIPAWIN. Joyce Christiansen, Betty Dolman, Rick Douslin, Patti Gaertner, Carolyn Grimm, Terry Gulewich, Shann9 Just, Jennette LeCuyer, Jeri McCleary, Peter McCleary, Jennifer Meredith, Mike Meredith, Fred Olfert, Doug Pegg, Doug Phillips, Shirley Phillips.
- 52. NISBET FOREST, NORTHWEST. Sandra Jewell.
- 53. NISBET FOREST, WEST. Kim Clark, Suzanne Clark, Guy Levesque.
- 54. ODESSA. Arden Curts, Denise Curts, Denny Curts.
- 55. OUTLOOK. Graham Thomson.
- 56. PIKE LAKE. Dalice Abraham, Max Abraham, Denice Bezoplenko, Alyson Brownbridge, Donna Bruce, Sara Bryson, David Cook, Louise Cook, Corlene Dahlen, Jordie Dahlen, Lorne Duczek, Bob Godwin, Dawn Hall, Irene Howe, Judy Howsam, Shirley Humphries, Greg Hutchings, Ron Jensen, Robert Johanson, Erin Lang, Greg Lawrence, Audrey MacKenzie, Bill MacKenzie, Blair McCann, Kathy Meeres, Murray Morgan, John Patterson, Marc Sabourin, Jan Shadick, Stan Shadick, Lubicia Stuglin, Stephan Stuglin, Guy Wapple, Annette Ward, Dwight Young, Nancy Young.
- 57. PLUNKETT-VISCOUNT. Heather Martin, Candice Sheremeta, Jodi Sutherland, Lori Sutherland, Sharlane Toole.
- 58. PRINCE ALBERT. Celeste Boron-Fetch, Doug Braaten, Marie Braaten, Lamorna Cantin, Philippe Cantin, Ffion Cassidy, Kim Clark, Shamara Clark, Carman Dodge, Tyson Fetch, Harold Fisher, Estelle Hjertaas, Sandra Jewell, Gwen Klebek, John Lundgren, Michael McLaughlin, Sylvia McLaughlin,

- Carl Nehechewsky, Shannon Poppy, Christine Rye, John Rye, Vicki St. Germain, Warren St. Germaine, Larry Willer.
- 59. PRINCE ALBERT NATIONAL PARK. Melissa Alberts, Brennan Bodnaryk, Ffion Cassidy, Judy DeMong, Dan Frandsen, Judy Frandsen, Erik Gillies, Carlene Gorecki, Dennis Gorecki, Lynn Gorecki, Alder Guedo, Bohdan Guedo, Digit Guedo, Dustin Guedo, Violet Guedo, Petra Hales, Meagan Hales, Dave Howard, Lucy Jacobi, Sophie Jacobi, Wilder Jacobi, Abbey Kingdon, Ken Kingdon, Rae Kingdon, Grace Macleod, Lauren Markewicz, Adam Pidwerbeski, Shannon Poppy, Heidi Stene, Marie Stradeski.
- 60. QU'APPELLE. Jean Ashcroft, Peter Ashcroft, Melanie Beattie, Cory Bennett, Christine Blair, Jeannie DesRochers, Colette Stushnoff, Richard Stushnoff, Frank Veresh.
- 61. QU'APPELLE VALLEY DAM. Bob Godwin, Dawn Hall, Robert Johanson, Jan Shadick, Stan Shadick, Carl Siemens, Hollyce Siemens, Guy Wapple.
- 62. REGINA. Ingrid Alesich, Brian Armstrong, Lionel Bonneville, Stephane Bonneville, Geoff Brown, Mark Brigham, Janet Canwood, Joel Cherry, Jared Clarke, Teal Clarke, Derek Donald, Elaine Ehman, Jim Elliott, Ruth Englund, Gail Fennell, Ryan Fisher, Terry Ford, Shirley Friel, Kathy Hamre, Chris Harris, Kate Herriot, Maia Herriot, Trevor Herriot, Darlene Hince, Peter Hince, Dale Hjertaas, Paule Hjertaas, Bruce Holmes, Fran Kerbs, Laurie Koepke, Ron Lawson, Maureen Lee, Rachel Ling, Sarah Ludlow, Bob Luterbach, Lauren Mang, Kim Mann, Val Mann, Annie McLeod, Janet Ng, Wayne Pepper, Brett Quiring, Chris Ratch, Ed Rodger, Jacqueline Roy, Dan Sawatzky, Joanne Shurvin, Martin Shurvin, Evanna Simpson, Margaret Skeel, Brian Sterenberg.

- 63. ROSCOMMON S.D. Bernice Althouse, Jim Althouse, Kate Althouse, Ruby Finnie, Brian Irving, Sophie Jankowski, Joan Lillibo, Dianne Sloan, Marguerite Sloan.
- 64. ROULEAU. Stuart Anderson, Martha Childs, Allen McGratten, Noreen McGratten, Brenda Sherring, Patricia Sterzuk.
- 65. ROUND LAKE (Qu'Appelle Valley). Boyd Metzler, Pat Ward.
- 66. SALTCOATS. Arden Bradford, Donna Bradford, Olga Brygider, Walter Brigadier, Len Cameron, Muriel Cameron, J. Farquharson, W. Farguharson, Dave Herron, Gloria Herron, Gerri Knudsen, Ron Knudsen, Fern McKay, Les Pearson, Shirley Pearson, G. Smith, Monique Smith, H. Torrie, S. Torrie, Val Trowell, Earl Upshall, Verda Upshall, Joan Wilson, Rob Wilson, R. Wilson.
- 67. SASKATCHEWAN LANDING PROVINCIAL PARK. Marten Stoffel, Dan Zazelenchuk.
- 68. SASKATCHEWAN RIVER FORKS. John Lundgren, Vicki St. Germaine, Warren St. Germaine.
- 69. SASKATOON. Alexander Acton. Joanne Adams, Lee Bell, Patricia Bell, Carol Blenkin, Donna Bruce, Sara Bryson, Ian Burt, Bruce Chamberlin, Glenn Dougan, Kiel Drake, Lorne Duczek, Ryan Dudragne, Melanie Elliott, Joshua Erikson, Angela Fast, Brent Fast, Hailey Fast, Greg Fenty, Jennifer Fenty, David Forbes, Peter Gerrard, Abigail Girard, Greg Girard, Mary Girard, Bob Godwin, Mike Gollop, Raea Gooding, Dawn Hall, Mercy Harris, Jacob Henderson, Julia Henderson, Lorie Henderson, Cal Hicks, Deb Hicks, Greg Hutchings, Terri Jackson, Ron Jensen, Robert Johanson, Jody Kerslake, Shan Landry, Erin Lang, Troy Lange, LeeAnn Latremouille, Anna Leighton, Don Loran, Janet Loran, Leah Luciuk, Ryan Luciuk, Audrey MacKenzie, Bill MacKenzie,

- Mary Maxwell, Blair McCann, Kariann McCrea, Sabrina McCrea, Janine McManus, Jane McPhee, Kathy Meeres, Meghan Mickelson, Scott Mitchell, Keith Moore, Scott Olshanoski, John Patterson, Ava Paul, Gerald Paul, Jim Paul, Jamie Peters, Alison Phillips, Jill Postlewaite, Sally Postlewaite, Kosala Rajapaksha, William Robertson, Diane Rogers, Marella Rosta, Marc Sabourin, Monica Salles, Nick Saunders, Jan Shadick, Stan Shadick, Kathlin Simpkins, Marten Stoffel, Darren Sutcliffe, Phil Taylor, Darla Tenfold, Hilda Voth, Dale Walker, Elisabeth Walker, Guy Wapple, Marguerite Wapple, Sandra Wapple, Hamish Watts, Olive Watts, Trent Watts, Diane Wells, Adrian Werner, George West, Helen Wilkins, Dan Zazelenchuk, Norman Zlotkin.
- 70. SHAMROCK. Alfred Arnold, Wendy Arnold, Hugh Henry, Sylvia Knudsen, Iris McNeill, Joel Priebe, Ken Priebe, Myrna Priebe, Clinton Rud, Lori Wilson.
- 71. SHELL LAKE. Ryan Dudragne, Carole Martin, Nick Saunders.
- 72. SNOWDEN. Kathleen Cust, Sonja Fidyk, Gus Formadus, Shirley Formadus, Don Friesen, Ed Hagel, Irene Hagel, Doreen Long, Linda Patton, George Pickett, Jack Pickett, Barry Priestley, Edward Priestley, Heather Priestley, Karen Priestley, Valerie Rien, Les White, Marleen White.
- 73. SWIFT CURRENT. Jacquie Bolton, Stacy Bolton, Theresa Busse, Laurent Derange, Mary Ann Dudragne, Arnie Ens, Barbara Fraser, Dave Green, Esther Green, Katie Hagman, Norma Hain, Hugh Henry, Leonard Howes, Lois Howes, Vera Lynn Knipful, Nicole Kuyek, Connie Lendrum, Janet Payne, Arden Pierce, June Roy, Harold Steppuhn, Sue Steppuhn, Irene Stinson, Allen Twamley, Betty Twamley, Karla Weins.

- 74. THICKWOOD-SPIRITWOOD. Margie Fast, Giles Lalonde, Carole Martin, Kay Willson, Phil Willson.
- 75. TORCH RIVER VALLEY. Lorna Blaine, Bert Dalziel, Joan Dalziel, Darlene Gall, Trent Gall, Wayne Gall, Zayden Gall, Shae-lyn George, Joe Graumans, Don Happner, Barry Macleod, Doreen Macleod, Maureena Schreiner, Dawn Schumilas.
- 76. VAL MARIE. Alec Cairns, Nick Cairns, Sally Cairns, Heather Facette, Colin Schmidt.
- 77. WATROUS. Linda Adams, Maureen Kammer, Patricia Leahy, Marion Teodorvich, Sharlane Toole.
- 78. WEYBURN. Dallas Burnett, Bob Cameron, Lucille Cameron, Millie Fleming, Brad Hala, Delores Herring, Alma McCormick, Murray McCormick, Charlotte Payak, Don Payak, Garnet Schultz, Linda Schultz, Tanis Thomas, Val Thomas, Dorothy Whitell.
- 79. WHITE BEAR. Albert Gerard, Christophe Gerard, Martin Gerard, Gary Jordheim, Greg Nelson, Yvonne Nelson, Dan Zazelenchuk.
- 80. WHITEWOOD. Ken Aldous, Carole Armstrong, Cindy Ashfield, Joe Ashfield, Paul Ashfield, Kerri Bachtold, Mavis Kay, Joyce Kydd, Sarah Mambourg, Boyd Metzler, Donna Mohr, Margaret Niemenen, Paul Niemenen, Brenda Pollock, John Pollock, Tony Saltasuk, Carole Sawatsky, Doug Shepherd, Dawn Vennard, Diane Veresh, Pat Ward.
- 81. WINGARD. Rebecca Beam.
- 82. YOUNG. Holly Train, Sharlane Toole.

TABLE 1. Weather and Snow Cover.

LOCALITY	DATE	MIN TEMP (°C)	MAX TEMP (°C)	MIN WIND (KM/HR)	MAX WIND (KM/HR)	MIN SMOW (CM)	MAX SNOW (CM)	SKY A.M.	SKY P.M.
Archerwill	28 Dec 2020	-12	-17	22	22	15	15	partly cloudy	partly cloudy
Avonlea	27 Dec 2020	-10	-10	0	20	0	20	clear	partly cloudy
Balgonie	2 Jan 2021	0	3	13	33	10	30	cloudy	partly cloudy
Biggar	16 Dec 2020	-14	-5	10	14	5	30	partly cloudy	partly cloudy
Borden-Radisson	28 Dec 2020	-12	-10	9	30			mostly clear	partly cloudy
Broadview	28 Dec 2020	-18	-12	5	16	4	10	cloudy	clear
Candle Lake	4 Jan 2021	-12	-3	0	2	4	6	cloudy	mostly clear
Chatsworth S.D.	4 Jan 2021	-10	-2	10	10	20	30	clear	clear
Christopher Lake	31 Dec 2020							partly cloudy	
Clark's Crossing	2 Jan 2021	-3	4	15	50	12	30	cloudy	cloudy
Craven	19 Dec 2020	1	3	24	52	0	4	partly cloudy	mostly clear
Crooked Lake	16 Dec 2020	-13	-6	0	10	2	2	partly cloudy	clear
Crooked River	30 Dec 2020	-14	-10	2	5	12	14	clear	partly cloudy
Cypress Hills P.P.	27 Dec 2020	-8	4	2	5	35	40	mostly clear	partly cloudy
Davidson-Craik	28 Dec 2020	-10	-10	21	21	20	20	partly cloudy	partly cloudy
Denholm	25 Dec 2020	-9	-7	0	5	20	35	partly cloudy	partly cloudy
Dorintosh	2 Jan 2021	-9	-4	5	20	20	30	cloudy	clear
Dundurn	23 Dec 2020	-12	-13	8	13	10	60	cloudy	partly cloudy
E.B.Campbell Dam	1 Jan 2021	-11	-8	10	25	40	50	overcast	mostly clear
Eastend	17 Dec 2020	-6	-2	12	39	0	20	overcast	partly cloudy
Ebenezer	17 Dec 2020	-8	-4	6	19	10	10	cloudy	partly cloudy
Estevan 1	29 Dec 2020	-10	-6	15	50	0	5	partly cloudy	partly cloudy
Estevan 2	2 Jan 2021	-2	2	15	30	0	5	partly cloudy	partly cloudy
Estuary North	30 Dec 2020	-9	-9	0	0	30	75	overcast	overcast
Etters Beach-Liberty	21 Dec 2020	-14	-10	12	20	8	20	cloudy	cloudy
Fenton	24 Dec 2020	-10	-8			10	20		
Floral	4 Jan 2021	-6	-10	20	25	5	25	mostly clear	mostly clear
Fort Qu'Appelle	16 Dec 2020	-13	-10	9	11	5	6	partly cloudy	clear
Gardiner Dam	14 Dec 2020	-20	-14	8	18	5	20	light snow	light snow
Good Spirit Lake	26 Dec 2020	-17	-15	15	10	10	18	mostly clear	clear
Greenwater	3 Jan 2021	0	2	16	27	10	12	cloudy	cloudy
Grenfell	1 Jan 2021	-16	-6	0	20	4	6	clear	clear
Harris	15 Dec 2020	-19		8	10	5	20	partly cloudy	partly cloudy
Hudson Bay	27 Dec 2020	-12	-8	0	5	20	30	partly cloudy	
Indian Head	27 Dec 2020	-10	-4	10		25		light snow	light snow
Kenaston	16 Dec 2020	-17	-6	0	0	12		clear	partly cloudy
Kenosee Lake	19 Dec 2020	-8	-3	30	60	5	15	cloudy	overcast
Ketchen North	26 Dec 2020	-10	-7	0	5	12	18	overcast	overcast
Kinloch	3 Jan 2021	-19	-11	2	5	18	20	clear	clear
Kyle	17 Dec 2020	-4	5	10	50	10	40	overcast	partly cloudy
La Ronge	26 Dec 2020	-17	-12	5	10	25	20	partly cloudy	partly cloudy

LOCALITY	DATE	MIN TEMP (°C)	MAX TEMP (°C)	MIN WIND (KM/HR)	MAX WIND (KM/HR)	MIN SMOW (CM)	MAX SNOW (CM)	SKY A.M.	SKY P.M.
Love-Torch River	26 Dec 2020	-19	-11	5	10	40	50	partly cloudy	partly cloudy
Luseland	26 Dec 2020	-6	-9	0	10	10	27	overcast	overcast
MacDowall	21 Dec 2020	-9	-4	7	10	20	30	partly cloudy	partly cloudy
Meadow Lake	26 Dec 2020	-5	-3	2	5	6	40		cloudy
Melfort	27 Dec 2020	-16	-12	20	20			partly cloudy	
Moose Jaw	20 Dec 2020	1	3	16	40	0	4	overcast	mostly clear
Moose Mountain	4 Jan 2021	-12	-1	6	12	8	10	partly cloudy	mostly clear
Morse	29 Dec 2020	-10	-9	23	26	5	30	mostly clear	overcast
Nicolle Flats	16 Dec 2020	-15	-4	0	5	0	26	mostly clear	partly cloudy
Nipawin	26 Dec 2020	-10	-8	0	2	30	30	cloudy	cloudy
Nisbet Forest NW	26 Dec 2020	-8	-1	0	5	33	35	overcast	overcast
Nisbet Forest West	1 Jan 2021	-12	-7	8	10	25	35	clear	clear
Odessa	26 Dec 2020	-16	-5	0	20	10	30	partly cloudy	partly cloudy
Outlook	28 Dec 2020	-15	-11	2	14	2	60	clear	clear
Pike Lake	2 Jan 2021	-3	3	17	35	20	35	partly cloudy	mostly clear
Plunkett-Viscount	31 Dec 2020	-18	-16	2	5	6	8	overcast	overcast
Prince Albert	20 Dec 2020								
Prince Albert N.P.	21 Dec 2020	-3	-11	0	5	26	26	mostly clear	mostly clear
Qu'Appelle	31 Dec 2020	-15	-9	5	12	8	15	overcast	partly cloudy
Qu'Appelle Dam	20 Dec 2020	0	3	5	41	5	25	overcast	partly cloudy
Regina	27 Dec 2020	-13	-8	10	25	10	25	overcast	light snow
Roscommon S.D.	31 Dec 2020	-20	-13	10	15	20	30	overcast	clear
Rouleau	28 Dec 2020	-12	-9	2	11			partly cloudy	mostly clear
Round Lake (Q.V.)	14 Dec 2020	-24	-18	20	39	5	15	partly cloudy	partly cloudy
Saltcoats	19 Dec 2020	-17	-3			0	1	mostly clear	
Sask. Landing P.P.	16 Dec 2020	-16	-2	5	4	25	5	mostly clear	mostly clear
Sask. River Forks	29 Dec 2020	-9	-6	10	15	20	40	light snow	partly cloudy
Saskatoon	26 Dec 2020	-8	-7	10	20	15	30	cloudy	cloudy
Shamrock	30 Dec 2020	-16	-8	10	15	20	50	cloudy	mostly clear
Shell Lake	16 Dec 2020	-14	-10	0	8	5	28	partly cloudy	partly cloudy
Snowden	2 Jan 2021	-12	-9	2	5	13	33	partly cloudy	clear
Swift Current	19 Dec 2020	1	3	30	80	15	50	cloudy	mostly clear
Thickwood- Spiritwood	21 Dec 2020	-5	-3	12	19	2	30	mostly clear	partly cloudy
Torch River Valley	3 Jan 2021	-11	-2	0	5	30	45	partly cloudy	mostly clear
Val Marie	20 Dec 2020	-2	6	8	47	0	60	partly cloudy	mostly clear
Watrous	16 Dec 2020	-14	-2	13	29			mostly clear	mostly clear
Weyburn	30 Dec 2020	-4	1	5	8	5	8	mostly clear	partly cloudy
White Bear	24 Dec 2020	-2	-1	10	25	10	60	partly cloudy	partly cloudy
Whitewood	23 Dec 2020	-11	-5	20	39	12	18	overcast	mod. snow
Wingard	2 Jan 2020								
Young	16 Dec 2020	-15	-5	12	30	8	15	partly cloudy	partly cloudy

TABLE 2. Effort and Habitat Coverage (%). Wild Fruit: p=poor, f=fair, g=good, e=excellent.

LOCALITY	PARTICIPANTS	KM ON FOOT	HOURS ON FOOT	KM BY VEHICLE	HOURS BY VEHICLE	HOURS AT FEEDERS	EVERGREEN FOREST	MIXEDWOOD FOREST	DECIDUOUS FOREST	ASPEN GROVE/FARMLAND	ASPEN GROVE/PRAIRIE	NATIVE PRAIRIE	TAME PASTURE	FARMLAND	FARMSTEADS	URBAN	OPEN WATER	RIPARIAN	BOG, SWAMP; CLEAR-CUT	WILD FRUIT CROP
Archerwill	9	7.0	4.0	0	0.0	20.0		25						50	25					
Avonlea	9	0.0	0.0	110	8.3	5.0						5	10	35	10	35		5		
Balgonie	15	17.4	15.3	470	20.1	0.8				20				45	10	25				f
Biggar	9	7.0	6.5	461	12.8	3.0				10				46	17	27				f
Borden-Radisson	8	9.0	5.0	336	11.3	0.0														
Broadview	2	1.0	1.5	122	6.0	0.0			20	25		5	10	25	5	10				f
Candle Lake	4	0.0	0.0	155	8.3	0.0	15	30	20							25		5	5	р
Chatsworth S.D.	10	2.0	6.0	80	8.0	4.0				80		10	5		5					f
Christopher Lake	1	0.0	0.0	0.0	0.0	1.5		60								40				f
Clark's Crossing	23	33.3	18.6	556	24.2	3.5				25				25	10	25	5	10		f
Craven	41	33.0	14.1	354	27.3	7.7				20	15	5	5	20	10	25				f
Crooked Lake	2	1.0	0.5	99	5.5	0.0				10				40	5	25	20			f
Crooked River	2	0.5	0.5	33	1.0	8.0		40						40	20					g
Cypress Hills P.P.	12	10.0	7.0	20	1.5	0.0	30	30	8			25			7					g
Davidson-Craik	3	0.0	0.0	100	7	0.0							3	90	2	5				р
Denholm	4	0.0	0.0	225	7.3	0.8				10	5		5	70	5	5				g
Dorintosh	4	16.2	7.5	20	0.7	1.5		60							40					f
Dundurn	3	5.5	4.25	120	6.83	0.0				5	5			70	5	15				f
E.B.Campbell Dam	7	2.0	0.5	95	5.5	6.0		50		20							10	20		р
Eastend	13							1				20	20	40		10		10		g
Ebenezer	2	0.0	0.0	96	10.0	2.0				25		30	20	20	5					
Estevan 1	2	1.0	1.0	135	4.5	0.0								64		18	18			f
Estevan 2	3	0.5	0.5	170	7.5	3.0								30		15	30	25		р
Estuary North	3	2.0	1.0	20	1.0	5.0						50		25	25					g
Etters Beach-Liberty	3	0.0	0.0	170	6.5	0.0				35		5	5	40	5	10				р
Fenton	1	0.0	0.0	83	3.0	0.0														
Floral	3	4.0	3.8	250	7.0	1.0				12				63	9	16				f
Fort Qu'Appelle	16	0.0	0.0	288	15.0	0.0				25	20		10	20	4	20	1			р
Gardiner Dam	7	11.0	10.0	650	21.3	0.0				2				44	14	4	29	7		f
Good Spirit Lake	3	0.0	0.0	128	5.0	0.0				20			20	30	5	25				р
Greenwater	3	3.0	4.0	105	7.0	8. 5		30		35				30		5				f
Grenfell	3	1.0	0.3	130	5.0	0.0			5	25		5	15	25	5	20				f
Harris	4	8.0	7.5	337	9.5	0.0				13				37	26	24				f
Hudson Bay	20	4.0	4.0	30	1.0	12.0		20							50	30				f
Indian Head	40	23.0	25.0	380	11.0	45.0	5			10				75	5	5				р
Kenaston	3	0.0	0.0	135	4.5	2.0								95		5				
Kenosee Lake	2	2.0	1.0	140	5.0	0.0			25		10	5		10		50				g
Ketchen North	1	1.5	1.0	60	3.0	5.5				30			20	20	20	10				
Kinloch	7	3.0	3.0	142	6.5	10.0	5	15	10	25			5	30	10					g
Kyle	4	8.0	2.0	260	6.5	20.0								60	25	10		5		g
La Ronge	7	4.0	4.0	67	6.5	15.5	10									80		10		р

LOCALITY	PARTICIPANTS	KM ON FOOT	HOURS ON FOOT	KM BY VEHICLE	HOURS BY VEHICLE	HOURS AT FEEDERS	EVERGREEN FOREST	MIXEDWOOD FOREST	DECIDUOUS FOREST	ASPEN GROVE/FARMLAND	ASPEN GROVE/PRAIRIE	NATIVE PRAIRIE	TAME PASTURE	FARMLAND	FARMSTEADS	URBAN	OPEN WATER	RIPARIAN	BOG, SWAMP; CLEAR-CUT	WILD FRUIT CROP
Love-Torch River	20	3.0	1.5	356	16.0	19.5	10	25	50	10					5					р
Luseland	6	4.0	3.5	237	8.0	2.0				50	10	5	5	20	5	5				
MacDowall	4	1.5	0.7	320	10.0	0.0	10	25	50											
Meadow Lake	2	5.0	1.5	125	2.0	0.0		50						40		10				f
Melfort	6	0.0	0.0	101	15.0	12.0														
Moose Jaw	8	47.8	12.2	276	19.2	0.0		10					5	40	5	30		10		g
Moose Mountain	4	0.0	0.0	98	5.0	0.0									_					g
Morse	9	6.0	3.0	445	21.0	2.0					4-		3	90	7			_		f
Nicolle Flats	7	19.7	8.2	330	8.2	0.0	45	-	15	6	17	8	2	31	5	9	1	5	1	g
Nipawin	16	3.0	1.0	68	7.0	15.0	15	5		15				25	10	30				f
Nisbet Forest NW	1	1.5	1.0	126	0.0	4.0	20	20	15					30	100	5				f
Nisbet Forest West Odessa	3	2.0 5.0	1.0	126	4.0	6.0	20	30	15	15	15	15	15	15	15	5		10		p f
Odessa	1	0.0	0.0	100	4.0	0.0				15 70	15	15	15	15	15	10		10 5		f
Pike Lake	35	22.8	18.1	369	23.2	29.5			5	5	10		5	40	15	20		5		f
Plunkett-Viscount	5	2.0	2.0	120	6.0	0.0			3	30	10		15	40	10	5				f
Prince Albert	25	39.9	16.9	645	40.8	4.2				30			13	40	10	,				'
Prince Albert N.P.	30	60.6	31.8	81	6.3	0.0														е
Qu'Appelle	9	2.5	1.0	180	7.0	20.5				60	5		5	20	5	5				f
Qu'Appelle Dam	8	10.6	9.8	343	14.1	1.0			13	00	7	8	1	37	5	18	2	9		
Regina	52	104.9	49.3	551	27.5	31.2			13	10	,			25	5	60	_			g
Roscommon S.D.	9	1.0	2.0	108	2.5	21.0				20				60	20					р
Rouleau	6	0.0	0.0	302	10.5	6.0				5				80	5	10				р
Round Lake (Q.V.)	2	0.0	0.0	192	6.0	0.5								20	10	60	10			g
Saltcoats	25	4.0	2.0	91	12.0	81.0					2	10	10	75			3			f
Sask. Landing P.P.	2	10.0	2.5	200	5.5	0.0							10	50	10	20		10		р
Sask. River Forks	3	5.5	2.0	145	7.3	0.0		20		5				75						р
Saskatoon	99	286.3	116.0	750	56.5	38.9				10				5		80		5		f
Shamrock	10	3.0	2.0	357	16.0	0.5								75	20	5				
Shell Lake	3	9.5	4.5	215	9	0.0	5	<1	25	5	5	5	30	15	<1	5		5		р
Snowden	18		4		4.5	6.0								40	50	10				g
Swift Current	24	16.5	11.5	411	20.0	14.5								20	5	70		5		g
Thickwood- Spiritwood	5	1.0	0.3	204	9.3	3.0	5	10		25			10	30	5	10		5		f
Torch River Valley	14	9.0	2.5	243	11.3	12.5		40		20				20	20					р
Val Marie	6	3.0	2.0	90	11.0	0.0						30	25	20	10	5	5	5		f
Watrous	9	2.0	1.0	100	7.0	2.0							5	20	5	70				f
Weyburn	15	0.0	0.0	130	9.0	4.0			2		2	5	8	58	10	15				f
White Bear	7	2.0	3.0	238	6.5	0.0						10	5	50	35					р
Whitewood	18	4.0	1.0	242	7.0	48.5				10				10	10	70				g
Wingard	1																			
Young	2	1.0	1.0	100	5.0	1.0				70		5			5	20				р

TABLE 3. Species found on 5 or more counts; () = seen during Count Period (CP); CP totals include CP birds listed in Table 4.

	71LL 20	20		20	BORDEN - RADISSON 28 DEC 2020	EW 20	AKE 1	лктн 1	CHRISTOPHER LAKE 31 DEC 2020	CLARK'S CROSSING 2 JAN 2021	20	LAKE 20	RIVER 20	PRESS HILLS P.P. DEC 2020	DAVIDSON-CRAIK 28 DEC 2020	۸ 20	SH 1	20	B. CAMPBELL DAM JAN 2021	20	20	50
SPECIES	RCHERW 8 DEC 20	AVONLEA 28 DEC 2020	BALGONIE 2 JAN 2021	BIGGAR 16 DEC 2020	ORDEN - 8 DEC 20	BROADVIEW 28 DEC 2020	CANDLE LAKE 4 JAN 2021	CHATSWORTH 4 JAN 2021	HRISTOP 1 DEC 20	LARK'S (JAN 202	CRAVEN 19 DEC 2020	CROOKED LAKE 16 DEC 2020	CROOKED RIVER 30 DEC 2020	YPRESS H	AVIDSOI 8 DEC 20	DENHOLM 25 DEC 2020	DORINTOSH 2 JAN 2021	DUNDURN 23 DEC 2020	. B. CAMI JAN 202	EASTEND 17 DEC 2020	EBENEZER 26 DEC 2020	ESTEVAN 1 29 DEC 2020
Canada Goose	4 %	4 Z	B 2	— — —	B 2	B 2	04	04	Οm	1	02	2002	O m	7 C	D 7	D 2	2 D	Δ2	— — 8	ш←	E 7	ы N 8120
Mallard												22										220
Common Goldeneye										69		15							124	(1)		
Ring-necked Pheasant																				4		16
Gray Partridge		7	94	76	1	13		6		100	54	(4)			70	19	(4)	16			42	
Ruffed Grouse Sharp-tailed Grouse	7		57	63	39	(1) 23		1	1	87	64	(1) 16	1	1		(10)	(1)	9		55	13	
Rock Pigeon	,	80	150	109	91	96		74		870	22	10			9			46	7	66		45
Eurasian Collared-Dove		4	8	7	6	9				16	2							17		31		2
Golden Eagle		(1)										(2)								2		
Northern Goshawk			1	1	1					(1)	(1)							1				
Bald Eagle	(2)		(1)	3	1	1		2		5	1	4		4					3	1		4
Red-tailed Hawk											(1)			47								
Rough-legged Hawk Great Horned Owl		(1)	1	4	1	1				1	2	1		17		(1)		1		1		1
Snowy Owl		(1)		-4	'	'				(1)	2				1	1	(1)	'		4		
Great Gray Owl								1		(.,							(.,		1			
Black-backed Woodpecker							1															
Downy Woodpecker	2		9	2	5	1	2	10	1	7	17	1	3	1	1	1	2	4	1	4		9
Hairy Woodpecker	3		2	2	6	3	6	7	1	9	6	1	2	4		2	2	2	1	1		3
Pileated Woodpecker	(1)		_			1	1												1			
Northern Flicker		1	2							_	1									4		4
Merlin Gyrfalcon		1	2		1					2												'
Prairie Falcon		1																				
Northern Shrike								1			2					(1)						
Canada Jay	(1)						10										3		6			
Blue Jay	13	1	6	1	9	1	19	1		12	47	4	4	4			9	2	38	27	15	
Black-billed Magpie	6	7	100	131	99	36	9	29		262	141	27	8	16	22	67	1	80	24	128	17	5
American Crow			7.0	67	00	24	455	45		1	00	40		20	40	24		20		42	F4	2
Common Raven Black-capped Chickadee	8 29	9	76 108	67 36	80 23	31 10	155 75	15 49	1 6	161 146	98 169	18 30	2	30 78	10	24	14	39 45	32 18	13 20	51 12	7 18
Boreal Chickadee	1	3	100	30	23	10	15	43	0	140	103	30	0	76		0	14	43	10	20	12	10
Horned Lark	·	11	21	1		(1)	13									2						
Red-breasted Nuthatch	2	1	46	7	5	1	14			14	14	1	2	27	25		2	6	(1)	14		
White-breasted Nuthatch	3		5			1	7	7	2	2	25	5	1				2	3				2
Brown Creeper			1		2																	
European Starling		3	2	4	6	(1)				97	2		12					_		(1)		25
American Robin				18	350	(1)				3 55	2	(25)		53		3		242		(2) 40		
Bohemian Waxwing House Sparrow		240	830	816	357	(1) 355		214		1048	711	(25) 48	30	8	185	35		401	4	232	127	30
Evening Grosbeak	21	210	050	010	337	333	59	2		1010	, , ,	10	8		103	33	20	101	131	232	127	30
Pine Grosbeak	57			8	27		29	14	8	1		11	16			56	12		21	12		
House Finch		56	11	26	2	1				192	13				15					18		14
Purple Finch			(1)																			
Common Redpoll	47	10	34	55	34	57	8	50	7	24	201		7	12		1	9			40	8	
Hoary Redpoll			1			2				27	1	2	9			(1)						
White-winged Crossbill Pine Siskin			44			3				(3)	1	3										2
American Goldfinch										(3)												
Snow Bunting	(50)	10	15	133	82	80		55		87	238			80	150	22		164	53	175	15	
White-throated Sparrow			2	(1)											10							
Dark-eyed Junco	(1)		14	2	1			2			10									1		
Red-winged Blackbird										2												
Common Grackle	100	(1)	1675	1572	1220	724	412	E20-	.27	3204	1946	2220	112	225	400	260	-00-	1070	175	904	250-	9EC1
TOTAL BIRDS COUNT DAY TOTAL BIRDS ONLY IN CP	199 57	444 3	1675 2	1573 2	1230 0	724 5	413 0	538 0	27 0	3304 6	1846 2	2220 28	113 0	335 0	498 0	269 13	80 2	1079 0	475 2	894 4	259 0	8561 0
TOTAL BIRDS ONLY IN CP	13	16	30	24	24	20	16	18	8		25	28 19	15		11	14	12			24	9	0 21
O I I I I I I I I I I I I I I I I I I I		3	2	2	0	5	0	0	l	4	2	3	0		0		2	0		3	0	

Common Goldeneys 27 Common Goldeneys 28 Common Goldeneys 27 Common Goldeneys 28 Common Goldeneys 27 Common Goldeneys 28 Comm	SPECIES	ESTEVAN 2 3 JAN 2021	ESTUARY NORTH 30 DEC 2020	ETTERS BEACH-LIBERTY 21 DEC 2020	FENTON 24 DEC 2020	FLORAL 4 JAN 2021	FORT QU'APPELLE 16 DEC 2020	GARDINER DAM 14 DEC 2020	GOOD SPIRIT LAKE 28 DEC 2020	GREENWATER 3 JAN 2021	GRENFELL 1 JAN 2021	HARRIS 15 DEC 2020	HUDSON BAY 27 DEC 2020	INDIAN HEAD 27 DEC 2020	KENASTON 16 DEC 2020	ENOSEE LAKE 9 DEC 2020	KETCHEN 26 DEC 2020	KINLOCH 3 JAN 2021	KYLE 17 DEC 2020	LA RONGE 26 DEC 2020	LOVE-TORCH RIVER 26 DEC 2020	LUSELAND 26 DEC 2020
Mailard 250			шм	E 7	F	т 4		_	2.0	Θm	<u> </u>	π-	12		ν-	⊻-	又乙	×ω	⊻←	L 2	L 2	
Common Goldeneye 27 Ringnetced Present 64 36																						
Simple content of Present Section Sectio																						
Gray Partridge Cab 10	,		36				_															
Ruffed Grouse Sharpt-related Grouse Sharpt-related Grouse Sharpt-related Grouse Sharpt-related Grouse Sharpt-related Grouse 24	j		10	110		31	12	230	1		20	111		52	18				173			175
Book Rigson 224							(1)			1			3	1			3	6		1	6	
Eurosian Collared-Dove 5 1	Sharp-tailed Grouse		33	56		1	3	39	21			185	1	25	3				38			14
Northern Gobawk 1 3	Rock Pigeon	224		43		118	281	120			203	133	10	127	90				18		82	85
Morthern Goshawk (1) 3	Eurasian Collared-Dove	5					8	20			26	1		18					24			3
Bald Eagle 2																			(1)			
Rect-alied Hawk Rough-leged Hawk Rough-leged Hawk Rough-leged Hawk Great Horned Owl 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 0																		(1)		(1)	(1)	
Rough-legged Hawk		2	1	1		1	1	51				1		2								1
Great Horned Owl 1 3 3 0 1 2 3 7 7 0 0 1 1 2 2 1 1 2 2 3 1 2 3 1 7 7 0 1 1 2 2 3 3 0 1 3 3 7 7 0 1 1 2 2 3 3 3 3 3 3 3 3																						
Snowy Owl (1) 3	5 55	4	1			1	2	2				4			/1\							1
Black-backed Woodpecker		(1)												'								-
Black-basked Moodpecker		(1)	3			3	(1)	'		3		,			(1)			А	17		(1)	2
Downy Moodpecker																						
Hairy Woodpecker		1				3	19	2	1	7	2	3	12	29		1	1	4	1	6		2
Northern Filcker Merlin Syrfalcon Prairie Falcon 1 1 1 1 1 1 1 1 1		1					8		2	4			16	18		1	4	4	1	3	13	
Merting Gyrfalcon Prairie Falcon 1 1 1 1 1 1 1 1 1	Pileated Woodpecker						2			1			1					(1)			(1)	
Prairie Falcon	Northern Flicker		1																			
Prairie Falcon 1	Merlin																					
Northern Shrike Canada Jay Blue Jay 10 12 4 1 3 32 2 5 22 1 63 29 26 8 32 2 8 41 9 9 9 9 9 10 28 123 26 19 28 205 12 54 9 13 14 61 112 5 95 107 107 108 107 108 10	Gyrfalcon							1				1							(1)			
Canada Jay Black-billed Magpie 2 33 14 9 101 28 123 26 19 28 205 12 54 9 13 14 61 112 5 95 107		1	1																			
Blue Jay (1) 12 4 1 3 32 2 5 22 1 63 29 26 8 32 2 8 41 9 9 101 28 123 26 19 28 205 12 54 9 13 14 61 112 5 95 107 107 107 107 107 107 107 107 107 107 107 108 107 1												1										(1)
Black-billed Magpie 2 33 14 9 101 28 123 26 19 28 205 12 54 9 13 14 61 112 5 95 107	, and the second	(4)	40					_	-							2.5						
American Crow Common Raven Black-capped Chickadee Black-capped Chickadee Horned Lark Brown Creeper European Starling American Robin Bohemian Waxwing Bohemian Waxwing Fibre Grosbeak Pipe Grosbeak Purple Finch Common Redpoll Fibre Grosbeak Purple Finch Common Redpoll Fibre Grosbeak Purple Finch Common Redpoll Fibre Grosbeak American Goldfinch Solution So	,										20					-		-				
Common Raven 3			33	14	9	101	28	123	26	19	28	205	12	54	9	13	14	оі	112	2	95	107
Black-capped Chickadee		3	4		6	21	98	28	27	18	24	70	102	39	3	9	56	40	17	138	190	5
Boreal Chickadee Boreal Chic				11																		
Red-breasted Nuthatch															_							
White-breasted Nuthatch Brown Creeper Buropean Starling 21 100 1 1 10 3 3 2 11 11 4 5 9 2 8 8 10 10 10 10 10 10	Horned Lark	8	50		2			3				6		1	(3)				1			15
Brown Creeper European Starling 21 100 1 10 3 3 111 5 64 64 65 65 65 65 65	Red-breasted Nuthatch	2	2			2	13	1				6	4	75		11			4	5	13	3
European Starling 21 100 1 10 10 10 10 10	White-breasted Nuthatch	4				5	22			3	2		16	14		9	2	8			10	
American Robin Bohemian Waxwing (55) House Sparrow 151 323 77 30 332 506 541 28 28 282 437 58 382 250 116 26 4 768 46 71 Evening Grosbeak Pine Grosbeak Purple Finch Common Redpoll White-winged Crossbill Pine Siskin American Goldfinch Sinow Bunting American Goldfinch Common Grackle TOTAL BIRDS COUNT DAY 62699 642 476 60 732 154 770 282 282 437 58 282 282 437 58 382 250 116 26 4 768 46 71 28 282 437 58 382 250 116 26 4 768 46 71 28 282 437 58 382 250 116 26 4 768 46 71 28 282 437 58 382 250 116 26 4 768 6 69 65 58 172 (1) 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	·																			(1)		
Bohemian Waxwing Control Solution So		21	100			1		10			3			11					13		15	
House Sparrow 151 323 77 30 332 506 541 28 282 437 58 382 250 116 26 4 768 46 71 Evening Grosbeak Pine Grosbeak Pine Grosbeak Purple Finch 50 2 5 54 54 1 13 54 61 55 68 172 (1) 88 113 55 68 172 (1) 88 113 55 68 172 (1) 88 113 55 68 172 (1) 88 113 55 68 172 (1) 88 113 55 68 172 (1) 88 113 68 113		()								()												
Evening Grosbeak	9		222	77	20				20	(16)	202	427		202	250	110			760	17		
Pine Grosbeak		151	323	//	30	332	506	541	28	70	282	437		382	250	116	26		/68	2		/1
House Finch 50 2					2		5	15	1								60					(1)
Purple Finch Common Redpoll Finch Common Redpoll Finch Common Redpoll Finch Fi		50	2					13	7	01	13		0.5	43			0.5	0.5	4	50	1/2	
Hoary Redpoll White-winged Crossbill (5)																8						
White-winged Crossbill (5) 4 17 4 3 14 15 14 14 14 14 14 14 15 14 <td>Common Redpoll</td> <td>7</td> <td></td> <td></td> <td>4</td> <td>1</td> <td>14</td> <td>19</td> <td>57</td> <td>68</td> <td>27</td> <td></td> <td>31</td> <td>13</td> <td></td> <td>83</td> <td>138</td> <td>26</td> <td>1</td> <td>78</td> <td>331</td> <td>5</td>	Common Redpoll	7			4	1	14	19	57	68	27		31	13		83	138	26	1	78	331	5
Pine Siskin (3)	Hoary Redpoll																12			1	1	
American Goldfinch (3)	White-winged Crossbill	(5)									3					15			14		14	
Snow Bunting 40 20 160 1 16 20 455 40 50 50 335 25 200 208 15 362 427 White-throated Sparrow Dark-eyed Junco 1 2 1 2 1 2 5 1 2 5 5 6 6 732 1544 7913 229 311 700 1255 843 1484 401 355 544 580 1238 378 1994 968 TOTAL BIRDS ONLY IN CP 91 0 0 0 0 0 17 0 0 16 0 0 0 0 5 0 14 2 4 5 5 8 TOTAL SPECIES COUNT DAY 27 20 9 9 21 28 35 12 16 16 23 20 28 9 12 14 18 22 17 23 22													14					10				1
White-throated Sparrow Dark-eyed Junco 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 1 2 1 2 1																						
Dark-eyed Junco 1 2 1 2 1 2 4 5 4 5 4 5 6 7 2 1 2 4 7 1 1 1 1 1 1 1 1 1 1 1 2 1 1 1 1 1 1 1 2 1 1 1 1 1 1 1 2 1 2 2		40	20	160	1	16	20	455	40		50			335	25		200	208	15		362	427
Red-winged Blackbird Common Grackle Image: Common Grackle of the commo										1												
Common Grackle Common Grackle George		1	2			1	2							11	1		1	1		1	2	(1)
TOTAL BIRDS COUNT DAY 62699 642 476 60 732 1544 7913 229 311 700 1255 843 1484 401 355 544 580 1238 378 1994 968 TOTAL BIRDS ONLY IN CP 91 0 0 0 0 17 0 0 16 0 0 0 0 5 0 14 2 4 5 5 8 TOTAL SPECIES COUNT DAY 27 20 9 9 21 28 35 12 16 16 23 20 28 9 12 14 18 22 17 23 22												1										(1)
TOTAL BIRDS ONLY IN CP 91 0 0 0 0 17 0 0 16 0 0 0 0 5 0 14 2 4 5 5 8 TOTAL SPECIES COUNT DAY 27 20 9 9 21 28 35 12 16 16 23 20 28 9 12 14 18 22 17 23 22		62699	642	476	.60	732	1544	7913	229	311	700	1255	843	1484	401	355	544	580	1238	378	1994	968
TOTAL SPECIES COUNT DAY 27 20 9 9 21 28 35 12 16 16 23 20 28 9 12 14 18 22 17 23 22		i i												l								-
														l	i i							
	TOTAL SPECIES ONLY IN CP	i i								i i				i						i	5	

TABLE 3. Species found on 5 or more counts; () = seen during count period (CP); CP totals include CP birds listed in Table 4.

SPECIES	MACDOWALL 21 DEC 2020	MEADOW LAKE 26 DEC 2020	MELFORT 27 DEC 2020	MOOSE JAW 21 DEC 2020	MOOSE MOUNTAIN P.P. 4 JAN 2021	MORSE 29 DEC 2020	NICOLLE FLATS 16 DEC. 2019	NIPAWIN 26 DEC 2020	NISBET FOREST NORTHWEST 26 DEC 2020	NISBET FOREST WEST 1 JAN 2021	ODESSA 26 DEC 2020	OUTLOOK 28 DEC 2020	PIKE LAKE 2 JAN 2021	PLUNKETT-VISCOUNT 31 DEC 2020	PRINCE ALBERT 20 DEC 2020	PRINCE ALBERT NATIONAL PARK	QU'APPELLE 31 DEC 2020	QU'APPELLE DAM 20 DEC 2020	REGINA 27 DEC 2020	ROSCOMMON S.D. 31 DEC 2020	ROULEAU 28 DEC 2020	ROUND LAKE (Q.V.) 14 DEC 2020
Canada Goose	2(1	211	214	2(1	2 4	211		211	214		014	120	т.(4	ш (1)	π.(1	u 2	O (iii	93	491	ш (()	ш (1	8
Mallard																		1	394			
Common Goldeneye																		11	(5)			4
Ring-necked Pheasant				(7)		(1)																
Gray Partridge			8	70		539	89			4	12	6	5	33			17	49	783		46	
Ruffed Grouse	1		1	(4.5)	2	00	67				4	4	1	12	4	1	(1)	42	25	2	(5)	
Sharp-tailed Grouse Rock Pigeon			29	(16) 507	22	80 85	67 256	137		45	24 30	72	127 136	8	423		39	42 104	35 353		(5) 271	14 28
Eurasian Collared-Dove			6	114		21	230	137		45	30	11	130	2	423		3	2	(1)		2/1	20
Golden Eagle				117		1													(1)			
Northern Goshawk	1									(1)			(1)		(1)				(1)			
Bald Eagle						(1)	1					2			1			7				2
Red-tailed Hawk	1			(1)														1				
Rough-legged Hawk							1											2	(1)			
Great Horned Owl	1		1	3		13	1			(1)	2	1	1				(1)	4	5		1	
Snowy Owl	2	2	1	3	1	2	3							1					5		10	
Great Gray Owl Black-backed Woodpecker	2	2													1	6						
Downy Woodpecker	1		12	7	4	1	5	3	1	1	4		31	3	15	3	14	2	46	6	(1)	1
Hairy Woodpecker	1		1	5	3		2	4	2	3	2	1	26	1	10	7	12	6	4	10	(.,	2
Pileated Woodpecker			1		3			1		(1)	2		4		(1)	3				1		
Northern Flicker				1			1				2	1			1		3		7			
Merlin				3			1								1				3			
Gyrfalcon							1								(1)							
Prairie Falcon				(4)		2									(4)				1		1	(4)
Northern Shrike	4	1		(1)		(2)		2	,				1		(1) 5	30			1	1		(1)
Canada Jay Blue Jay	4 15	1	18	3	1		2	28	3	16		11	23	2	47	2	3		9	14		4
Black-billed Magpie	24	8	31	82	14	52	46	26	(1)	16	30	38	105	76	187	8	60	72	78	19	10	26
American Crow									(.,				2						1			
Common Raven	23	52	49	36	8	6	89	246	(1)	14	30	36	88	48	335	27	49	38	199	25	2	36
Black-capped Chickadee	26	15	55	96	18		18	45	15	21	20	5	397	13	240	41	77	31	337	73		4
Boreal Chickadee	(2)														7	26						
Horned Lark				2.0		197	_	4.0					45				7		1			
Red-breasted Nuthatch	1		9	36	1	8	1	10	1	2		3	13 16		20	1	10	3	194	1		1
White-breasted Nuthatch Brown Creeper			3	16 2	3		1	ı	1	2			16		21 (1)		б	3	19 9	4		1
European Starling				30		1		50			10		21		(1)		8	3	(2)		10	
American Robin				2		1	1								(-)		1		2			
Bohemian Waxwing			60					95		2			229		5072		(13)	34	16	42		
House Sparrow	1		148	1390	13	1358	173	25			50	185	803	372	395		187	620	4563	76	203	51
Evening Grosbeak								124	10	87					53							
Pine Grosbeak	12		15			(4)		51	(6)	14			104		88	(1)	_	7	3	33		
House Finch Purple Finch			2	27		9											9		324			
Common Redpoll	10		8	10	66	46	12	47	(2)	47			14		36		117		(1)	63		178
Hoary Redpoll	10			10	00	70	12	47	(2)	7/			1-7		(1)		1		-	05		170
White-winged Crossbill	11			20		(1)							4		(-/	1	9		283			
Pine Siskin			14	(1)											35		1		19			(1)
American Goldfinch				2									1		6		1					
Snow Bunting	20	9	1	260		829	800	13	(3)	232			574	19	216		5	748	25	40	194	
White-throated Sparrow			_	43		1							_		18		_		1	_		
Dark-eyed Junco			6	12							2		7		2		3		21	3		
Red-winged Blackbird Common Grackle				3		1					2										1	
TOTAL BIRDS COUNT DAY	157	88	479	2740	186	3255	1571	908	35	506	224	493	2737	590	7247	163	651	1886	8239	413	753	359
TOTAL BIRDS ONLY IN CP	2	0	0	26	0		0	0	l	3	0	0	1	0	8	1	15	0	14	0	6	2
TOTAL SPECIES COUNT DAY	20	7	23	26	16	23	22	18	8		15	15	27	13	28	14	28		36	17	13	14
TOTAL SPECIES ONLY IN CP	1	1	0	5	0	5	0	0		3	0	0	1	0	8	1	3	0	7	0	2	2

	TCOATS JEC 2020	LANDING P.P. DEC 2020	RIVER FORKS JEC 2020	KATOON JEC 2020	MROCK JEC 2020	SHELL LAKE 16 DEC 2020	SNOWDEN 2 JAN 2021	SWIFT CURRENT 19 DEC 2020	THICKWOOD-SPIRITWOOD 21 DEC 2020	TORCH RIVER VALLEY 3 JAN 2021	VAL MARIE 20 DEC 2020	WATROUS 17 DEC 2020	WEYBURN 30 DEC 2020	WHITE BEAR 24 DEC 2020	WHITEWOOD 23 DEC 2020	/INGARD JAN 2021	YOUNG 16 DEC 2020	TOTAL COUNTS DAY	7ALS ONLY IN JNT PERIOD	# COUNTS COUNT DAY	# COUNTS ONLY IN COUNT PERIOD
SPECIES	SAL 19 D	SK 1	SK F	SASI 26 D	SHAM 30 DE	SHE 16 D	SNC 2 JA	SWI 19 D	표 21 D	TOR 3 JA	VAL 20 D	WA-	WE 30 [WH 24 D	WH 23 [WIN 2 JA	YOU 16 E	0 <u>1</u> 00	TOTAL COUN) #0 #0	20 #0
Canada Goose				186	(67)			1										76262	67	14	1
Mallard		2		142				9										3398	0	11	0
Common Goldeneye				1032														1552	6	10	2
Ring-necked Pheasant		5			32			6	1		15		67	(2)				246	10	10	3
Gray Partridge		136		144	245	-		68			29	9	99	220	7		41	4058	24	46	1
Ruffed Grouse	1	4.0		22		3	1	24		(1)	40	2	422		2		-	73	6	25	6
Sharp-tailed Grouse Rock Pigeon	85	16 44		32 2272	77 78	12	3	21 277	6 79	5	48	13	133 178	55 121	(2) 36		7	1632 8998	33	42 60	4
Eurasian Collared-Dove	65	7		32	8	12	J	24	73	ر	3	22	54	121	32		1	551	1	35	1
Golden Eagle		2		32							6		J 1		32			11	4	4	3
Northern Goshawk			1	3										1				17	11	12	11
Bald Eagle	1	(1)	(1)	3		1					1							109	7	29	6
Red-tailed Hawk								1										4	2	4	2
Rough-legged Hawk											8							37	1	10	1
Great Horned Owl	1	6		1	4			3			3	1	3	9			1	105	5	37	5
Snowy Owl		3			2						2		5	13				86	5	21	5
Great Gray Owl			3 1				2											18	1	8	1
Black-backed Woodpecker Downy Woodpecker	12		- 1	65			8	7	2	2		10	5		6	1	3	10 468	1	5 67	1
Hairy Woodpecker	16	1	4	20		4	4	,	4	5	(1)	10	J		12	2	3	324	1	64	1
Pileated Woodpecker	3		7	1		2	7		7	2	(1)				(1)			30	6	17	6
Northern Flicker				22		_		1		_		3			(.,			50	0	14	0
Merlin				4	1													19	0	10	0
Gyrfalcon																		4	2	4	2
Prairie Falcon		1			2						(1)							10	1	8	1
Northern Shrike							4				2							13	7	8	6
Canada Jay			4							8								123	1	15	1
Blue Jay	13 45	83	7 33	160	37	23 19	46 59	9 97	16	27 48	2 17	23 15	1 28	110	17 27	7	26	1068 4676	1	68 79	1
Black-billed Magpie American Crow	2	63	33	726 7	3/	19	29	97	13	40	17	13	20	110	21		20	15	0	6	0
Common Raven	71	5	19	499	6	27	39	2	42	74	7	20	72	2	46		27	4223	1	79	1
Black-capped Chickadee	100	21	33	1178		99	74	11	52	80		32			157	5	11	5185	0	74	0
Boreal Chickadee			3			11												77	2	9	1
Horned Lark		2			111			4			4							447	4	19	2
Red-breasted Nuthatch	17			291		10	3	49		2	(1)	10	12	2	8		1	1045	2	58	2
White-breasted Nuthatch	21		(2)	29	3	9	7	1	3	3	1	3	7		16	2		362	2	51	1
Brown Creeper	45	2		5	2	1				4.0	2							20	2	6	2
European Starling American Robin	45 2	1		86 8	2	2				16	2	4						611	9	30 13	5
Bohemian Waxwing	45		3	852								200			(35)			7763	158	27	7
House Sparrow	155	735	25	6292	790	15	75	1109	30	91	76	690	178	385	540	100	141	32139	0	72	0
Evening Grosbeak			25			74	346		1	85						3		1829	0	20	0
Pine Grosbeak	1	10	16	48		76	253		27	45						3		1612	12	41	4
House Finch				468				148				10	12		12		2	1545	0	28	0
Purple Finch															6			15	2	3	2
Common Redpoll	300	20	25	43	2	26	113	(12)	3	85		6		25	238	1		3052	14	61	2
Hoary Redpoll			5	422	(6)			60			(4)							30	2	7	2
White-winged Crossbill Pine Siskin				132 36	(6)			62		12	(1)	2			4		40	663 217	13 5	18 15	4
American Goldfinch	4			2						12		2			10		40	34	4	9	2
Snow Bunting	•	1	1	66	97	80	70	156	100	45				220	1465		33	10102	53	60	2
White-throated Sparrow				2														36	1	8	1
Dark-eyed Junco	5			10				21			(1)		12		4			168	2	29	2
Red-winged Blackbird	10																	18	1	5	1
Common Grackle				2									4					11	1	5	1
TOTAL BIRDS COUNT DAY	956	1106	i	14912	1497	501	1107	2088	379	635	234	1076		1163	2647	124		175761			
TOTAL BIRDS ONLY IN CP	0	1	3 17	0	73	0	0 17	12	0 15	1	6	0	0	2	39	0	0	05	530		
TOTAL SPECIES COUNT DAY TOTAL SPECIES ONLY IN CP	24 0	23 1	17 2	44 0	17 2	21 0	17 0	24 1	15 0	18 1	18 6	20 0	18 0	12 1	21 4	9 0	15 0	95	2		
TOTAL SPECIES UNLY IN CP	₋ - υ		- Z	- U	Z	0	U		U		б	0	0		4	0			Z		

TABLE 4. Species found in fewer than 5 counts.

	LOCALITY AND NUMBER (* CEEN DURING COUNT DERIOD)
SPECIES Cookling Cooks	LOCALITY AND NUMBER (*=SEEN DURING COUNT PERIOD)
Cackling Goose	Estevan 1 (25), Estevan (75), Gardiner Dam (5), Regina (1)
Wood Duck	Regina (1)
American Wigeon	E. B. Campbell Dam (1)
Northern Pintail	Qu'Appelle Dam (1)
Redhead	Gardiner Dam (1)
Lesser Scaup	Gardiner Dam (4), Saskatoon (2)
Long-tailed Duck	E. B. Campbell Dam (1)
Bufflehead	Crooked Lake (1), Estevan (4), Gardiner Dam (5)
Hooded Merganser	Gardiner Dam (5), Saskatoon (1)
Common Merganser	Gardiner Dam (60), La Ronge (1*), Swift Current (1)
Spruce Grouse	Candle Lake (3), La Ronge (2), Qu'Appelle (1)
Mourning Dove	Saltcoats (1), Whitewood (2)
American Coot	Estevan 1 (10), Estevan 2 (20)
Herring Gull	Gardiner Dam (32)
Glaucous Gull	Gardiner Dam (1)
Sharp-shinned Hawk	Broadview (1*), Regina (1), Saskatoon (3), Whitewood (1*)
Northern Hawk Owl	Clarks Crossing (1*), E. B. Campbell Dam (1*), MacDowall (1)
Barred Owl	Biggar (1*), Love-Torch River (1*)
Long-eared Owl	Saskatchewan Landing (1)
Short-eared Owl	Rouleau (2)
Boreal Owl	Love-Torch River (1)
Northern Saw-whet Owl	Kyle (1*), Qu'Appelle Dam (1),
American Three-toed Woodpecker	Greenwater (1), Prince Albert (4), Prince Albert N.P. (6), Shell Lake (54)
Peregrine Falcon	Luseland (1), Qu'Appelle (1)
Golden-crowned Kinglet	Prince Albert (1*), Saskatoon (1), Shell Lake (2)
Eastern Bluebird	Balgonie (1)
Townsend's Solitaire	Estevan (1*), Regina (3*)
Varied Thrush	La Ronge (1*), Regina (1), Saskatoon (1), Val Marie (1*)
Hermit Thrush	Saskatoon (1)
Cedar Waxwing	Archerwill (2*), Ft. Qu'Appelle (12*), Hudson Bay (10), Moose Mountain (12)
Red Crossbill	Balgonie (31), Floral (11)
Lapland Longspur	Moose Mountain (15), Weyburn (136)
Chipping Sparrow	Greenwater (1)
American Tree Sparrow	Qu'Appelle (5)
White-crowned Sparrow	Balgonie (1), Pike Lake (2)
Harris's Sparrow	Morse (1)
Lincoln's Sparrow	Harris (1)
Brown-headed Cowbird	Eastend (1)
Rusty Blackbird	Biggar (1), Gardiner Dam (1), Morse (1), Watrous (1)
L Rusty Blackbild	2.33 (.// Garanier Dani (1// Worde (1// Watious (1/



An Eastern Bluebird, observed on the Balgonie count on 2 January 2021, was the most unusual bird of this year's Christmas Bird Count. Photo credit: Annie McLeod.



Common Redpoll numbers rebounded this winter, with 3,052 birds on 61 counts compared to 617 birds on 28 counts last year. Photo credit: Annie McLeod.

TABLE 5. Birds not identified to species.

CATEGORY	LOCALITY AND NUMBER (*=SEEN DURING COUNT PERIOD)
Eagle sp.	Harris (1)
Owl sp.	Pike Lake (1)
Falcon sp.	Ebenezer (1), Pike Lake (1)
Woodpecker sp.	Borden-Radisson (1), Prince Albert N.P. (1), Saskatoon (1)

TABLE 6. New (in bold and italics) and tying high counts for individual species 2020.

LOCATION	2020 COUNT	SPECIES	PREVIOUS HIGH	LOCATION, YEAR
Estevan	61700	Canada Goose	33775	Estevan 2019
Gardiner Dam	32	Herring Gull	8	Gardiner Dam (19 Dec. 1988)
Love-Torch River	1	Boreal Owl	1	South to White Bear and Indian Head
Saskatoon	65	Downy Woodpecker	53	Saskatoon (26 Dec. 2002)
Saskatoon	291	Red-breasted Nuthatch	263	Saskatoon (26 Dec. 2009)
Saskatoon	1	Hermit Thrush	1	MacDowall (3 Jan. 1998*), Estevan (26 Dec. 2003)
				Regina (26 Dec. 2006), Swift Current (16 Dec 2017)
Harris	1	Lincoln's Sparrow	1	On 7 counts north to Gardiner Dam and Codette Lake
Prince Albert	18	White-throated Sparrow	10	Armit (4 Jan. 2005)

NATURE SASKATCHEWAN MEMBER SURVEY RESULTS

Thank you to everyone who participated in our member survey last fall. A total of 154 members responded either through electronic means or by paper. Reponses were varied but some common themes did emerge, such as the desire for the society to engage more in environmental advocacy publically.

At the same time that the member survey took place, a perceptions and awareness survey was launched to those who are engaged with Nature Saskatchewan on some level (social media, newsletter, etc.) but are not paid members. This survey received 498 responses.

The recurring theme in both surveys was that people engage with Nature Saskatchewan because they appreciate nature and want to be part of something they believe in. They feel that Nature Saskatchewan plays an important role in conserving Saskatchewan's natural landscapes and wanted to support the work of the society. We gained some insight into different types of activities members would like offered and many respondents indicated that they appreciated the move to some online programming due to the COVID-19 pandemic.

The main goal of both surveys was to learn more about the people who are connecting with us so that we can ensure we are fulfilling our expected role as an organization. Due to the number of responses and detail that was submitted, we are not able to publish full results in Blue Jay. However, the results of both surveys can be found online at www.naturesask.ca/usefulresources/documents-of-interest.

48TH ANNUAL SASKATCHEWAN CHRISTMAS MAMMAL COUNT - 2020

Alan R. Smith Box 154 Avonlea, SK S0H 0C0 alanrandi@sasktel.net

As with the Christmas Bird Count, the number of Mammal Counts conducted rose considerably from 72 in 2019-20 to 81 this past winter; furthermore, hours spent in the field increased from 1,161 to 1,813. This resulted in a substantial increase in the number of mammals seen or heard from 3,191 to 4,512.

As is usual, White-tailed Deer (1,628 individuals) and Mule Deer (1,398 animals) were by far the most commonly encountered mammals.

In most years, the third most commonly recorded mammal is the Coyote; this year it was the Eastern Fox Squirrel, which continued its expansion north and east to Watrous and Roscommon S.D. near Kelvington.

Even taking into account the increased effort. Moose numbers were still up markedly with 91 on 27 counts compared to only 31 on 13 counts the previous winter.

Three counts — Indian Head, Odessa and Roscommon S.D. — tied for the most species seen or heard with 11.

No new species were added this past winter, so the all-time provincial total remains at 51 species seen or heard (plus three species found dead and three others recorded only on the basis of tracks).

For information on participants, weather, coverage and location of the Christmas Mammal Counts, see the Christmas Bird Count summary in this issue.

Explanation of entries in Table 1.

The number of mammals actually seen or heard on count day is treated separately from those recorded by other means, or those recorded during count period (14 December to 5 January) but not on count day. Numbers of individuals seen or heard are given in Table 1 and are tallied in the first line of totals at the bottom of the table. The number of species they represent is given in the second

For species only detected by tracks or by other means, or that are seen or heard only in the count period but not on count day, no numbers of individuals is given in Table 1. Species detected only by tracks are indicated by 't' in the table; those detected only by other means: dead animals 'm', more clearly identifiable chewing or digging 'd', dens or lodges 'L' (including Muskrat push-ups) and by smell 's.' Species detected by any means during the count period, but not on count day are indicated by 'c' in the table. These additional species are tallied in lines 3, 4 and 5 at the bottom of the table. If a mammal is reported as member of a species group (i.e. mouse species, deer species), it is counted as a species only if no other species in this group has been definitely recorded. The columns at the end of the table give totals for each species.



Red Fox. Photo credit: May Haga.

TABLE 1. 48th Saskatchewan Christmas Mammal Count - 2020.

IADLL 1. 40th 3a5ka		vaii	CI II 13	Lilius			Coun	- 20	<i></i>												
SPECIES	ARCHERWILL 28 DEC 2020	AVONLEA 28 DEC 2020	BALGONIE 2 JAN 2021	BIGGAR 16 DEC 2020	BORDEN - RADISSON 28 DEC 2020	BROADVIEW 28 DEC 2020	CANDLE LAKE 4 JAN 2021	CHATSWORTH 4 JAN 2021	CHRISTOPHER LAKE 31 DEC 2020	CLARK'S CROSSING 2 JAN 2021	CRAVEN 19 DEC 2020	CROOKED LAKE 16 DEC 2020	CROOKED RIVER 30 DEC 2020	CYPRESS HILLS P.P. 27 DEC 2020	DAVIDSON-CRAIK 28 DEC 2020	DENHOLM 25 DEC 2020	DORINTOSH 2 JAN 2021	DUNDURN 23 DEC 2020	E. B. CAMPBELL DAM 1 JAN 2021	EASTEND 17 DEC 2020	EBENEZER 26 DEC 2020
Short-tailed Shrew	47	47	В 7	— —	В 7	В 7	04	04	O m	07	0-	0-	O m	07	7	7	7	7	ш-	ш-	В 7
Shrew species												t									
Eastern Cottontail												·									
Nuttall's Cottontail														1						2	
Snowshoe Hare	С		2	t	t	t						t				1	t	t	t		2
White-tailed Jack Rabbit			5	t		t				5	4					C		t		2	
Richardson's Ground Squirrel			J							, ,	-									C	
Eastern Grey Squirrel																					
Eastern Fox Squirrel		1	25			2					7	2			1						
American Red Squirrel	С	'	23		5	C	19	2	1		9	2	2	7			t		3		
Northern Pocket Gopher	C				ر	C	13		'		9			,			·		3		
American Beaver						L						L					L				
Deer Mouse						L											L				
Deer Mouse Muskrat			t			L						t					L			t	
Gapper's Red-Backed Vole						L										1	L				
Meadow Vole																					
Vole species			t	t		t				t	t	t									
House Mouse																					
Mouse species	С		t								С										
American Porcupine	c		·							1	C						t	t			1
Coyote	C		3	6	5	t	1	1		'	5	1		8	1	1	t	·		11	1
			3	ь	Э	ι	1	1			5	'		•	1	1	t			11	'
Gray Wolf	_				4	4				2						4					
Red Fox	С			4	1	1			1	3		t				4	t				2
Raccoon																	_				
American Marten																	С				
Fisher						t															
Ermine			t									t				С					
Long-tailed Weasel						t								1							
Least Weasel																					
Weasel species	С																С	t			
American Mink										1											
American Badger										1						d					
Striped Skunk					S																
River Otter						С						t					t		t		
Canada Lynx																	t				
Mule Deer		26	8	105		4				15	14	15		30		19		7		171	
White-tailed Deer	С	2	28	10	25	12	18	31		14	23	1	2	230		14	38	4	4	50	8
Deer species											t										
Moose	С		1	6		t										С	t	2	t	7	5
Elk	С												2								
Pronghorn																				59	
TOTALS SEEN/HEARD ON COUNT DAY	0	29	72	131	36	19	38	34	2	40	62	21	6	277	2	40	38	13	7	302	19
TOTAL SPECIES SEEN/HEARD	0	3	7	5	4	4	3	3	2	7	6	5	3	6	2	6	1	3	2	7	6
TOTAL SPECIES RECORDED BY TRACKS	0	0	3	3	1	7	0	0	0	1	1	7	0	0	0	0	9	4	3	1	0
TOTAL SPECIES OTHERWISE RECORDED	0	0	0	0	1	2	0	0	0	0	0	1	0	0	0	2	2	0	0	0	0
SPECIES RECORDED COUNT PERIOD	9	0	10	0	0	15	0	0	0	0	7	12	0	0	0	11	14	7	0	1	6
TOTAL SPECIES COUNT PERIOD AND DAY	9	3	10	8	6	15	3	3	2	8	7	13	3	6	2	11	14	7	5	9	Ь

	1.1 020	1.2	ESTUARY NORTH 30 DEC 2021	ETTERS BEACH-LIBERTY 21 DEC 2020	019	21	FORT QU'APPELLE 16 DEC 2020	GARDINER DAM 14 DEC 2020	GOOD SPIRIT LAKE 28 DEC 2020	ATER 21	.L 21	020	1EAD 020	OZ0	KENOSEE LAKE 19 DEC 2020	ا 020	21	020	3.E 020	LOVE-TORCH RIVER 26 DEC 2020	4D :020	WALL 020
SPECIES	ESTEVAN 1 29 DEC 2020	ESTEVAN 2 3 JAN 2021	STUAR) DEC 2	TERS BE	FENTON 24 DEC 2019	FLORAL 4 JAN 2021	ORT QU 5 DEC 2	ARDINI 1 DEC 2	OOD SF S DEC 2	GREENWATER 3 JAN 2021	GRENFELL 1 JAN 2021	HARRIS 15 DEC 2020	INDIAN HEAD 27 DEC 2020	KENASTON 16 DEC 2020	ENOSEE 9 DEC 2	KETCHEN 26 DEC 2020	KINLOCH 3 JAN 2021	KYLE 17 DEC 2020	LA RONGE 26 DEC 2020	OVE-TC 5 DEC 2	LUSELAND 26 DEC 2020	MACDOWALL 21 DEC 2020
Short-tailed Shrew	7. E	йm	Э. Ж	E .	FE 5	<u>Н</u>	F (2)	5 7	5 2	ტ ო	Q —	工芸	1	∠	~ 	× %	×ω		L/	7 C	72	≥ %
Shrew species Eastern Cottontail		5								t												
Nuttall's Cottontail		J	10					2										4				
Snowshoe Hare			10				С		3	1	2		t		t			4	1	1		
White-tailed Jack Rabbit			1			t		t	1	'	t	t	5	t	ι		t		'	t	С	
Richardson's Ground						·					·	·	, ,	·								
Squirrel																						
Eastern Grey Squirrel																						
Eastern Fox Squirrel		1					2				2		3									
American Red Squirrel							11		1	14	2		11		3		1		3	19		1
Northern Pocket Gopher													d									
American Beaver									L						L	L	L					
Deer Mouse													4									
Muskrat									L								L					
Gapper's Red-Backed Vole																						
Meadow Vole																						
Vole species						t		t		2	t	t				t				t		
House Mouse																						
Mouse species									t											t		
American Porcupine						1	С	1	t					1			t	1		1		
Coyote	2		6	1	t	3	4	5	2	1	2	4	6	t	t	С	С	1		1	С	
Gray Wolf																	t			t		
Red Fox			1				1	2	t	t	1	1	2	t	t		t			1	1	
Raccoon										1				t								
American Marten																						
Fisher																	t					
Ermine							с		t								t			1		
Long-tailed Weasel													1	t								
Least Weasel																				t		
Weasel species						t																
American Mink																						
American Badger			1															d				
Striped Skunk										t										s		
River Otter																	t		1	t		
Canada Lynx																						
Mule Deer	1	8	2	60			С	19				104	21	t			14	40			23	
White-tailed Deer			96	30	4	12	19	26	11	21	8	41	3	С	t	2	9	17		53	5	
Deer species																						
Moose			5	2					2	С	5	4	2	2	3	t	t	t			С	2
Elk									t	t						t	t			t		
Pronghorn																		t			С	
TOTALS SEEN/HEARD ON COUNT DAY	3	14	122	93	4	16	37	55	20	40	22	154	59	3	6	2	24	63	5	77	29	3
TOTAL SPECIES SEEN/HEARD	2	3	8	4	1	3	5	6	6	6	7	5	11	2	2	1	3	5	3	7	3	2
TOTAL SPECIES RECORDED BY TRACKS	0	0	0	0	1	3	0	2	5	4	2	2	1	6	4	3	9	2	0	6	0	0
TOTAL SPECIES OTHERWISE RECORDED	0	0	0	0	0	0	0	0	2	0	0	0	1	0	1	1	2	1	0	1	0	0
SPECIES RECORDED COUNT PERIOD	0	0	0	0	0	0	4	0	0	1	0	0	0	1	0	1	1	0	0	0	4	0
TOTAL SPECIES COUNT PERIOD AND DAY	2	3	8	4	2	6	9	8	13	11	9	7	13	9	7	6	15	8	3	14	7	2

	/LAKE	120	4W 120	MOOSE MOUNTAIN P.P. 4 JAN 2021	120	-LATS 019	120	NISBET FOREST NORTHWE 26 DEC 2020	NISBET FOREST WEST 1 JAN 2021	120	, ,20	шъ	PLUNKETT-VISCOUNT 31 DEC 2020	LBERT 120	PRINCE ALBERT N. P.	.LE 120	QU'APPELLE DAM 20 DEC 2020	120	ROSCOMMON S.D. 31 DEC 2020	120	ROUND LAKE (Q.V.) 14 DEC 2020
CDECIEC	MEADOW LAKE 26 DEC 2020	MELFORT 27 DEC 2020	MOOSE JAW 21 DEC 2020	OOSE M AN 202	MORSE 29 DEC 2020	NICOLLE FLATS 16 DEC. 2019	NIPAWIN 26 DEC 2020	SBET FC DEC 20	SBET FC AN 202	ODESSA 26 DEC 2020	OUTLOOK 28 DEC 2020	PIKE LAKE 2 JAN 2021	UNKETT DEC 20	PRINCE ALBERT 20 DEC 2020	INCE AI	QU'APPELLE 31 DEC 2020	J'APPEL DEC 20	REGINA 27 DEC 2020	SCOMI DEC 20	ROULEAU 28 DEC 2020	DEC 20
SPECIES	M 26	M 27	∑.Z	Σ4	29 M	18 16	NI 26	NI 26	ΞĘ	00	01	PIF 2.J	31 31	PR 20	PR	9.2	20	RE 27	31 31	RC 28	14 14
Short-tailed Shrew																					
Shrew species								t													
Eastern Cottontail Nuttall's Cottontail						t											5				
Snowshoe Hare						t				2		1		t	t	t	5	t	t		t
White-tailed Jack Rabbit			С		9	t				2		t		1		·		70	1	1	t
Richardson's Ground								t				·						70			
Squirrel																					
Eastern Grey Squirrel																		2			
Eastern Fox Squirrel			37			7				2						11		172	2	1	
American Red Squirrel	1			2			15		11			6		16	8				1		3
Northern Pocket Gopher																С					
American Beaver						L								L	L			d			
Deer Mouse						t										С		t			
Muskrat														L			1				
Gapper's Red-Backed Vole																С					
Meadow Vole						t .												4			
Vole species						t		t				1		t	t	_		1	t		
House Mouse															_	С			1		
Mouse species					2	t				_	4			t .	t	_		t .	t		
American Porcupine	1				2 5	1 6		_		2	1			t	_	2	4	t	1 4		
Coyote Gray Wolf	1	1	2		Э	б		t		4		t		t	t	1	3	1	4	С	
Red Fox						1				2		1	1	t	1	2	1	t	t		t
Raccoon									С	4		'	'						t		
American Marten										7					t						
Fisher														t	t						
Ermine						t								1	-	С			1		
Long-tailed Weasel						t				1						С		t			
Least Weasel						t										С		t			
Weasel species															t						
American Mink						1								t				t			
American Badger																			d		
Striped Skunk														1							
River Otter															t						
Canada Lynx														t	t						
Mule Deer			28		55	72	5			20	5	10	13	1		1	87	7	10		5
White-tailed Deer	15		2	4	104	16	15	t	2	15	2	48	73	3	t	13	12	6	15	13	1
Deer species																					
Moose		2				1				2		1	8	t		4			9		5
Elk													t		t				80		
Pronghorn			37		21												1				
TOTALS SEEN/HEARD ON COUNT DAY	17	3	106	6	196	105	35	0	13	56	8	68	95	23	9	34	114	259	125	15	3
TOTAL SPECIES SEEN/HEARD	3	2	5 0	2 0	6 0	8 8	3	0 5	2 0	11 0	3	7	4	6 10	2 11	7	8	7	11 5	3	4
TOTAL SPECIES RECORDED BY TRACKS																					<u> </u>
TOTAL SPECIES OTHERWISE RECORDED	0	0	0	0	0	1	0	0	0	0	0	0	0	2	1	0	0	1	1	0	0
SPECIES RECORDED COUNT PERIOD	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	7	0	0	0	1	0
TOTAL SPECIES COUNT PERIOD AND DAY	3	2	6	2	6	17	3	5	3	11	3	9	5	18	14	15	8	15	17	4	7

	rs 20	SK LANDING P.P. 16 DEC 2020	SASKATCHEWAN RIVER FORKS 24 DEC 2020	ON 20	CK 120	<e 20</e 	72	SWIFT CURRENT 19 DEC 2020	THICKWOOD-SPIRITWOOD 21 DEC 2020	TORCH RIVER VALLEY 3 JAN 2021	IE 120	20	20	AR 20	20 20	1	20	# INDIVIDUALS SEEN/HEARD COUNT DAY	RD	# COUNTS RECORDED AS TRACKS	# COUNTS RECORDED AS OTHER	# COUNTS COUNT PERIOD	# COUNTS COUNT PERIOD & COUNT DAY
	SALTCOATS 19 DEC 2020	NDIN EC 20	ATCHE EC 20	SASKATOON 26 DEC 2020	SHAMROCK 30 DEC 2020	SHELL LAKE 16 DEC 2020	SNOWDEN 2 JAN 2021	T CU	(WOC EC 20	CH RI	VAL MARIE 20 DEC 2020	WATROUS 17 DEC 2020	WEYBURN 30 DEC 2020	WHITE BEAR 24 DEC 2020	WHITEWOOD 23 DEC 2020	WINGARD 2 JAN 2021	YOUNG 16 DEC 2020	IVID /HEA	# COUNTS SEEN/HEARD	UNTS	UNTS	UNTS	UNTS % QC
SPECIES	SALT 19 DI	SK LA 16 DI	SASK, 24 D	SASK 26 D	SHAI 30 DI	SHEL 16 DI	SNO/ 2 JA	SWIF 19 DI	THICK 21 DI	TORG 3 JAI	VAL 20 D	WAT 17 DI	WEY 30 DI	WHI ⁷	WHI ⁻	WIN 2 JA	YOU 16 DI	# INC	# CO SEEN	# CO	# CO	000	# CO PERIC
Short-tailed Shrew																		1	1	0	0	0	1
Shrew species																		0	0	3	0	0	3
Eastern Cottontail																		5	1	0	0	0	1
Nuttall's Cottontail		3						3						1				31	9	1	0	0	10
Snowshoe Hare				t		t	t		t	t		t			t			16	10	23	2	2	37
White-tailed Jack Rabbit				38	12			2			2		6	2				169	19	13	3	3	38
Richardson's Ground Squirrel											2							2	1	1	1	1	4
Eastern Grey Squirrel								56				1			1			60	4	0	0	0	4
Eastern Fox Squirrel												2	21		8			309	20	0	0	0	20
American Red Squirrel	2		4	14		16	4		5	20					9	2		255	37	1	2	2	42
Northern Pocket Gopher																		0	0	0	1	1	2
American Beaver		L		t					L						L			0	0	1	13	0	14
Deer Mouse												С			t			4	1	6	2	2	11
Muskrat																		1	1	0	6	0	7
Gapper's Red-Backed Vole																		1	1	0	1	1	3
Meadow Vole							t											0	0	2	0	0	2
Vole species		1		1					t									6	5	18	0	0	23
House Mouse				t														1	1	1	1	1	4
Mouse species			2	t			t		t	t				t				2	1	13	2	2	18
American Porcupine				2		m			t	1	2		m	1				26	18	7	4	2	31
Coyote		4	1	18	9		m	2	t	1	3		1	4	1			154	45	10	5	4	64
Gray Wolf					_					t				1				0	0	6	0	0	6
Red Fox		1	t	4	2				1	t				1			1	45	28	13	1	1	43
Raccoon																	1	6	3	2	1	1	7
American Marten Fisher																		0	0	4	0	0	3 4
Ermine															1			4	4	5	3	3	15
Long-tailed Weasel															1			3	3	4	1	1	9
Least Weasel																		0	0	3	1	1	5
Weasel species							t											0	0	4	2	2	8
American Mink				t														2	2	3	0	0	5
American Badger		d						d						d				2	2	0	0	0	2
Striped Skunk								_ ~						_				1	1	1	2	0	4
River Otter																		1	1	6	1	1	9
Canada Lynx			1				1			2								4	3	3	0	0	6
Mule Deer		90		6	103			41			92	3	5	19			14	1398	44	1	1	1	47
White-tailed Deer		16	2	9	1	9	2	82	44	18	73	7	67	30	11		27	1628	67	3	2	2	74
Deer species																		0	0	1	0	0	1
Moose		t	t		1	2			3	t				С	2		3	91	27	10	5	5	47
Elk			t							t					t			82	2	10	1	1	14
Pronghorn		80												4				202	6	1	1	1	9
TOTALS SEEN/HEARD ON COUNT DAY	2	195	10	92	128	27	7	186	53	42	174	13	100	62	33	2	46	4512					
TOTAL SPECIES SEEN/HEARD	1	7	5	8	6	3	3	6	4	5	6	4	5	8	7	1	5		29				
TOTAL SPECIES RECORDED BY TRACKS	0	1	3	4	0	1	4	0	4	6	0	1	0	1	3	0	0			29			
TOTAL SPECIES OTHERWISE RECORDED	0	2	0	0	0	1	1	1	1	0	0	0	1	1	1	0	0				7		
SPECIES RECORDED COUNT PERIOD	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0					20	
TOTAL SPECIES COUNT PERIOD AND DAY	1	10	8	12	6	5	8	7	9	11	6	6	6	11	11	1	5						36

CHIMNEY SWIFTS ON THE PRAIRIES

Amanda Shave
MCSI Coordinator
Winnipeg, MB
mbchimneyswift@gmail.com

The Manitoba Chimney Swift Initiative (MCSI) started in 2007 when a group of volunteers who had heard about the plight of a small bird called the Chimney Swift wanted to make a difference.

The Chimney Swift is a small migratory bird that roosts and nests primarily in chimneys in urban areas from the Maritimes to the eastern edge of Saskatchewan. They are designated as a threatened species federally and in Manitoba. According to statistics from the Breeding Bird Survey, Chimney Swift populations have declined 95 per cent from original levels in 1968.

Our dedicated MCSI volunteers work with us to identify new

chimneys used by Swifts, and to monitor existing chimneys. Spring monitoring takes place weekly at roosting chimneys from May 26 to June 23 when swifts are arriving and preparing to nest. Monitoring continues at nesting chimneys throughout the summer. The monitoring data is provided to the federal and provincial governments to use in research and protection for Chimney Swifts.

We also use information from our volunteers to identify Chimney Swift chimneys that are in need of repair. As part of the habitat stewardship side of our program, repairing degraded chimneys already in use by Swifts is the most cost-effective way to keep active habitat for many years into the future. Common repairs include repointing, crown repairs and, in some cases, rebuilding the chimney.

New volunteers often ask what makes a good Chimney Swift chimney. Brick chimneys are used most often — they are rough enough inside that Swifts can roost holding on to the walls and attach their nests to the inside of the chimneys. Chimneys with metal liners or terracotta flues are often too smooth for Swifts to grip.

Chimneys also need to be wide enough for the Swifts to use (at least 2.5 by 2.5 bricks wide) and they must be open at the top. Swifts cannot enter chimneys with pest cages or chimney caps. Other habitat patterns that we tend to see are proximity to water and trees. Chimney Swifts exclusively eat flying insects, which tend to have aquatic larval stages associated with water, and they need twigs from trees to be able to build their nests.

Seeing a Chimney Swift is a unique chance to observe a species at risk in your own neighbourhood (or chimney)! If you see a Chimney Swift using a chimney in Saskatchewan or Manitoba, please notify Nature Saskatchewan or the Manitoba Chimney Swift Initiative.



MCSI volunteer Nicole Firlotte was named as one of our 2020 Chimney Swift Champions for her many years of work monitoring and advocating for swifts and their habitat. Photo credit: Amanda Shave.



A chimney repaired at Roxy Lanes in Winnipeg. The top of the chimney required repointing while the bottom of the chimney had a large hole filled in and a clean-out installed after it was hit by a car.

Photo credit: Amanda Shave.



ANNOUNCING Nature Saskatchewan's **Latest Publication**



In Backyard Bird Feeding: A Saskatchewan Guide, well-known Prairie naturalists and writers Trevor Herriot and Myrna Pearman share with readers the benefit of their years of observing and learning about birds.

Our colourful new guide to feeding birds in Saskatchewan has arrived!

Offering a wealth of information and illustrated with beautiful photographs taken by backyard bird enthusiasts from across the Prairies, this new 112-page publication is the ideal resource for anyone, veteran or novice, who longs to attract and enjoy birds at home year-round. In addition to advice on how to attract birds with food, shelter and water, and how to handle challenges should they arise, it includes detailed accounts of the species most likely to visit Saskatchewan yards and their feeding preferences. Sidebars with fascinating tidbits and trivia add interest and insight into the remarkable lives of wild birds.

Whether you live in town or country, this beautiful new book will help you bring the colour and music of birds into your yard.



Backyard Bird Feeding: A Saskatchewan Guide

is available from Nature Saskatchewan's online store and a variety of book and bird-feeding retail stores in early May. Purchase price is \$19.95 plus GST.

Consult the Nature Saskatchewan website (www.naturesask.ca) for further details.

THE BLACK WITCH MOTH – A RARE PRAIRIE VISITOR

Cedric Gillott 380 Grasswood Road Grasswood, SK S7T 1A6 cedric.gillott@shaw.ca

In early August 2020, I was asked to confirm the identity of a huge moth photographed on an acreage just south-east of Saskatoon. To my great surprise (and pleasure) the specimen was a black witch moth (BWM) (Ascalapha odorata (Linnaeus 1758)), marking only the second occasion in over 50 years of living in the province that I had seen one (Figure 1).

The BWM is a member of the family Erebidae in the superfamily Noctuoidea (more familiar to us as the group to which cutworms belong) and is endemic to the southern United States, Hawaii, the Caribbean, and South America as far south as central Argentina. 1,2 This dark brown to black moth is the largest noctuoid in North America, with females having a wingspan up to 17 cm (males usually a few centimetres less [Figure 2]), resulting in their sometimes being mistaken for bats at first glance. 1,2

Carried north on strong winds (especially those of tropical storms) in mid to late summer, the BWM is an occasional visitor to Canada, having been recorded from all provinces except Prince Edward Island and the Territories.^{3,4}

In the Prairie provinces, reports of the BWM are few and far between. For Manitoba, I have been unable to find many reports of sightings, though the province can claim the record for the most northerly sighting: a BWM was collected just east of Churchill (58° 46′ N) in 2006, beating the old North American



FIGURE 1. The black witch moth photographed on 4 August 2020 south-east of Saskatoon. The specimen, with a wingspan approaching 16 cm, is very likely a female, based on the white 'necklace' pattern that runs across the forewings. The somewhat tattered appearance of the wings is typical, reflecting the battering these insects receive as they are blown northward. Photo credit: Philip Griebel.

record from Auke Bay, Juneau, Alaska (58° 23' N), set in 1957, by a few kilometres. 5 Though a BWM was found in Manitoba as early as 1900, it is Alberta that holds the record for the earliest collection date — May 1897 in Calgary. 6,7 This is a most interesting report which, if correct, is easily the earliest date for the species in Canada, beating by a good month other early sightings (e.g., Point Pelee National Park, Ontario, 15 June; Altamont, Manitoba, 28 June; Black Diamond, Alberta, 30 June). However, there are more reports of the moth in Alberta, compared to Manitoba, perhaps due to a greater number of Lepidoptera collectors and photographers, both professional and amateur, to be found here. Though most of the Alberta records are from Calgary and further south, several moths have been taken in Edmonton and vicinity, representing the northerly extreme for the province.

Saskatchewan records for the BWM now number 20 since the first moth was taken in 1945 in Saskatoon (unfortunately,

the collector of this specimen is unnamed).8 A 2018 compilation of records by Saskatchewan's 'Moth Guru' (John Kozial) listed only 14 occurrences, including the one reported by Ron Hooper in *Blue* Jay. 9,10 However, this list has now been amended to 20, mainly due to the addition of 2019 and 2020 sightings. Sites where moths were observed were Regina (5), Indian Head, Hodgeville, White Bear, Saskatoon (2), Fort Qu'Appelle, Bjorkdale area (2), Porcupine Plain (2), St Victor, Assiniboia, Spring Valley, Dirt Hills (near Claybank) and Prince Albert. The latter record. simply a report and photograph in the Prince Albert Herald, likely in the 1980s, is the province's northernmost sighting.9 Most of these BWMs were seen in July, with fewer in August and one in September.

What struck me most as I examined the records for the Prairie provinces was the increased number of sightings in recent years compared to the late 1900s and early 2000s. For example, in 2020 alone, there were two reports from



FIGURE 2. A male black witch moth resting on a tree trunk, photographed on 3 July 2020 at Dirt Hills near Claybank. Its wingspan was about 13 cm, and its wings show no sign of the 'necklace' seen in females. Photo credit: Richard Geber.

Manitoba (Winnipeg and Riding Mountain National Park), four from Saskatchewan (Saskatoon, Regina, Spring Valley and Dirt Hills), and six from Alberta (Calgary [two], Lacombe, Taber, Stafford Park and Fort MacLeod). 11-15 Some of this 'trend' can be put down to the provinces' increased (human) populations and hence the greater likelihood of BWM vagrants being encountered. However, it is tempting to attribute some of this increase to climate change, in particular the increased frequency and violence of tropical storms bringing the moth far to the north of its normal range.

Acknowledgements

Anna Leighton asked me to write this article and I thank her for the enjoyment this task has given me and for comments on an initial draft. John Kozial generously shared his 2018 list with me, while Felix Sperling circulated my request for information to the Alberta Lepidopterists Guild. This brought a strong response and I sincerely thank those who sent me their observations. Philip Griebel

and Richard Geber allowed me to use their photographs. Greg Pohl (Alberta) and Terry Galloway (Manitoba) also provided valuable information on sightings.

References

- 1. Ascalapha odorata. https://en.wikipedia. org/wiki/Ascalapha_odorata (accessed January 17, 2021).
- 2. Quinn M (2015) North American Black Witch Records. http://texasento.net/witchna. htm (accessed January 17, 2021).
- 3. E-mail correspondence between John Klymko (Atlantic Canada Conservation Data Centre) and Cedric Gillott (January 2021).
- 4. Pohl GR, Landry J-F, Schmidt BC, Lafontaine JD, Troubridge JT, Macaulay AD, van Nieukirken EJ, deWaard JR, Dombroskie JJ, Klymko J, Nazari, V, Stead K (2018) Annotated Checklist of the Moths and Butterflies (Lepidoptera) of Canada and Alaska. Pensoft, Sofia, Bulgaria.
- 5. Ekrem T, Kevan PG, Woodcock TS, Hebert PDN (2014) The most northerly black witch (*Ascalapha odorata*): a tropical moth in the Canadian Arctic. *Canadian Field-Naturalist* 128:77-79. doi https://doi.org/10.22621/cfn. v128i1.1554
- 6. Heath EF (1904) List of additional Manitoba Lepidoptera. *The Canadian Entomologist* 36:269-272.
- 7. Wolley Dodd FH (1906) Preliminary list of

- the Macrolepidoptera of Alberta, N.W.T. *The Canadian Entomologist* 38:45-54.
- 8. Specimen in the Canadian National Collection of Insects, Arachnids and Nematodes. Correspondence between Don Lafontaine and John Kozial.
- 9. E-mail correspondence from John Kozial to Cedric Gillott (January 2021).
- 10. Hooper RR (1990) Check-list of the moths of Saskatchewan. Part 5: Arches moths, similar-wings, grass moths and underwings (Catocalinae). *Blue Jay* 48:79-83.
- 11. Alberta Lepidopterists Guild (2021). E-mail correspondence from members to Cedric Gillott (January 2021).
- 12. Alberta Lepidopterists Guild Newsletter (Fall 2020). http://www.albertalepguild. ca/whats-happening/newsletter/ (accessed March 2, 2021).
- 13. iNaturalist Observations Black Witch (2021). https://www.inaturalist.org/observations?place_id=6712&taxon_id=61503 (accessed January 17, 2021).
- 14. Butterflies and Moths of North America – Sighting 1259647. https:// www.butterfliesandmoths.org/sighting_ details/1259647 (accessed January 17, 2021).
- 15. E-mail from Brian Brunskill, 8 March 2020, with photograph, of the sighting at Dirt Hills.

POETRY

Grifter

A, to all appearances, horribly maimed killdeer screams in mortal distress.

He leads the eager, unschooled puppy far from his mate and chick.

He cries piteously, beating useless wings. A bound, a snap away.

Then takes rapid flight, to ascend over the pup's head and behind.

So, downwind and still, so one with waving grasses, he sees, but is unseen.

George Grassick

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

NATURE SASKATCHEWAN FUNDERS LISTING

2020-21 FISCAL YEAR THANK YOU TO OUR FUNDERS!

Saskatchewan Conservation Data Centre

- Government of Saskatchewan -Ministry of Environment Fish & Wildlife Development Fund
- Government of Canada through the Federal Department of **Environment and Climate Change**
- Nature Serve (Parks Canada/ Canadian Wildlife Service)
- Schad Foundation
- South of the Divide Conservation Action Plan

Naturehood

• Nature Canada

Important Bird Areas

- Government of Saskatchewan -Ministry of Environment Fish and Wildlife Development Fund
- United Nations Association of Canada – Green Spaces

Last Mountain Bird Observatory

- Government of Canada through the Federal Department of **Environment and Climate Change**
- Canadian Wildlife Service
- Government of Saskatchewan -Ministry of Environment Fish & Wildlife Development Fund
- Murray & Edna Forbes Foundation at the South Saskatchewan Community Foundation
- Birds Canada Baillie Bird Fund
- United Nations Association of Canada - Green Spaces
- TD Friends of the Environment Fund

General

SaskCulture

Stewards of Saskatchewan Programs

- Government of Canada through the Federal Department of **Environment and Climate Change** / Ce projet a été réalisé avec l'appui financier du gouvernement du Canada agissant par l'entremise du ministère fédéral de l'Environnement et du Changement climatique
- Government of Canada through Natural Resources Canada's Green Jobs - Science and Technology Internship Program, as part of the Youth Employment and Skills Strategy/ Le financement de cette initiative est fourni par le gouvernement du Canada par l'entremise du Programme de stages en sciences et technologie - Emplois verts de Ressources
 - naturelles Canada dans le cadre de la Stratégie emploi et compétences ieunesse.
- Government of Saskatchewan -Ministry of Environment Fish and Wildlife Development Fund
- Neotropical Migratory Bird Conservation Act Program, US Fish and Wildlife Service
- The Mosaic Company
- Nature Conservancy of Canada
- TC Energy
- The Elsa Wild Animal Appeal of Canada
- SaskTel
- Prairie Sentinel Bottleworks

THE NATURE NOTEBOOK: HOW ARE WILDLIFE VIEWING ETHICS BEING TAUGHT TODAY?



Jared Clarke

I love that more and more people are connecting with nature! Bird watching has exploded in popularity during this past year as many people look for ways to get outside that fit within the various public health restrictions. Learning to identify wildlife and plants is more accessible than ever thanks to apps like Merlin ID or iNaturalist ... and I love it!

Yet, with the ability to identify a bird or animal on the smartphone in your hand, I feel as though sharing the ethics of wildlife observing, and photography for that matter, has not kept pace.

There are two instances that stick out in my mind as to why I think we should be talking about this more right now. First, a story came to light recently about a super famous Northern Saw-whet Owl in Calgary this past winter, which had been chased and disturbed continuously for weeks by curious birders, photographers and the general public until the bird was

found emaciated and dead (without signs of predation). Second, I was in a park birding when I came across a person blasting a call from a speaker in the middle of the afternoon trying to elicit a response from an owl that had a known roost above in the tree, just to get a photograph of the bird.

Both of these stories made me pause and reflect on my own actions out in the field. Our hobby should not be making it harder for animals to do their thing. We should not be pressuring wildlife relentlessly for a photo or a chance to see a rare species. Our actions can have very negative impacts, potentially increasing the chances of an animal getting caught by a predator, pushing them off their territory or making it difficult to find food.

There is a code of ethics for bird watching, put out by the American Birding Association. Here is a snippet from Section 1B under Respect and Promote Birds and their Environments which I think is of value to share: "Avoid stressing birds or exposing them to danger. Be particularly

cautious around active nests and nesting colonies, roosts, display sites, and feeding sites. Limit the use of recordings and other audio methods of attracting birds, particularly in heavily birded areas, for species that are rare in the area, and for species that are threatened or endangered. Always exercise caution and restraint when photographing, recording, or otherwise approaching birds." The complete code can be found online.

Whether you are a veteran naturalist, a new Merlin ID user, a seasoned photographer or just excited to be outside, thinking about how we impact wildlife for our passion or pastime is something we need to do. The next time you are out in the field, have a conversation about the birding code of ethics, particularly if you do not think your actions or those of others are meeting them. It's tough being a wild animal — let's not make it tougher for them. Rest in peace little saw-whet, I hope we will all try to do better.

Jared Clarke is a grade 6/7 teacher and biologist who lives on a small farm near Edenwold, SK with his family. He has been bird watching since the age of five after a Spotted Towhee visited his yard. Follow him on Twitter @jaredthebirdguy.



DISTRIBUTION OF BAT SPECIES IN SOUTHEASTERN SASKATCHEWAN BASED ON ACOUSTIC SURVEYS AND CAPTURES

R. Mark Brigham
Department of Biology
University of Regina
Regina, SK S3S 0A2

Shelby J. Bohn

Department of Integrative Biology University of Guelph 50 Stone Road East Guelph, ON N1G 2W1

White-nose syndrome is a disease caused by an invasive fungal pathogen (*Pseudogymnoascus destructans*) that is causing significant population declines in North American bat species. ^{1,2} White-nose syndrome disrupts hibernating bats' physiology and behaviour³⁻⁵ causing infected bats to be active during the

winter hibernation period depleting fat stores before resources become available the following spring.² White-nose syndrome is suspected to have been introduced to New York state in 2006 and has since spread to 36 of the United States and seven Canadian provinces, affecting 13 of the 47 species of bat found in North America.⁶

There are many factors that have made bat conservation challenging in light of white-nose syndrome, one of which being a relative lack of information about these species large-scale movements and space use.^{7,8} Given the current trajectory of the fungus' spread, it seems probable that white-nose syndrome will

arrive in Saskatchewan, most likely arriving initially in the southeastern corner near the Manitoba and United States borders. Knowledge of species distribution throughout Saskatchewan is important for developing conservation action plans which may include implementing population monitoring programs or increased habitat protection. Our objective, therefore, was to determine where bats, principally Big Brown Bats (Eptesicus fuscus) and Little Brown Myotis (Myotis lucifugus) occurred. We predicted there would be a shift in species composition moving east from Regina towards the Manitoba border. Big Brown Bats are the predominant species in



Little Brown Myotis in flight, showing the four finger bones that give bats their scientific name (Chiroptera = hand wing). This bat is also banded for individual identification. Photo credit: Sherri and Brock Fenton.

and raise pups) and in potential foraging areas. Suspected maternity colony sites included community centres, churches, and abandoned buildings. We used an average of 1.5 bat detectors for three hours per night for a total of 121 acoustic sampling hours over 34 nights and an average of 3.5 sampling hours per night. All calls were manually identified using Analook software

backyards. We used an average of three mist nets for 2.5 hours a night for a total of 310 netting hours over 40 nights and an average of eight net hours per night. Acoustic bat detectors were placed at a height of approximately 1 m with the microphone pointed upwards at an angle of about 45° outside of suspected maternity colonies (where females aggregate to give birth to

Regina Regina Brandon

FORT PECK INDIAN RESERVATION

Williston

Williston

Minot

Grand Forks

FIGURE 1: Southeastern towns in Saskatchewan that were surveyed for bats using both acoustic bat detectors and mist nets are indicated with stars.

Regina (R.M. Brigham, unpublished data) while Little Brown Bat colonies seem to occur more frequently in Manitoba (C.K.R. Willis, unpublished data). We were particularly interested in these two species because they are the species found in this area that are most affected by WNS.1 Despite our specific interest in Big Brown and Little Brown Myotis, we present data from our survey for all species, including information on the two migratory species; Hoary Bats (Lasiurus cinereus) and Silverhaired (Lasionycteris noctivagans) bats, which are not known to be symptomatically affected by WNS,9 however, these species are also of conservation concern, as they are commonly killed at wind turbines. 10,11

We surveyed 18 towns (Figure 1) in southeastern SK between 20 May and 19 August 2014 using mist nets and Anabat acoustic detectors (Table 1). Nets were set up in areas where we expected that bats would forage for insects including: golf courses, community parks, and residential

LOCATION	NET HOURS	CAPTURES	ACOUSTIC HOURS	ACOUSTIC DETECTIONS
Carlyle	26	MYLU, LACI	7.5	LANO/EPFU, MYLU, LACI
Churchbridge	15.5	-	-	-
Esterhazy	14.5	LANO	3.5	-
Fort Qu'Appelle	8	MYLU	-	-
Grenfell	14.5	-	6.5	LANO/EPFU, MYLU, LACI
Indian Head	20.5	EPFU, MYLU	21	LANO/EPFU, MYLU
Kipling	11	-	3.5	LANO/EPFU, MYLU
Langenburg	8	-	1.5	LANO/EPFU, MYLU, LACI
Melville	32	LANO, EPFU	10	LANO/EPFU, MYLU
Montmartre	20	MYLU	5.5	-
Moose Mountain Provincial Park	11	-	4.5	LANO/EPFU, MYLU
Moosomin	15.5	-	4.5	-
Qu'Appelle	18.5	-	8	LANO/EPFU, LACI
Redvers	21	-	6	LANO/EPFU, LACI
Rocanville	14	-	4.5	-
Stoughton	17.5	-	3.5	MYLU, LACI
Weyburn	23.5	MYLU	23.5	LANO/EPFU, MYLU
Whitewood	14.5	-	8	LANO/EPFU

TABLE 1: Species of bats detected using acoustic detectors and caught in mist nets in Southeastern Saskatchewan. Silver-haired Bat (*Lasionycteris noctivagans*; LANO) and Big Brown Bat (*Eptesicus fuscus*; EPFU) calls cannot be reliably differentiated based on acoustic sampling, and are therefore combined. Little Brown Myotis (*Myotis lucifugus*; MYLU) and Hoary Bats (*Lasiurus cinereus*; LACI) were also detected and can be reliably identified.

based on the minimum echolocation call frequency as being Little Brown, Hoary or Big Brown/Silver-haired. It was not possible to confidently discriminate Big Brown from Silverhaired bats based on the similar acoustic structure of their calls.

While we expected that there would be a clear distinction between towns where Big Brown Bats and Little Brown Bats were found, based on the observations of M. Brigham and C. Willis, there did not appear to be any division between the two species distributions in southeastern Saskatchewan. There were 14 sites where either Big Brown or Little Brown Myotis were captured or possibly acoustically detected. Of these sites, there were eight where both species were detected together. This suggests that these species are frequenting the same types of foraging and roosting sites in these small towns. If this is the case, we predict that species composition will change as WNS spreads to these areas. Little Brown Bats tend to suffer dramatically higher mortality¹ from this disease than Big Brown Bats, 12 so towns with both species present may experience a shift towards primarily Big Brown Bats.

Acknowledgements

This research was gratefully conducted on Treaty 4 and Treaty 2 lands, which are situated on the territories of the Očhéthi Šakówin, Niitsítpiis-stahkoii, Anishinabewaki, and Assiniboine peoples, as well as the homeland of the Métis/ Michif Nation. We are grateful to Alyssa Stulberg, Gabriel Foley, and Nicole Lerminiaux for their help with fieldwork. We thank C.K.R. Willis for thoughtful comments on the manuscript. This survey was funded by the Fish and Wildlife Development Fund, which is administered by the Saskatchewan Ministry of the **Environment**.

- 1. Frick WF et al. (2010) An emerging disease causes regional population collapse of a common North American bat species. Science 329:679-682.
- 2. Warnecke L et al. (2012) Inoculation of bats with European Geomyces destructans supports the novel pathogen hypothesis for the origin of white-nose syndrome. Proceedings of the National Academy of Sciences 109:6999-7003.
- 3. Verant ML et al. (2014) White-nose syndrome initiates a cascade of physiologic disturbances in the hibernating bat host. BMC Physiology 14:10.
- 4. Turner JM et al. (2015) Conspecific disturbance contributes to altered hibernation patterns in bats with white-nose syndrome. Physiology & Behavior 140:71-78.
- 5. Bohn SJ et al. (2016) Evidence of "sickness behaviour" in bats with whitenose syndrome. Behaviour 153:981-1003.
- 6. White-nose syndrome response team. (2019) White-nose syndrome response team. https://www.whitenosesyndrome.org/staticpage/what-is-white-nose-syndrome (1 July 2020).
- 7. Cryan PM (2003) Seasonal distribution of migratory tree bats (Lasiurus and Lasionycteris) in North America. Journal of Mammalogy 84:579-593.
- 8. Baerwald EF et al. (2014) Origins and migratory patterns of bats killed by wind turbines in southern Alberta: evidence from stable isotopes. *Ecosphere* 5:1-17.
- 9. Bernard, RF et al. (2015). Molecular detection of the causative agent of whitenose syndrome on Rafinesque's big-eared bats (Corynorhinus rafinesquii) and two species of migratory bats in the southeastern USA. Journal of Wildlife Diseases 51:519-522.
- 10. Barclay RMR et al. (2007) Variation in bat and bird fatalities at wind energy facilities: assessing the effects of rotor size and tower height. Canadian Journal of Zoology 85:381-387.
- 11. Frick WF et al. (2017) Fatalities at wind turbines may threaten population viability of a migratory bat. Biological Conservation 209:172-177.
- 12. Cryan PM et al. (2010). Wing pathology of white-nose syndrome in bats suggests life-threatening disruption of physiology. BMC Biology 8:135.

POETRY

Dawn Beat

A Downy Woodpecker draws my gaze with his rat-a-tat-tat, on a warped and weathered board of porosity fencing.

Clearly, he's found something worthwhile there. his red-capped head an indistinguishable blur as he applies his small, iron-hard bill to his work.

He drums a dizzyingly, rapid-fire staccato beat that Gene Krupa or Buddy Rich could only envy, animating and brightening the still, grey morning.

George Grassick

Box 205 Lumsden, SK SOG 3C0 ggrassick@sasktel.net

NATURE SASKATCHEWAN 2021 AGM & SPRING MEET

We are planning to hold the Annual General Meeting virtually on June 21, 2021 at 7 p.m. Details on how to participate, and documents for the meeting, will be sent to members via e-mail.

If you have not provided Nature Saskatchewan with an e-mail address and wish to participate, contact us at info@naturesask.ca or call our office at 1-800-667-4668.

Details will also be posted on the Nature Saskatchewan website. Please watch for updates.

Due to the ongoing COVID-19 pandemic, we have made the decision to move the 2021 Spring Meet online.

Please join us for a fun evening of nature trivia on June 15 at 7 p.m. Gather a team and see how much you really know about Nature Saskatchewan and this beautiful province.

On June 17 at 7 p.m., we invite members to an online photo sharing event. We want to hear about (and see!) the places that hold a special place in your heart and the exciting things that you have seen. Details will be posted to www.naturesask.ca and to our Facebook page at @NatureSask as they become available.



ARBOR DAY 2021: SHARE YOUR PHOTOS AND STORIES

Historically, Arbor Day was a day of celebrating nature and our relationship to it. The day was celebrated by cleaning up yards after the winter melt and planting trees to help support nature in our communities. It was a day observed by many schools, families and community groups. Over time, the focus fell away from Arbor Day and the day of celebration became a thing of the past.

That all changed in 2019 when the Yellowhead Flyway Birding Trail Association (TFBTA), an affiliate of Nature Saskatchewan, worked with the Government of Saskatchewan to once again have Arbor Day proclaimed. Last year was the first year that Arbor Day was officially back and celebrated. Despite the COVID-19 pandemic, Arbor Day will be celebrated in 2021 there are still lots of ways get involved.

During the week of **May 28 to June 6**, you are invited to share photos and stories of how your community and family are celebrating Arbor Week on Nature Saskatchewan's Facebook page.

Plant a tree, go for a hike, or simply enjoy nature in your home backyard!

Be sure to follow us on Facebook for more details on how to get involved.

LEAST CHIPMUNK FALL FORAGING OF THORNY BUFFALOBERRY AND SAGE ALONG THE RED DEER RIVER VALLEY, ALBERTA

D. (Tim) Schowalter
P.O. Box 202
Delia, AB TOJ 0W0
tim.schowalter@gmail.com

Lawrence D. Harder
Department of Biological Sciences
University of Calgary
Calgary, Alberta T2N 1N4
harder@ucalgary.ca

Ryan Wilkes 3715 37 St. NW Calgary, AB T2L 2J2 rwilkesmedia@gmail.com

Heather Blanchette 2-1727 10 Street SW Calgary, AB T2T 3E9 heatherblanchette13@gmail.com

The quick movements, upright posture while using front paws for eating, and rapid scampering about with raised tails make Least Chipmunks (*Neotamias minimus*) possibly the most charming of our small mammals. Those characteristics and that they rapidly become habituated to and approach people usually make them welcome visitors to campsites and yards.

Unlike many of our ground-dwelling squirrels, Least Chipmunks do not put on body fat before winter. Consequently, much of their fall activity focuses on gathering seeds for consumption over winter. These are carried in cheek pouches and usually stored in small caches or scatter hordes before being moved to an underground storage site. These animals are generally solitary, except during breeding and when raising young, and they actively discourage other chipmunks from invading their territory.¹

In Alberta and Saskatchewan, Least Chipmunks occur in wooded and partially wooded areas, including along prairie river valleys.¹ For example, they are found along the Red Deer River Valley and its tributary valleys well out onto the plains as far as Dinosaur Provincial Park.²

We observed Least Chipmunks in the Red Deer River Valley during September and October 2020 almost every day that we were watching for migrating birds of prey at the Orkney Viewpoint (approximately 17 km northwest of Drumheller or 90 km NE of Calgary, Alberta) and at Dry Island Buffalo Jump Provincial Park (approximately 65 km SE of Red Deer, Alberta) on 8 October 2020.

At the Orkney Viewpoint, we frequently saw individuals climbing and feeding on berries of Thorny Buffaloberry (*Shepherdia argentea*).

The same behaviour was seen on 8 October at Dry Island Buffalo Jump Provincial Park. Only when we looked at video of the animals feeding did we realize that they were sometimes eating the berries and at other times extracting the seeds and discarding the flesh of the berry.

We believe that the chipmunks that did not eat fruit flesh were harvesting the seeds for caching, as they quickly processed berries in succession. As well, seeds were sometimes visible at the corners of the mouths of the animals when they dropped the skin and pulp of the berry (Figure 1) rather than being taken into the mouth and chewed.

Selectively removing seeds from berries has been previously reported in North Dakota where a Least Chipmunk was observed feeding on seeds of Red Osier Dogwood (*Cornus*



FIGURE 1: A Least Chipmunk has removed seeds from a Thorny Buffaloberry berry at the Orkney Viewpoint northwest of Drumheller, Alberta. Arrows indicate seeds at the corner of the mouth (1) and a dropped processed berry in mid-air (2). Image extracted from a video.

stolonifera) after it removed and discarded the fleshy outer layer of the fruit.³ The 4 August date of that observation may make it too early for the animal to have been collecting seeds to cache for winter, as we believe the chipmunks we observed were doing.

On 14 October at the Orkney Viewpoint, we observed a chipmunk locate and open a scatter cache of what appeared to be a cake of dried Thorny Buffaloberry seeds. The animal held the mass of seeds to its mouth and rapidly broke it apart and loaded the seeds into its cheek pouches (Figure 2) which were noticeably distended when the animal departed.

We initially assumed that the mass of seeds was formed when freshly extracted seeds, which are coated with a somewhat sticky gelatinous layer, dried in storage. However, Least Chipmunks process seeds and then create a thick saliva-coated

cluster that hardens once expelled.4 The creation of the clusters may reduce pilferage of caches by other species. Lab experiments with hidden hardened clusters made by Least Chipmunks versus similarly hidden caches of loose seeds showed that the loose seeds were located and removed more frequently by Eastern Chipmunks (Tamias striatus).4

Although there are no Eastern Chipmunks at the Orkney Viewpoint, creation of the clusters could still reduce cache theft. Other Least Chipmunks and individuals of other species could also pilfer seed caches.⁵ Potentially, the three Least Chipmunks and Thirteenlined Ground Squirrel (Ictidomys tridecemlineatus) we observed at the viewpoint could remove any caches they found, as doubtless could any resident mice and voles.

We could not find any reference to Least Chipmunks eating Thorny Buffaloberry fruits and seeds.

However, they are known to consume a great variety of seeds and fruits. 6 That they take advantage of Thorny Buffaloberry fruits and seeds, which were abundant in fall 2020 along the Red Deer River, is not surprising.

At Dry Island Buffalo Jump Provincial Park on 8 October, a Least Chipmunk was seen harvesting Silver Sagebrush (Artemisia cana) seeds (Figure 3). Examination of video taken at the time shows that



FIGURE 2: A Least Chipmunk breaking up a solidified mass of what appeared to be Thorny Buffaloberry seeds and loading them into its cheek pouches on 14 October 2020 at the Orkney Viewpoint, Alberta.



FIGURE 3: A Least Chipmunk harvesting Silver Sage seeds in Dry Island Buffalo Jump Provincial Park, Alberta, 8 October 2020

the animal had cut the end of a stem with many seed heads and worked its way from the bottom to top while holding the stem with its front paws. It appeared to avoid the leaves and instead processed just the seed heads. Pieces of the seed heads were dropped and, presumably, the seeds had been extracted and chewed or stored in the cheek pouches. Later, on 14 October, we observed a chipmunk at the Orkney Viewpoint also harvesting sage seeds. Unfortunately, we did not get photographs of the behaviour there.

To our knowledge, harvest of Silver Sage seeds on the plant by small mammals has not been previously reported; however, the behavior could have been overlooked as many small mammals are nocturnal. While the impacts of seed predation and caching on plant recruitment has been well studied in desert environments⁷ the question seems to have received scant, if any, study in Alberta and Saskatchewan. Silver Sage is an important source

of food and provides nesting shelter for endangered Sage Grouse (*Centrocercus urophasianus*) in the two provinces.⁸ A future project would be to determine if Silver Sage seed harvesting by small mammals is common here. If that is the case, possible long-term consequences for the recruitment of Silver Sage plants in Sage Grouse habitats would be worthy of study.

We observed at least three Least Chipmunks at one time in close proximity at the Orkney Viewpoint. Two were seen to contact each other and remained close to each other for some time (Figure 4) on 5 October 2020. Although the species is typically territorial, individual females and males are known to occasionally hibernate together.9 The observed animals seem to have been juveniles in that they appear to have somewhat short faces and tails in the images, and they may have been littermates. Alternatively, they may be a mated pair or the great abundance of berries reduced

territorial responses which would usually cause the animals to remain separate.

We thank the Canadian Conservation Corps and the Town of Drumheller for support of Blanchette and Wilkes. Kneehill County gave permission for observations at the Orkney Viewpoint. Laraine Hess and Dale Hensley assisted with the observations at Dry Island Buffalo Jump Provincial Park.

- 1. Naughton D (2012) The natural history of Canadian mammals. Canadian Museum of Nature, University of Toronto Press. Toronto.
- 2. Smith HC (1993) Alberta mammals: An atlas and guide. Provincial Museum of Alberta, Edmonton.
- 3. Fox AC (1939) Little northern chipmunk eats dogwood berries. *Journal of Mammalogy* 20:256. https://doi.org/10.1093/jmammal/20.2.256a
- 4. Jenkins JR, Devenport LD (2014) Seed preparation diminishes cache loss in least chipmunks. *Journal of Mammalogy* 95:276-283. https://doi.org/10.1644/13-MAMM-A-123
- 5. Dittel JW, Perea R, Vander Wall SB (2017) Reciprocal pilfering in a seed-caching rodent community: implications for species coexistence. *Behavioral Ecology and Sociobiology* 71:147. doi:10.1007/s00265-017-2375-4
- 6. Verts BJ, Carraway LN (2001) *Tamias minimus. Mammalian Species,* 653, 1–10. American Society of Mammalogists. https://academic.oup.com/mspecies/article/doi/10.2307/0.653.1/2600782
- 7. Curtin CG, Kelt DA, Frey TC, Brown JH (2000) On the role of small mammals in mediating climatically driven vegetation change. *Ecology Letters* 3:309–317. https://doi.org/10.1046/j.1461-0248.2000.00166.x
- 8. Aldridge CL, Brigham RM (2002) Sage-Grouse Nesting and Brood Habitat Use in Southern Canada. *The Journal of Wildlife Management* 66:433-444. doi:10.2307/3803176
- 9. Locker S (2006) Space use and home range overlap of Least Chipmunks in the Laramie Range. Honors Thesis University of Wyoming, Laramie WY. https://hdl.handle.net/20.500.11919/1309



FIGURE 4: Two Least Chipmunks, possibly juvenile littermates, in proximity at the Orkney Viewpoint northwest of Drumheller 5 October 2020. The close association is unusual, as the animals are generally considered to be intolerant of one another. The great abundance of berries may have lessened territorial behaviour.





Help us protect Saskatchewan's ecosystems and wildlife.

Name(s):		
Address:	City:	
Province: Postal Code	e: Pĥo	ne:
E-mail:		
	subscribe to all electronic communi	cations? Yes 🗆
ž	ou like to receive our e-newsletter? `	
*The e-newsletter is sent out via email monthly.	There is an option to unsubscribe included in ea	ch newsletter and is available anytime.
1 I wish to en	roll/renew my annual me	mhershin
	n on a calendar of January 1st	
	Print Version	Electronic Version
Individual	\$40	\$25
Family	\$45	\$30
Student	\$35	\$25
Senior 65+	\$35	\$25
Foreign/Outside Canada	\$60	\$30
Institution/Business (CDN)	\$60	\$30
*I would like to purchase a <i>Li</i> . □ Print	fe Membership (You will receive a tax OR □ Elec	
2. I wish to make a one	time tax-deductible don	ation in support of:
General Programs	Last Mountain Bird Obs	ervatory
Scholarship Fund	Stewards of Saskatchew	ran Programs (OBO/SFS/POS/RPR)
☐ Nature Sanctuaries	☐ Important Bird and Biod	liversity Area Program
3. I wish to become a mon (Income tax receipts are issued an	thly donor by joining the nually — please provide credit card	Nature Savings Plan: information or void cheque)
A	mount: \$/month	
N 0	Fee Totals	
Nature Sa	skatchewan Annual Members Donation	nip \$ \$
	Donation	Φ
	Total	. \$
□ Cheque (payable to Nature Saskatchewan)	□Visa □	MasterCard □ Cash
Card # / / / / / / / /	Expiry: / Signature:	CVC#:

Become a member or donate online @ www.naturesask.ca/support

NATURE SASKATCHEWAN AWARDS:

Each year at the Fall Meet, Nature Saskatchewan recognizes outstanding service and contributions that Society members, and/or affiliate and partner organizations have made towards Nature Saskatchewan's objectives and goals.

Clear criteria have been established in terms of purpose, eligibility, and nomination procedure. This year, we are seeking nominations for three classes of awards – **Volunteer Recognition Award, Fellows Award, and Conservation Award.**

The Volunteer Recognition Award and Conservation Award can be conferred on the same individual or organization more than once.

The Cliff Shaw Award will also be presented at the Fall Meet. The recipient is chosen by the *Blue Jay* editor.

Local societies throughout Saskatchewan play an important role in furthering conservation and appreciation of nature at the local level. There are always those who step up to the plate to organize meetings and outings, go the extra mile to help others connect with nature, or work silently and tirelessly behind the scenes. It's time those contributions were recognized. We encourage anyone from a local society to consider nominating someone from your local group who is a Nature Saskatchewan member and who deserves recognition for any of these awards. Note that nominees for the Volunteer Recognition Award and Fellows Award must hold a current membership with Nature Saskatchewan.

Nomination Procedure

The nomination procedure is the same for all three awards. The criteria and names of past recipients can be found on the website at www.naturesask.ca/what-we-do/awards. The office can also send a copy by mail, if requested.

- Nominations can be made by Nature Saskatchewan members, directors, and staff. Local societies should consider nominating someone from their local group.
- Self-nominations will not be accepted.
- Nominations are to be made in writing and submitted by the published deadline.
- Nominations are to include the following information: the nominee's name, address, and phone number; the nominator's name and contact information; details of the nominee's efforts.
- The Awards Committee will independently rate the nominations, and confirm that the nominee holds a current membership with Nature Saskatchewan.
- Chairperson of the Awards Committee will bring the recommendations to the Board.
- If ratified, the President or his/her delegate shall confer the respective Awards to the recipients at the Fall Meet.

The deadline to submit nominations for awards is August 27, 2021.

All Nature Saskatchewan Awards consist of the following:

- The announcement of the recipient's name at the Fall Meet.
- The presentation of a certificate recognizing the contribution.
- An announcement in *Blue Jay* recognizing the distinction.

VOLUNTEER RECOGNITION AWARD

This award was created in 1996 to acknowledge an individual Nature Saskatchewan member who has devoted significant time and energy to promoting the objectives of the Society, including contributions made at the local society level. Priority for this award will be given to a Nature Saskatchewan member whose volunteer work has helped to enhance the public awareness of the Society (this may include contributions to a Society conservation project or program). It may be appropriate in some years to have this award shared by more than one person, if they have worked together on the same project, or on closely related projects.

Eligibility

Nature Saskatchewan members who have provided valuable time and effort in contributing to the Society are eligible. Local societies are encouraged to nominate someone from their local group who is a Nature Saskatchewan member, recognizing that Nature Saskatchewan values their contributions to the overall goals of the Society. The nominee must be a current member of Nature Saskatchewan. This award can be conferred on the same person more than once.

CALL FOR NOMINATIONS

FELLOWS AWARD

A motion was passed at the 1987 Annual General Meeting creating a new class of honorary membership entitled "Fellows of the Saskatchewan Natural History Society". This award recognizes an extensive and continuing contribution of time over many years to the Society and its objectives. Up to five recipients may be chosen annually. Once selected, Fellows hold that title as long as they remain members of the Society. It is the highest honour the Society can bestow upon a member.

Eligibility

Eligible individuals are members of Nature Saskatchewan who have provided an outstanding time and work contribution to the Society over many years. These contributions have been significant, and may have come in the form of leadership, communication, authorship, social media outreach, research, and other areas. The contributions have been cumulative or ongoing, and represent long-standing service or commitment to Nature Saskatchewan and its objectives.

CONSERVATION **AWARD**

In addition to advocacy and other forms of conservation action, it is important that Nature Saskatchewan recognize, as it has done since 1953, those both within and beyond the organization who have done "meritorious work in the interest of conservation in Saskatchewan."

Nature Saskatchewan's Conservation Award will be presented to an individual or organization whose total contribution to conservation is outstanding, whether in relation to a particular project or in a number of roles over a period of years

Eligibility

Individuals, affiliate and/or partner organizations, not-for-profit associations, institutions, community groups, businesses, government and non-government organizations that have contributed significantly to conservation in Saskatchewan.

This award can be conferred on the same individual or organization more than once.

CALL FOR RESOLUTIONS

The resolutions considered during the Business Meeting at each year's Fall Meet are important expressions of member concerns on environmental issues. The Nature Saskatchewan Board of Directors is responsible for acting on all resolutions that are passed by the members. This includes sending resolutions directly to the responsible government ministry and pursuing further action and/or meetings with government and others, as deemed appropriate.

Anyone wishing to submit a resolution for consideration at the 2021 Business Meeting, to be held on Saturday, September 25, 2021 is asked to send a written draft to the Nature Saskatchewan office (info@naturesask.ca) no later than Friday, August 13. This provides an opportunity to receive feedback from members of the resolutions committee that can help to improve your resolution. It also helps us prepare for the meeting. Please note that resolutions not submitted to the Nature Saskatchewan office by 5 p.m. on Friday, September 10 will be considered only with the agreement of a twothirds majority of those attending the business meeting.

LICHENS

- luxurious
- intriguing curiosities
- colorful and crusty
- **h**ardy growths
- ever stoic
- **n**atures art
- silently display

POETRY

Brian K Jeffery

5800 - 4th Avenue Regina, SK S4T 0K3

Resolution Guidelines:

- 1. Resolutions must be in keeping with the Society's mandate, bylaws and goals.
- 2. All resolutions must be submitted in writing.
- 3. A resolution is, essentially, an exercise in communication. Simple, clear language and focus on one topic or issue is most effective.
- 4. Supporting information presented in "Whereas" statements must be accurate and factual.
- 5. Resolutions should be no longer than one page, and preferably less.



Brightsand Lake, Saskatchewan. All photos courtesy of Kaytlyn Burrows.

HUMAN NATURE

Kaytlyn Burrows Regina, SK

My love for Saskatchewan runs deep. I was born and raised in Regina but I love to explore around me any chance I can get. I luckily met a handsome man who loves it as much as I do, so my husband (Ryan) and I, and our dog Clooney, love to venture out to different places to visit and explore, no matter the season! We enjoy doing day trips to various public lands for a couple hours of hiking, driving out to nearby towns such as Ogema, SK for some delicious homemade pizza from Solo Italia, or just going for long walks in our neighbourhood and in A.E. Wilson park (our most favorite park in the city!).

Everywhere we go, we watch for all different types of flora and fauna. Some of our more notable sightings include a pair of Burrowing Owls, Bald and Golden Eagles, Mountain Bluebirds, a Moose wandering into our campsite at night for a veggie snack, and, of course, the race to find the first crocus of the year (I always win!).

Ryan and I also love to camp specifically tenting! I think we like to think of ourselves as tough and outdoorsy because we can survive camping in a tent, but even in a tent it's still pretty luxurious! We have a long list of places that we would like to visit and camp and we are slowly marking a few off the list. We have camped at Cypress Hills Interprovincial Park, Douglas Provincial Park, and Kipabiskau Regional Park, just to name a few!

More recently, we decided to venture a bit further north and we spent a week tenting at Brightsand Lake Regional Park, which is just east of St. Walburg, SK. We packed our car, with Clooney finding just enough room in the backseat to lie down, and off we went for the six-hour drive. When we arrived at Brightsand, we were thrilled to discover what a hidden gem we had stumbled across. Our campsite was just across from the beautiful, crystal clear waters of Brightsand Lake and there were numerous hiking trails throughout the forest. We made sure to walk every inch of them.

We walked through the cabin area of the park and daydreamed about having our own cabin like that someday. The local general store offered hot food and ice cream and I made it my goal to have ice cream at least once a day. I'm happy to tell you that I achieved that goal with ease! The local people were very friendly and made us feel welcome and safe during our one-week stay. I really can't say enough good things about the park. I encourage anyone who has some free time to make their way to Brightsand



Kaytlyn and Ryan at Solo Italia in Ogema, SK



Clooney enjoying a break from hiking

Lake Regional Park — you certainly will not be disappointed.

You really don't need to go far to discover how beautiful and magical Saskatchewan is. The variety of landscapes, flora and fauna provide a never-ending learning opportunity. I have always been one of Saskatchewan's biggest fans and I hope I can inspire others to dig a little deeper and go check out some of the hidden gems we have right here in our home province.

Now go on and get out there!

MYSTERY PHOTO



Spring 2021 (top left)

ANSWER: The Spring 2021 Mystery Photo showed the body of a Gray Partridge. These game birds can be found eating seeds in agricultural fields and grasslands. Also called "Hungarian Partridges" or "Huns" by hunters, the birds forage together in small groups called coveys and were introduced to North America, from Europe, in the early 1900s.



Photo credit: Annie McLeod.

Summer 2021 (bottom left)

QUESTION: This plant is innocent looking when young and rather striking in flower; but when it is in seed the structure that leads to its success, and causes problems for others, becomes obvious. What plant is this?

Please send your answers to the Blue Jay editor, Annie McLeod, by email at bluejay@naturesask.ca or by letter mail (address on page 4). Those with correct answers will be entered into a draw for a prize from Nature Saskatchewan.

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. \angle

Photo credit: Gord Hammell.



Nature SASKATCHEWAN

> 206 – 1860 Lorne Street Regina, SK S4P 2L7



