



SPRING 2023 VOLUME 81.1

BLUE JAY





In August 2022, Doug Macaulay discovered and photographed an adult antlion in the Great Sand Hills of Saskatchewan. The insect was later confirmed as a Black-lipped Antlion (*Scotoleon nigrilabris*) — a new species for Canada.



Philip S. Taylor details important records of 23 species of birds encountered in Saskatchewan to December 31, 2022. This follows his previous article of important records to December 31, 2021 (*Blue Jay* 80.3), which expanded on *Birds of Saskatchewan*, published in 2019.



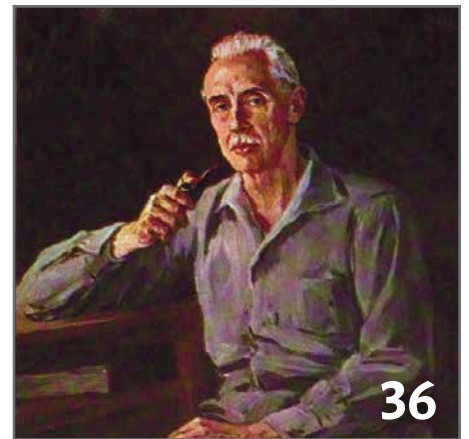
Redberry Lake Biosphere Reserve (RLBR) was designated by UNESCO in 2000 as the only protected area of this type in Saskatchewan. The results of a recent study of rare vascular plants of RLBR have substantially enlarged the number of species known in the area, as well as their occurrences. Ten out of 18 rare plants were identified as new for the biosphere reserve.



The Yellowhead Flyway Birding Trail Association's Loon Initiatives Committee conducted its annual survey at Madge Lake over the spring and summer months of 2022. See page 26 for the results.



Ed Rodger provides a review of the 2022 publication *The Ecological Buffalo: On the Trail of a Keystone Species* by Wes Olson and Johane Janelle.



Robert E. Wrigley shares an overview of the life and works of the relatively unknown bird-portrait artist Rex Brasher.

WHAT'S INSIDE

- 5 Black-lipped Antlion from the Great Sand Hills of Saskatchewan: A New Species for Canada**
Doug Macaulay, P.Biol.
- 6 New and Notable Records of Saskatchewan Birds: 2022**
Philip S. Taylor
- 18 The Nature Notebook: The Time to Plan is Now!**
Jared Clarke
- 19 New Rare Vascular Plants for Redberry Lake Biosphere Reserve**
Vladimir Kricsfalusy

- 24 Poetry**
Brian K Jeffery
- 25 A Fond Farewell to Our Team Member & Friend (and a brief census update!)**
Kaytlyn Burrows
- 25 Staffing Changes at Nature Saskatchewan**
- 26 2022 Loon Initiatives Report: Madge Lake, Duck Mountain Provincial Park**
Doug Welykholowa
- 30 Book Review: Chasing Nature: An Ecologist's Lifetime of Adventures and Observations**
Joel Cherry

- 32 Remembering Myia Tovee and Sharing Her Connection to Nature**
Lacey Weekes
- 33 The Inequity of "Balance"**
Lorne Fitch, P. Biol.
- 34 Book Review: The Ecological Buffalo: On the Trail of a Keystone Species**
Ed Rodger
- 36 Rex Brasher: Phenomenal Painter of Birds**
Robert E. Wrigley
- 38 Human Nature: McBride Lake**
James Dahl
- 39 Mystery Photo**

FROM THE PRESIDENT

Ken Ludwig

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As Nature Saskatchewan is a membership-based organization, it is important for us to connect in some way with our members whenever we are deliberating fundamental things as our direction or character. I shared the following update at the Fall Meet held at Madge Lake in September 2022, and repeat it here to ensure that all members are aware.

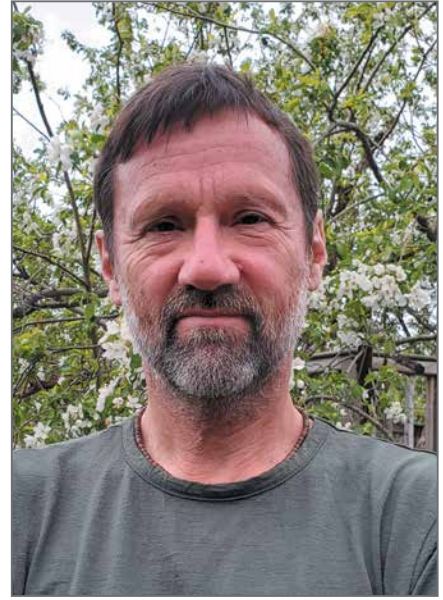
It is good practice for every organization to have, in addition to a vision and mission (a clear collective sense of why it exists and what it is working toward), an identified set of core values that define how that organization wishes to work and how it wishes those within the organization to work.

Values form the basis of a group or organization's culture, which become a good part of what it is known for, and what attracts (or doesn't attract) people to the organization.

Through our strategic planning process and other discussions last year, we recognized that Nature Saskatchewan as an organization had not focused on its values and culture for some time. As such, the Board and staff undertook an exercise to re-articulate our core values this past spring and summer.

Through our discussions, we determined that we value Openness and Learning in our work together. We want to demonstrate this by ensuring effective, two-way communication at all levels; by having open, clear and collaborative processes for what we do; and by engaging in continuous, mutual and open-minded learning.

We also value Cooperation, both among ourselves and with others. This means that we place a priority on functioning in a collaborative and supportive team



Ken Ludwig

environment internally, while building relationships and working through partnerships externally. It also means that we want to develop respectful and inclusive relationships in all of our activities at all levels.

Nature Saskatchewan also values Dedication. We want to demonstrate passion for the cause of conserving nature, and a commitment to sound science. We want to demonstrate integrity in all of our words and actions. And we want to ensure that we follow best organizational practices and standards in a context of continuous improvement.

Of course, articulating our core values is only the start. We now have to work diligently to ensure that we reflect these values in everything we do, and at every level. In other words, that they are part of who we are.

We are always open to input from our Nature Saskatchewan members, whether through our member surveys, the member forums at our spring and fall meets, our website, or through contact with the office. 🐦



ON THE FRONT COVER

A Mountain Bluebird perched in front of her sandstone nest cavity, on a mid-June evening, south of Admiral, Saskatchewan.

Photo credit: Randy McCulloch.



ON THE BACK COVER

A Tree Swallow takes a peek outside of its nest box in the Qu'Appelle Valley.

Photo credit: Annie McLeod.



BLUE JAY

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

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BLACK-LIPPED ANTLION FROM THE GREAT SAND HILLS OF SASKATCHEWAN: A NEW SPECIES FOR CANADA

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On a recent summer adventure with my youngest children, Kael and Calliopee, we visited the awe-inspiring entomological oasis, the Great Sand Hills of Saskatchewan (Figure 1). It is a mandatory stop anytime I

travel through the area.

During our August 2022 adventure, I had an opportunity to conduct some sampling for moths for the Lepidoptera of Saskatchewan project that myself and a few other enthusiasts are working on. Though my primary interest is moths, I'm always fascinated with everything that walks and crawls, so I snapped a photo

of an adult antlion from one of my traps (Figure 2). Not thinking much of it, but always curious, I decided to upload the photo to iNaturalist. To my amazement, one of the world experts on the antlion family Myrmeleonidae, Leon Tavares (a PHD student in Brazil) identified it as the Black-lipped Antlion (*Scotoleon nigrilabris*) with the comment "It's incredible that this species can really reach this far north, amazing."

Being really curious, my colleague Greg Pohl and I reached out to Canadian expert David Blades of the Royal British Columbia Museum, who recently published the *Neuroptera of Canada* in 2019. Though he agreed with the identification, he thought we'd better check with another expert, John D. Oswald with the University of Texas. John asked for a few more photos, so luckily I had the specimen and was able to take shots of the head and of the labrum (the upper lip). He wanted to see if the labrum was black, because as the species name suggests, this is a key feature that distinguishes it from other similar antlions. Sure enough it was black and thus the specimen was confirmed as a Black-lipped Antlion, a new species for Canada.

Finding this new species further emphasizes how little we know about Canadian fauna and how many new discoveries are still out there. In fact, online tools and phone apps like iNaturalist are proving their weight in gold as they connect folks like myself, and others, with global experts who can help identify new and interesting finds.

To learn more about this specimen, or the Lepidoptera of Saskatchewan project, visit the following webpages:

<https://www.inaturalist.org/observations/131972222>

<https://www.inaturalist.org/projects/lepidoptera-of-saskatchewan>


1. Blades DCA (2019) *Neuroptera of Canada*. In: Langor DW, Sheffield CS (Eds) *The Biota of Canada – A Biodiversity Assessment. Part 1: The Terrestrial Arthropods*. ZooKeys 819: 387-392. <https://doi.org/10.3897/zookeys.819.26683> 



FIGURE 1. Kael and Calliopee Macaulay exploring the Great Sandhills of Saskatchewan. Photo credit: Doug Macaulay.



FIGURE 2. Black-lipped Antlion (*Scotoleon nigrilabris*). Photo credit: Doug Macaulay.

NEW AND NOTABLE RECORDS OF SASKATCHEWAN BIRDS: 2022

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The encyclopedic *Birds of Saskatchewan (BofSk)*¹, published in 2019, compiled all historic and contemporary information on birds of the province reported over a 200-year period, up to 31 December 2016. Following this, new records and information for more than 27 species of birds were presented by Philip Taylor to update and clarify changes in their status in the province, to 31 December 2021.²

This article includes important records of 23 species of birds encountered in Saskatchewan to 31 December 2022, in order of discovery. Detailed information updates the status of the following birds: one *new* species for Saskatchewan (Costa's Hummingbird); one hypothetical species confirmed and upgraded to *accidental* (Ivory Gull); four *accidentals* (Northern Pygmy-Owl, Hooded Warbler [two records], Green-tailed Towhee, Eurasian Tree Sparrow [two records]); and five *stragglers* (Red-bellied Woodpecker, Scissor-tailed Flycatcher, Wood Thrush, Pine Warbler, Summer Tanager). No birds were added to the provincial list of hypothetical species.

The Saskatchewan Breeding Bird Atlas project ended as of December 2021. As a result, some notable records with evidence of successful breeding or territorial behaviour are discussed (Trumpeter Swan, Black-necked Stilt, Eastern Whip-poor-will, Western/Cordilleran Flycatcher, Pacific Wren).

Accepted COSEWIC changes to the status of birds in Saskatchewan current to summer 2022 are presented. Addenda and errata to the *BofSk* and Taylor are included.

Changes to a bird's status require satisfactory documentation that has been carefully verified by a number of experienced birders. This follows the principles used in the *BofSk* and

Taylor's first update to 2021: *confirmed* species have photographs, videos, audio recordings, or specimen documentation; *hypothetical* species lack such documentation even if seen by more than one observer; *accidental* species have 10 or fewer records in the province; *straggler* species have 11 to 30 confirmed records. Once a species has been recorded 31 or more times, it is considered a regular part of Saskatchewan's avifauna and is generally beyond the scope of this article, except for a few notable instances.

Nature Saskatchewan houses the complete list of rare birds for Saskatchewan, which provided the database used in writing the *BofSk*. It is inevitable that some important bird sightings were missed and not included in this article. Anyone knowing of such sightings is encouraged to pass the details on to Nature Saskatchewan or submit the confirmed records to eBird.

The Records

Tundra Bean-Goose (*Anser serrirostris*): an update. Remarkably, a bean-goose believed to be the same individual seen in Regina in the winter of 2019-20 was photographed at several different localities in eastern North America during its following, second and third, autumn and spring migrations in North America: "based on the coloration of the bill, it is probably the same individual that visited Saskatchewan in winter 2019, Ontario [14 to 19 November 2020 'Nolan Quarry, Prescott and Russell', in the company of medium sized Canada Geese] and Quebec in fall 2020 [8 November 2020 Gatineau, with Canada Geese], Pennsylvania in winter 2020-2021 [17 December 2020 to 2 May 2021, with medium sized Canada Geese], and New York in spring 2021" and southern Quebec [4 November to 5 December 2021, with Greater Snow Geese].³ The last sighting was of the bird photographed on 15 May 2022 at Cap Tourmente National Wildlife Area,

Quebec (with Greater Snow Geese). Dates and goose associations sourced on eBird and Cornell's Macaulay Library of photographs.

Eastern Whip-poor-will (*Antrostomus vociferus*): two records. I learned of a previously unreported whip-poor-will from Jan Lake on the evenings of 28, 29, and 30 June 2017. Recordings of the calling bird were made by Leanne Loran, allowing PS Taylor to confirm the identification.

Status: possible extension of summer (and breeding?) range. This location is at least 100 km north of previous records for the species around Cumberland House, which is believed to be part of the core range in the province.¹ **Remarks:** photographs (Figure 1) were taken from the area the Loran family "thought the call might have come from. This area is a high, rocky ridge a bit north of the [cottage] development with birch, various evergreen trees, raspberry, blueberry, Labrador tea and juniper bushes, mosses and lichens" (J. Loran pers. comm. 24 July 2022).

Three calling birds were also encountered on the night of 12 July 2022 by Vicki St Germaine: "heard at 1245 and 0100" along "Highway 123, EB Campbell Dam to Km 50", "between

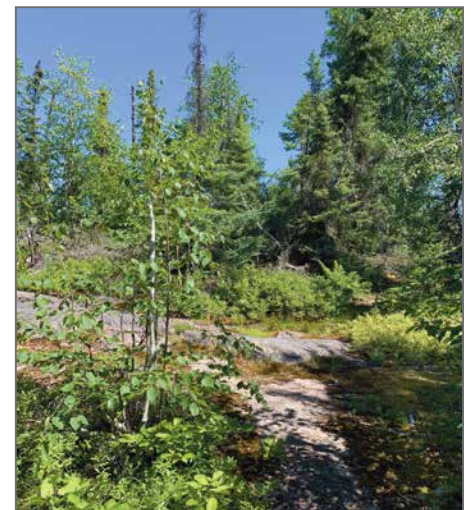


FIGURE 1. The area in which the Loran family heard an Eastern Whip-poor-will calling during June 2017. Photo credit: Janet Loran.

Dragline and Sipanok Channels, at three locations” and recordings were made (eBird S114982008). Remarks: these 2022 records are in an area traditionally used by this nightjar, but their numbers have evidently declined compared to 23 June 1989 when Bob Luterbach located 20 birds in the same vicinity.¹

Eastern Whip-poor-will is listed as Threatened under Canada’s *Species at Risk Act*.

Red-bellied Woodpecker (*Melanerpes carolinus*): six records, all single birds. A male on 16 October (Debbie Young eBird S39967781) and again on 27 October 2017 (Vicki St Germaine eBird S40209454) at Tobin Lake; a male on 9 November 2017 (Craig Salisbury eBird S54032642) to 3 December 2017 (Nick Saunders eBird S40892315) in Saskatoon; a female on 15 June 2019 east of Bergheim north east of Saskatoon (Bob Godwin eBird S57414006); a female from 16 to 18 October 2019 in Val Marie (Bruce Di Labio eBird S60679427, S60726682); a long staying male from 5 October 2021 to 7 January 2022 in Watrous found by Sharlane Toole (seen by many observers eBird S95643834 to S100286955); and another long staying male, seen by many observers, was first reported in Regina on 9 October 2022 by Susan MacDonald in Whitmore Park, where it visited several different yards in the neighbourhood and continued to be seen at least into the last week of December 2022 (eBird S120366256 to S124860950). **Status:** these six birds bring the total to 23 records for the province; the first was seen in May 1959.¹ **Straggler.** **Remarks:** this species is being reported with increasing frequency in the province as it expands its range north and west. All but one of these six records occurred in late fall and winter when they are attracted to bird feeders and are most easily observed.

Pacific Wren (*Troglodytes pacificus*): three records. On 11 July 2020 Stan Shadick made several recordings of Pacific Wren songs, suggesting “perhaps more than 1 individual was present in this area” (eBird S71582505 ML249992611 & 2731) at Fort Walsh National Historic Site,

Cypress Hills. Shadick, with the help of John Patterson, was careful to confirm that the sonograms matched Pacific Wren (PAWR), not Winter Wren. PAWRs were heard in the same location in 2020 by Vicki St Germaine on 19 July (eBird S71642387; ML250621731) and Richard Klauke (eBird S71794178) on 20 July. **Status:** rare and very locally distributed in the Cypress Hills. Breeding. Several winter records suggest it is a year-round resident.¹ **Remarks:** this small wren was first detected in Saskatchewan in 1988, then confirmed as PAWR in 2015. Breeding was inferred in 2011 then confirmed in 2014.¹ See the account in *BofSk* for details of this fascinating bird and its discovery in the province. Single PAWRs have been reported near Elkwater, on the Alberta side of the Cypress Hills Interprovincial Park in June 2020, June and July 2021, and June 2022 (eBird).

Northern Mockingbird (*Mimus polyglottos*): in the summer of 2021, between 10 and 28 May, Orval and Beverly Beland saw and heard a mockingbird at their home 6.5 km south of Denholm. In 2022, on at least seven nights between 6 and 22 June, they again heard a mockingbird singing in the early hours of the morning in their yard: 01:15 hr to 03:30 hr. On 6 June 2022, the Belands’ neighbours, Janice and Mitchell Mazurek, told them about “a new bird that ... sang often over the following weeks during the day” in their home farmyard on the bank of the North Saskatchewan River, about 8 km south of Denholm. Photographs confirmed its identity (O. Beland pers. comm. 9 December 2022). **Status:** an irregular summer visitor and rare breeder in the province.¹ **Remarks:** finding presumably the same mockingbird in a location in the province in two successive years is unusual and suggests it might be the same individual. Intriguingly, why did it apparently sing in the day at one location and at night in another? Derrickson states that mockingbird “songs sung at night were presented in a manner most similar to the period before a female arrived on a male’s territory. Interestingly, under natural lighting conditions, only unmated males sang extensively at night.”⁴

Hooded Warbler (*Setophaga citrina*): on 28 and 29 April 2022 Morley and Paula Maier saw a striking male in full breeding plumage (Figure 2) at their farm, 10 km south of Yorkton. On both days, it was seen in the late afternoon: 17:00 to 18:00 h approx. Excellent photographs document the two encounters (first posted on Sask Birders Facebook group 28 April, fide G. Wapple). **Status:** the eighth record for the province. Accidental. **Remarks:** the bird was restless and very active, spending considerable time on the ground. Fortunately, it was not shy and was carefully observed for nearly an hour each day. This is the earliest date the species has been recorded in the province. Several days of southeasterly winds preceded this bird’s appearance. Five of our eight records for this warbler have occurred in the spring (28 April to 9 June); apparently these represent migrants overshooting their normal breeding range in eastern North America. There, Hooded Warblers are a fairly common summer resident choosing shrubby thickets within moist woodlands for nesting. It reaches the northern limits of its breeding range in southwestern Ontario’s Carolinian ecoregion where it is uncommon, although in recent years it has shown some increases in distribution and numbers.⁵ Hooded Warbler is a Threatened Species listed under Canada’s Species at Risk legislation.



FIGURE 2. On 28 and 29 April 2022, Morley and Paula Maier observed a striking male Hooded Warbler in full breeding plumage at their farm, 10 km south of Yorkton. Photo credit: Morley and Paula Maier.

Wood Thrush (*Hylocichla mustelina*): two records. On 17 May 2022 Philip and Margot Taylor watched a single bird for 20 minutes between 09:00 and 09:35 h in their backyard in Saskatoon (eBird S1105051620); five photos were submitted (ML#450054201, 4211, 4221, 4241, 4301). It was also seen briefly by Greg Hutchings (a neighbour) during the same period, although a search with Stan Shadick later that morning was unsuccessful in locating the bird. This is only the second record since the *BofSk* cut-off date of December 2016.¹ The 25th record for the province was a bird heard in Cosmopolitan Park, Saskatoon (Nick Saunders 21 May 2020; eBird S69425964; ML237298311). **Status:** 25th and 26th records add to the 24 records to December 2016 in *BofSk*.¹ **Straggler.** **Remarks:** this species has been seen in scattered locations across the southeastern part of the province, including several from Saskatoon, but it is a sporadic and irregular visitor. Wood Thrush is a Threatened species listed under Canada's *Species at Risk Act*.

Summer Tanager (*Piranga rubra*): six records. A single bird with red feathering on its face by Darleen Duce on 19 May 2022 at an acreage north of Estevan (eBird S110783013; ML451255781); a second bird with red face and upper breast was first heard by Trevor Herriot on 29 May 2022 in Lakeview, Regina (eBird S111610830), then was seen by many observers and photographed (Figure 3) (Christopher Harris, eBird S111610904; ML454487141). Four additional sightings: Forestry Farm in Saskatoon (Nick Saunders and Dan Giesbrecht 26 May 2017, eBird S37161774); Condie north of Regina (Laurie Koepke 15 May 2017, eBird S36901320); Morse (Joel Priebe 23 May 2020, eBird S69544122); 13km south of Wilcox (Laurie Koepke 17 October 2020, eBird S74997922). **Status:** straggler. **Remarks:** these six records, posted on eBird after *BofSk* was published, fit the known pattern of records and bring the total to a minimum of 28 sightings reported for the province.



FIGURE 3. A Summer Tanager, first heard by Trevor Herriot on 29 May 2022, and then seen and photographed by others. Photo credit: Christopher Harris.

Green-tailed Towhee (*Pipilo chlorurus*): in the morning of 23 May 2022 Alyson Melenchuk discovered an adult on the ground and at a feeder in her Regina backyard in Windsor Park (eBird S111103145); she posted videos of the bird on YouTube as “Sask Birder”: <https://youtu.be/d6jxALn92s> and <https://youtu.be/DO5tVgd48AU>. The following morning, 24 May, the bird was seen by Dan Sawatzky, Annie McLeod, Christopher Harris, and Fran Kerbs (eBird S111187327, S111207926, S111189052); it was photographed (Figure 4) at the same location as it scratched and fed on the ground, near shrubs below the feeder (ML452925101, 5161). **Status:** the seventh record for the province. **Accidental.** **Remarks:** five of the province's records have occurred between 15 May and 6 June



FIGURE 4. A Green-tailed Towhee was discovered by Alyson Melenchuk, in her backyard in Regina, on 23 May 2022 and observed by others on 24 May. Photo credit: Annie McLeod.

during their spring migration, having overshot their known breeding range that extends northward to south central and western Montana. The Green-tailed Towhee could attempt to nest in shrubby thickets in the southern part of the province, including riparian areas, coulees, and the Cypress Hills. However, its retiring nature, and subdued colours that help it blend with the surrounding leaf litter and tangled branches near the ground, may make it difficult to detect.

Cordilleran Flycatcher (*Empidonax occidentalis*) part of the “Western Flycatcher complex”: probably two breeding locations. These flycatchers were seen by multiple observers in 2022 between 29 May and 29 July in the Cypress Hills Interprovincial Park (CHIP), Saskatchewan. The map location feature in eBird gives two clusters of sightings about 2.5 km from each other: one along West Benson Trail (WBT 49.6114, -109.9539) and the other along Battle Creek Road (BCR 49.6283, -109.9797). Evidence of territorial behaviour, vocalizations, and nest building suggest breeding may have been attempted at both sites in 2022, though they remained unconfirmed.

WBT records: on 29 May 2022 David Bell and Liam Singh photographed and recorded vocalizations of a single bird along the WBT (eBird S111747979 and 7981; eight excellent photos ML455688651 to 88781 plus one audio file ML455688871). See discussion in ‘Remarks’ below. This was the same location where birds were reported in 2020 (Dan Sawatzky eBird S71350658 and several other birders) and 2021. In 2022, single birds were seen in this area by: Scott Olshanoski on 1 June (eBird S111916443); Annie McLeod took photographs on 11 June (eBird S112883753; ML459239231); Dan Tyson on 13 June who heard a “male giving distinct upslurred *we SEET* call and also observed at one point holding what looked like a fine rootlet or twig. Second bird heard calling just upstream, probably the female giving a high short *tsip* call” (eBird S114159460); Keith Miles heard one bird making seep calls along the

trail (eBird S113993204); and on 18 June Kale Worman watched a single bird “as it gathered sticks and moss and delivered them back too [sic] its nest. Not singing, only making *seep* calls” (eBird S113196739; ML460461351) (Figure 5).

BCR records: Stan Shadick reported, on his 13 June 2022 sighting, “known location from 2020-2022 ... making *See-ip* [position note] calls, yellowish undersides [seen on one bird ... at one time, 2 birds were fighting (?) in trees above us. Possible 3rd individual in area. Did not seem to be flying to any nest site [on the observable creek bank] yet. Perhaps will nest later in season” (eBird S112916582; and pers comm). Vicki St Germaine on 14 June (eBird S112938739) heard one bird give “two position calls, several minutes apart ...” but it did not show itself because of the poor weather conditions. Sharlane Toole posted a photo, dated 17 June, of a single flycatcher perched on a root, against the creek cutbank (ML461567891). On 18 June at 08:30 h, Glenda Slessor and Bob Curry saw two birds (eBird S113638479, S113637934; ML461998881 plus four other excellent photos) reporting “the male sang and called. Diagnostic second upsurred note.”; on 22 June at 08:34 hr B. L. Di Labio saw one bird calling; Keith Miles watched one bird on 28 June, “making *seep* calls” (eBird S113993204); on 28 June Makail Johannesson also saw and heard one bird (eBird S114065948); on 2 July Katelyn Luff heard one, possibly a second, along the road and recorded its distinctive call. The sonogram shows a sinusoidal call (eBird S114249546, ML464329921); on 10 July Michelle Schreder photographed two birds at the site (eBird S114831390) [no photos accompanied this post]; on 14 July one bird was heard by Lorna Aynbinder and Alan Knowles, and recordings were made but not included in post (eBird S115052694, S115052695), and Robert Baumander (eBird S115068022) who stated the “*pee-ist* call matched [the] recording of the bird”; and on 24 July John Lundgren saw two flycatchers and recorded calls of one, with sinusoidal shaped [audio] spectrograms (eBird S115667921; ML469684171), then saw a single bird on 29 July (eBird S115966485).



FIGURE 5. On 18 June, Kale Worman photographed a single Cordilleran/Western Flycatcher as it gathered sticks and moss. Photo credit: Kale Worman.

Status: the third consecutive summer these flycatchers have been confirmed in this area of the Cypress Hills. The second year when evidence was found that nesting was attempted; breeding was documented in 2020, but not in 2021. There are no reports from other locations in Saskatchewan, but individuals have been found in CHIP, Alberta (see ‘Remarks’). **Remarks:** Vocalizations are obviously important when locating and separating these birds from other *Empidonax* flycatchers that occur in the Cypress Hills. Bell and Singh report that the bird was “mostly giving high, short contact calls with occasional ‘*suwee*’ calls. As we were leaving it did typical ‘*su-dit*’ two-part call.” These two different calls, sung by the same bird, seem to have characteristics of both Pacific-slope’s “upsurred *suweet*” call and the Cordilleran’s “unslurred, rising, two-part *we seet*” call, pointing again to the Cypress Hills population being intergrades between these two taxa.⁶ Rush et al note that *Empidonax* flycatchers do not learn their songs, instead their vocalizations are innate thus reflecting the origins of their individual genetic makeup.⁷ Western Flycatchers are known to give intermediate vocalizations in the area of overlap, and Campbell et al state “unfortunately, both species in the northwest give the ‘boat-shaped’ or slurred sinusoidal note

– “*peewhitt!*”⁸ Thus, in Saskatchewan it is likely impossible to identify these birds with certainty by their vocalizations, beyond Western Flycatchers, despite what some field guides suggest.⁹ Taylor gives a brief summary of the current research concerning the co-occurrence and/or intergradation of the two sister species in the Western Flycatcher complex at the northern edge of their range, including the Cypress Hills, and the debate over the status of these two very closely related flycatchers.² Note: words describing the vocalizations of these flycatchers are *italicized* throughout this account for clarity.

Western Flycatchers appear to be relatively new arrivals in the Cypress Hills, with the Saskatchewan locations along the upper Battle Creek continuing to be the most reliable area to find these flycatchers. Earlier bird inventory work in the Cypress Hills by the National Museum of Canada in Saskatchewan in 1948¹⁰ and Alberta’s two Breeding Bird Atlases in 1987-1991 and 2000-2005¹¹ encountered no Western Flycatchers. This changed when the Calgary Bird Banding Society¹² developed and operated a banding station between 2010 and 2016, in the Elkwater Lake area of Alberta, approximately 20 km west of the Saskatchewan border. This was the first long-term monitoring

study of the avifauna in the Cypress Hills, in either province. Objectives of the *Monitoring Avian Productivity and Survivorship (MAPS)* program included gathering long-term data on population and demographic parameters of target landbird species including the “Western Flycatcher complex”. Despite banding each spring, summer and fall, and capturing hundreds of birds over the seven years, only three “Western Flycatchers” were reported for their efforts with no confirmation of them breeding. On 16 June 2010, Yousif Attia mist-netted and photographed one bird at Old Baldy banding site near Elkwater Lake: “measurements first suggested a Pacific-slope, but [were] inconclusive”, so he switched the identification to “Pacific-slope/Cordilleran Flycatcher (Western Flycatcher)” (eBird S6860802). Then, in 2013, two birds were captured (one at Old Baldy banding site, a second at Spruce Coulee banding site), but with no dates or further details.¹³ Apparently, no other “Western Flycatchers” were caught during this time, although one bird was recorded as an “unidentified flycatcher” in 2012, and another (a Hammond’s) on 5 August 2012. In 2020, a single “Western Flycatcher” was discovered on 5 July (eBird S71848434) near the Hidden Valley Ski Resort, which is close to Elkwater Lake, CHIP; another single was located and seen by several observers in the same area in 2021, between 17 July and 2 August, with photographs and audio recordings made as documentation (eBird S92287941). There were no reports on eBird of Western Flycatchers in the Cypress Hills of Alberta in 2022. The Society of Grassland Naturalists’s Southeastern Alberta Bird Checklist aptly states “Western” Flycatcher are “rare, seldom observed, but can be expected to occur annually” in spring and summer, in the Cypress Hills region.¹⁴

Observations of Saskatchewan birds in this “Western Flycatcher complex” continue to be identified as Cordilleran Flycatchers, not as probable intergrades between Cordilleran and Pacific-slope flycatchers, in contrast to the records from CHIP, Alberta. In perhaps the most detailed study so far,

Linck et al use geographic and genetic sampling of Western Flycatchers to describe the pattern of integration throughout their range in the United States, demonstrating that birds along the northern periphery (northern Washington and Idaho; and the Black Hills of South Dakota) show varying degrees of genetic mixing between the two taxa and not one or the other species.¹⁵ This coincides with the earlier findings from Canada (southern British Columbia and southwestern Alberta) by Rush et al.⁷ Though neither study sampled birds from the Cypress Hills, it seems more accurate to refer to all of these flycatchers in the Cypress Hills by the name Western Flycatchers until their taxonomic status is agreed upon. Alec Hopping summarized the current uncertainty in a paper titled “Unraveling Western Flycatchers: A Case Against the Split” that appeared in American Birding Association’s *North American Birds* (December 2022: Vol 73, No 2); unfortunately, this article is not freely accessible to non-members. In the meantime, eBird does offer suitable options for entering these records to minimize any confusion.

Black-necked Stilt (*Himantopus mexicanus*): multiple records including one nesting attempt. On 3 June 2022 Philip S Taylor photographed a nest containing four eggs, 3 km north of Krydor; the two adults were first observed on this small wetland on 16 May. The nest, like another in 2013, was placed in shallow water (less than 15 cm deep) and surrounded by short emergent vegetation (perhaps 15 to 20 cm tall), which did not hide the adults while they incubated. The wetland and nest site had been flooded by 28 June, and no adults were present after heavy rains in late June (between 20 and 24 June, North Battleford got 19.8 mm; Spiritwood got more than 202.7 mm). Taylor observed seven adults at Gilles Lake, Blaine Lake on 16 May; Caitlin Acquiroff saw four on 22 June (eBird 113571541 – no photos); Harley Verbonac saw three on 5 July (eBird S114494264), and two on 6 July (eBird S114559244) “across from the Marcelin

dump”. **Status:** this is the second nesting record for the Blaine Lake area; the first was in 2013.¹ No nesting attempts further north in the province have been reported. **Remarks:** Black-necked Stilt (BNST) observations continue to increase as the species expands its range north in the province, roughly following a line from Paradise Hill eastward to Prince Albert along Highway 3. The earliest arrival date reported was of two birds 2 km south of the junction between Highways 3 and 21, east of Paradise Hill on 10 May 2022 (Dave Rhody eBird S109624156). The sightings around Blaine Lake are part of this steady advance. The northward range expansion of BNSTs has been going on for some time, but may be increasing as a result of the deepening drought in the southwestern United States that is making habitat conditions in their core range, in the Great Basin, drier and less suitable for breeding.¹⁶

Trumpeter Swan (*Cygnus buccinator*): one nesting record. On 19 June 2022 Stan Shadick and Barbara O’Neil observed a pair of Trumpeter Swans (TRUS) with five cygnets on a wetland about 8 km north of the town of Duck Lake (eBird S113402382 and S113330359; no accompanying photographs). **Status:** this new breeding location is part of an extension of this swan’s summer range in the province. **Remarks:** During the fur trade, prior to 1900, these swans were locally fairly common, spring and autumn transients; however, historic reports of breeding in the province are lacking during that era.¹⁷ From two areas, the Cypress Hills (long established nesting from at least 1953 to 1991) and Greenwater Lake (a more recent nesting area, first confirmed in 1992), the number of reported nesting attempts has slowly risen.¹ Houston, Ball and Houston describe the dramatic decline in TRUS populations across most of their range during the fur trade era due to demand for body feathers and quills for pens.¹⁸ TRUSs seem to be reoccupying long abandoned areas that supported breeding populations more than 150 years ago. TRUS numbers have increased sufficiently that it is no longer listed as a Species at Risk in Canada.

Eurasian Tree Sparrow (*Passer montanus*): one individual was seen from 15 to 18 July 2022 by Len and Angela Ferns in their yard in Rockglen (Figure 6). Photos taken on 17 July confirm the identification of a pure Eurasian Tree Sparrow (ETSP), showing no hybrid characteristics (L. Ferns pers. comm. 5 Aug phone call and 7 Aug email; eBird S119667581, ML488691691). **Status:** fourth record for the province. Presumed to be accidental. **Remarks:** many birds were attracted to the feeders and the seed scattered on the ground in the Ferns' yard. "The Eurasian Tree Sparrow was at the [largest] feeder mostly ... and it was on the ground quite a bit ... where I first noticed it." A large flock of House Sparrows (HOSP), often numbering more than 150 birds, was present during this period — most being young of the year that were "eating machines"; adults "were in the minority". The ETSP was not intimidated by these other, slightly larger sparrows: "it seemed like a cheerier bird if that makes any sense ... perhaps a little feisty" in their presence. It did not appear to be attached to any of the HOSPs, "which were intent on feeding not socializing or mixing". How many other rare birds appear might in the Fern's yard in the future? He photographed an immature or female Rufous Hummingbird there on 6 and 7 August 2022 (L. Ferns pers. comm.). Following the introduction of 12 ETSPs in 1870 in St. Louis, Missouri-Illinois, the birds underwent little range expansion for the first 100 years. As their population continued to grow, their



FIGURE 6. A Eurasian Tree Sparrow was seen from 15 to 18 July 2022 by Len and Angela Ferns in their yard in Rockglen. Photo credit: Len Ferns.

distribution extended approximately 125 km north by 1970. Between 1951 and 2014, their rate of expansion was 3.3 km per year, approximately 208 km total; yes, statistically significant but still unhurried compared to the HOSP after its introduction in 1850.¹⁹ For more information, see Taylor.²

Scissor-tailed Flycatcher (*Tyrannus forficatus*): one bird seen multiple times. Murray Adams first noticed the bird flycatching from a fence line near his farmyard in late August 2022 ["about two weeks ago" he explained to Guy Wapple on 9 September]; then Judy Jordan asked for help identifying a photograph of the bird on 4 September 2022 from the same area, near Donovan (posted on Sask Birders, Facebook), approximately 18 km south of Delisle; Sharlane Toole relocated and photographed it on 5 September (eBird S118192266, ML481693551, 3561) as the bird was "hawking" though "not always successfully as it was an extremely windy day"; Vicki St Germaine saw it on 7 September, when it was "constantly being harassed by smaller birds" (eBird S118302302, ML482200391); then Ryan Dudragne found it on 11 September (eBird S119066456, ML485788081) and with his careful observations and photographs determined it was likely an immature bird undergoing its "first cycle, preformative" moult. On 9 October Samantha Adams posted seeing a single "adult male" (eBird S120428528) in the same general area near Donovan, with no other details or photos. **Status:** 16th provincial record¹; eighth in the fall. Straggler. **Remarks:** this appears to be the longest recorded stay for a bird in Saskatchewan, just over six weeks (26 August to 9 October). The photographs point to the bird's probable age and sex: the relatively short tail is characteristic of an immature bird (in its second year perhaps?); and the extensive salmon-pink side, flank and belly feathers suggest it is likely a male.²⁰ Most Saskatchewan records are one day encounters, with birds being seen as early as 8 May to an exceptionally late bird last seen on 9 November. All have been singles in the

southern part of the province, except one found in the far north near the Rabbit Lake Mine, Wollaston Lake.¹ These flycatchers stray widely beyond their breeding range, which extends north through the central Great Plains from extreme north-eastern Mexico to the Kansas-South Dakota border.

Yellow-throated Vireo (*Vireo flavifrons*): Don Weidl found one singing bird on 12 September 2022 at Ekapo Lake in the Qu'Appelle valley, documenting it with photos and an audio recording (eBird S118575655, ML483549211, ML483699671). **Status:** third latest date on record. **Remarks:** this vireo "revives singing to some extent in September" as does the robin in autumn.²¹

Hooded Warbler (*Setophaga citrina*): Sheila Lane photographed a single male in bright plumage on 19 September 2022, which she found in McLaren Lake Regional Park, 19 km southwest of Richmond (near Surprise), close to the Alberta border (Sask Birders Facebook post, fide G. Wapple). **Status:** the ninth record for the province. Accidental. **Remarks:** this is only the second fall record for the province; the other, also a male, was seen 20 to 25 September in Saskatoon.¹ The regional park is a small oasis, with trees on the edge of a small lake, surrounded by 'dryland' agricultural fields in arid southwest Saskatchewan.

Northern Cardinal (*Cardinalis cardinalis*): four birds reported; three records from the north central part of the province. On 24 July 2022 Michelle Kasick saw a bright male 10 km southwest of Carrot River (photo in D. Sawatzky's files). On 4 August 2022 Orval Beland learned of a male cardinal "seen recently" by Zach Schmaltz, 3 km northeast of Alticane: despite not having photographs to document the record, the description of "an all red colour, with a crest on the back of the head like a Blue Jay", and its size, accurately fit the species (O. Beland pers. comm. 30 November). Marissa Berard reported a male on 26 September 2022 in Prince Albert National Park, along the Narrows Trail, noting its "full red

[plumage] with black by its bill, with the distinctive cardinal crest and a conical beak.” Berard stated “The cardinal was near a massive mixed species flock of pine siskins and goldfinches.” One blurry photo taken through binoculars accompanied the post (eBird S119477324, ML488379901). And from the Qu’Appelle valley, a female was seen 28 and 30 October at Fort Qu’Appelle by Penny Byers that was apparently seen a week earlier by her husband (eBird S121470674 ML498482781); this was presumably the same female seen on 3 November at Fort Qu’Appelle by Gwen Lafontaine (posted on Sask Birders Facebook).

Status: a rare visitor (occasionally long staying) and occasional breeder north to the transition forest. The 26 September record is the northern most report in the province. **Remarks:** Northern Cardinals continue to be reported from within the city limits of Prince Albert and immediate area (3 August 2021, eBird S92704606) where they bred in 2011, approximately 95 km south of Berard’s sighting in Prince Albert National Park.¹

Northern Pygmy-Owl (*Glaucidium gnoma*): Shelly Fisher and Dale Jefferson were fortunate to see and photograph (Figure 7) a single pygmy-owl on 26 September 2022 in Prince Albert National Park [exact location withheld to protect the bird from possible disturbance]. **Status:** only the third location where pygmy-owls have been found in Saskatchewan. This owl’s distribution and population have yet to be determined in our province, both being complicated by the irruptive nature of the species. **Remarks:** this record is 150 km SSW of the first Saskatchewan record near Lac La Ronge (12 October 2014); and more than 200 km east of a cluster of observations involving an unknown number of birds, but possibly only one individual, near Cold Lake just east of the Alberta border (27 December 2016 to 10 April 2017).^{1,2} S. Fisher describes their experience: “We were trying to get a closer look at a three-toed woodpecker when we noted many agitated black-capped chickadees, red-breasted nuthatches, and a hairy woodpecker. We



FIGURE 7. Shelly Fisher and Dale Jefferson were fortunate to see and photograph a Northern Pygmy-Owl on 26 September 2022 in Prince Albert National Park. Photo credit: Dale Jefferson.

were watching the top of an aspen tree in mixed wood forest, perhaps 40 feet high when the owl suddenly popped into the [leafless] tree top. It only stayed a few moments, but we immediately realized what it was and Dale got a photo, thankfully! It flew back where we couldn’t see it, pursued by the smaller birds. They were agitated for a while, and we waited about half an hour hoping for another look, but we didn’t see it again.”

Eurasian Wigeon (*Mareca penelope*): on 5 October 2022 Larry Hooze used a scope to observe a male, noting the key field marks of an adult in breeding plumage, at Big Gully Lake 16 km east of Lloydminster along highway 303. **Status:** only the fifth fall record compared to 26 spring and early summer records. A straggler in the fall.¹ **Remarks:** as is often the case, this bird was found on a wetland with a number of other waterfowl, including 150 geese, 20 swans, and nearly 200 ducks including 50 American Wigeon.

Baltimore Oriole (*Icterus galbula*): a male in full adult breeding plumage appeared in the yard of Philip and Margot Taylor in Saskatoon intermittently between 7 October and 3 November 2022; photographs supporting the record were

taken on 10 and 26 October, and on 3 November (eBird S120133339, S120411144, S121371422, S121795668; ML 492468521, 8531, and ML 497905531, ML 500271721). Greg Hutchings and Elsbeth Dormuth photographed the bird in their backyard on 6 November, following an intense snow storm on 5-6 November after which temperatures fell to double digit lows. There were no further sightings. **Status:** exceptionally late date.¹ **Remarks:** Baltimore Orioles complete their moult on the breeding grounds prior to migration to winter in the tropical Americas; this contrasts with Bullock’s Orioles that moult primarily during their fall migration.²⁰ When these two species were considered one, as Northern Oriole, many records were not identified to their respective forms, blurring our knowledge of each, during that time period: 1973-1995.¹

American Black Duck (*Anas rubripes*): Jean Iron and Barbara N Charlton found six on 12 October 2022 adjacent to road 786 near Marcelin (eBird S120577477). **Status:** not unusual in autumn but often overlooked. A larger number of birds found together than is usually reported. **Remarks:** these observers from Ontario have experience with this species that can be easily mistaken for female

Mallards. Detailed monitoring by the Canadian Wildlife Service, particularly of waterfowl samples submitted annually by hunters from across Canada, has shown that small numbers of American Black Ducks, primarily males, regularly move onto the prairies post breeding, and that these frequently show evidence of Mallard characteristics in their wing feathering (a white line of feathers bordering the top and bottom of the speculum), indicating varying degrees of intermixing between the two species.

Eurasian Tree Sparrow (*Passer montanus*): on 1 November 2022 Don Weidl photographed a single Eurasian Tree Sparrow (ETSP) at his home in Broadview. It was feeding on the ground in association with a group of House Sparrows (eBird S121709486; ML499765971). **Status:** fifth record for the province. Considered to be an accidental. **Remarks:** the bird appeared in good condition and was in bright adult plumage. It had no obvious signs of being an escape from captivity, such as bands or excessively worn feathers. It has been suggested that vagrant ETSPs may arrive in some locations assisted by various human activities: they are believed to arrive in Australian coastal cities carried by ocean going ships from south-eastern Asia. Could that also explain other Canadian ETSP records in coastal British Columbia, Quebec, and New Brunswick (eBird records)? And, it has been offered that inland vagrants may be accidentally carried in rail cars to different locations in North America from source populations around St. Louis. Another frequent explanation for vagrant individuals is they have escaped from captivity. While direct effects of human activities may be the source of some vagrant ETSPs, the natural tendency of some birds to disperse after breeding seems an equally plausible explanation for these occurrences. Yet even then, indirect effects of human activities appear to influence these movements, with bird feeders providing a convenient opportunity for the sparrows to renew their energy before continuing on their travels.

Costa's Hummingbird (*Calypte costae*): one record (Figure 8). This hummingbird showed up late in the afternoon of 27 October 2022 at the home of Randy and Angela Schmidt in Lawson Heights, Saskatoon. He recalled it was flying low to the ground, investigating petunias and other fall garden flowers and coming so close it “was almost bumping in to me”. He contacted Living Sky Wildlife Rehabilitation (LSWR) in Saskatoon on 29 October for advice on how to help the bird as the weather was forecast to worsen. And it did: temperatures falling from 27 October (high of 11.8 C and low -0.3 C) to 7 November (high -8.7 C and low -21.8 C), freezing rain turning to snow and strong winds, on 5 November, continuing through 6 November. From 28 and 29 October, and 1 to 6 November, the bird came to hummingbird feeders supplied by Schmidt, first outside, then inside their garage where the bird could enter and leave to feed through doors left open. Schmidt noted where it may have roosted outside at night: “It seemed to come and go from several large [blue] spruce trees in the neighbourhood. Toward the end it definitely seemed to be perching in the spruce trees” in view of the garage. They could not confirm if on the nights of 6-7 and 7-8 November the hummer stayed outside or sheltered in the garage where the temperature was 6 C or warmer.

On 8 November, with day and night temperatures well below freezing, Ron Jensen captured the hummingbird at the request of LSWR, and took it to them for care. He took measurements and photographs of the bird but was unsure of its identity. Jensen shared the body measurements, taken from the bird on 8 November, with Jared Clarke who recognized that they fell within the normal ranges for a Costa's Hummingbird. But some uncertainty continued with several characteristics needing confirmation. So, on 11 November, R. Jensen remeasured the hummingbird (wing, tail, bill) while Philip Taylor witnessed and photographed the process, and Jeff Jensen observed. Together they examined the bird closely, noting many details (see Remarks).



FIGURE 8. A Costa's hummingbird showed up late in the afternoon of 27 October 2022 at the home of Randy and Angela Schmidt in Lawson Heights, Saskatoon. Photo credit: Krista Trinder.

R. Jensen posted five photos on 17 November 2022 (eBird S122560573). **Status:** this is the first provincial record. Accidental. **Remarks:** R. Jensen was initially struck by the bird's “surprisingly calm” behaviour compared to Ruby-throated Hummingbirds that he had banded, which are often quite active when handled; and by the eye-catching colourful gorget, which is displayed by male hummingbirds.

Details confirming the bird's age, sex, and species: Pyle²⁰ states that “all species of hummingbirds can be aged for at least 5-9 months after fledging by the extent of the corrugations along the lateral portions of the upper mandible”, after which these are lost in most individuals as the bill hardens. Jensen noted the “reasonably long bill” and that it lacked corrugations (longitudinal grooves, sometimes called striations) found on bills of young, hatch-year, birds. Also noted were the greenish crown feathers, some still with buff edges that had not worn off completely, characteristic of a hatch-year hummingbird, likely more than nine months of age. Several other plumage characteristics identified the bird as a young male Costa's Hummingbird including: obviously the gorget's luminescent pale purple-violet iridescence feathers extended over the throat, though not covering it completely, with some feathers beginning to lengthen on the lower

corners; a few feathers at the back of the crown near the nape showed the same iridescent colour as the gorget. This differs from Anna's Hummingbird's distinctive rose-red gorget and Black-chinned Hummingbird's darker purple gorget. Also evident was the iridescent green back; the greyish underparts and very white upper chest; and the short, slightly forked, all black tail with narrow outer tail feathers, curved inward toward the tip (compared to Ruby-throat's being straight and wider), all of which agreed with it being a Costa's. Its body condition was good, with detectable fat accumulations. The body measurements taken from the bird on 8 November were: wing chord (43.3 mm), tail (23.4 mm), exposed culmen/bill (17.7 mm). Measurements retaken on 11 November were: wing chord (43.5 mm), tail (22.2 mm), culmen (17.8 mm). When compared with data in Table 2 in Pyle²⁰ these measurements excluded Anna's Hummingbird as a candidate. Photographs of the relaxed, perched bird, show its wingtips barely extend past the tip of the tail, also ruling out Anna's and Black-chinned hummingbirds; both of those species having longer tails that extend noticeably past the tips of their wings when perched.

Together, all the bird's measurements and key bill and plumage characteristics indeed identified it as a maturing, hatch-year male Costa's Hummingbird. Sheri L Williamson affirmed that identification (fide G. Wapple 14 November 2022).²²

Costa's Hummingbirds breed from late February to mid-June in the deserts and arid scrublands of southwestern United States and northern Sonoran Mexico, and occasionally as early as November.²³ Most withdraw a short distance to winter in dry north western Mexico. Records along the North American Pacific coast are erratic but increasing; most involve males, in spring, that are more easily identified than females that may go unnoticed among other hummingbirds. Confirmed sightings extend into the southwestern coastal lowlands of British Columbia where they are accidental (33 records in BC from 1972 to 2018)^{6,24} and even as far

north as southern Alaska (eBird). Records from the interior of the continent are even more unusual. They have occurred in Alberta (three records, 1988 to 2015) (eBird, <https://royalalbertamuseum.ca/collections/life-sciences/ornithology/birds-list/taxonomy>), but not in Manitoba.²⁵ eBird reports one sighting for Montana and none for North Dakota.

Pine Warbler (*Setophaga pinus*): a single bird was seen in Martensville on 7 November 2022 by Chrystal Dawn (posted on SaskBirds Facebook; fide Stan Shadick and Guy Wapple); several excellent photographs show the bird at a suet feeder. Status: straggler. Remarks: records for this species in Saskatchewan extend from 9 May into late fall, with one bird even attempting to over winter from early December 2015 to 27 March 2016.¹ The true status of this warbler in Saskatchewan has yet to be determined. Some records point toward its possible, rare attempts to breed in the province, while many others fit a pattern of an occasional spring or fall migrant. See *BofSk* for an interesting discussion on this species.¹

Ivory Gull (*Pagophila eburnea*): a single, immature Ivory Gull was photographed 400 m offshore from Sunset View Beach, Turtle Lake on 15 December 2022 by Cliff Nesbitt (Figure 9). It was very tame, attracted to ice fishing activities on the lake where it fed on fish scraps and bait minnows, lying on the ice surface, which were provided by the anglers (posted on Facebook by C. Nesbitt, fide Nick Saunders). On 16



FIGURE 9. On 15 December 2022, an immature Ivory Gull was photographed by Cliff Nesbitt 400 m offshore from Sunset View Beach, Turtle Lake. Photo credit: Cliff Nesbitt.

December, Nick Saunders and Philip S Taylor confirmed the bird's presence (Figure 10) in the same location, with C. Nesbitt's kind assistance (Saunders eBird S124065597, ML 513681061, 83011, 96391; Taylor eBird S124474054 ML 515843211, 43221, 43231, 43241). The gull flushed at a distance of several hundred metres then landed again on the lake surface, or occasionally atop an ice fishing shack, before flying toward distant shacks scattered over the snow-covered lake and out of view. Sightings continued into the last week of December along the east shore of the lake, including Indian Point - Golden Sands Beach where many anglers and enthusiastic birders viewed this increasingly confiding bird (eBird). It is not known where the bird found a safe place to roost at night. Night time temperatures dropped to bitterly unseasonable lows on several nights in the region: minus 33.8 C on 21-22 December at North Battleford.²⁶ Increased human activity on the lake over the Christmas and New Year holidays may have disturbed the bird causing it to change its behaviour after 28 December, the last confirmed date it was reported. It is uncertain if it will stay in the area. **Status:** the third record for the province. The species is moved from hypothetical to confirmed, supported by many photographs. **Accidental. Remarks:** this bird displayed all the diagnostic characteristics of a lightly marked, first winter juvenile: black tipped primaries and tail feathers (these dark markings were less extensive than on some more heavily marked individuals of the same age); dark freckling on the upper, leading



FIGURE 10. Immature Ivory Gull, in flight, on 16 December 2022. Photo credit: Nick Saunders.

edge of the wings (marginal coverts) evident in flight; dark mottled feathers on the forecrown, throat and loreal area between the eye and bill; dull grey eye ring; blue-grey bill with a small reddish smudge behind the pale tip; dark eyes; short black legs; and small black webbed feet and toe nails. The previous two records were both in September. Fred Bard saw five “dove-like gulls”... “pure white except with black-tipped flight feathers (primaries and some secondaries) giving a slightly speckled, dark-bordered effect on the wings”²⁷ on Nemeiben Lake on 16 September 1976 — this description fits immature birds, not adults as mentioned in *BofSk*. And, Frank Brazier saw one — apparently an adult — at Wascana Centre, Regina on 4 September 1989.¹

Ivory Gull has Endangered status under Canada’s *Species at Risk Act*. Their numbers in Canada have declined a precipitous 80 per cent between 1986 and 2006, leaving an estimated 500 to 800 breeding individuals in the eastern High Arctic; this is about 10 per cent of the world population. Ivory Gulls winter just south of the permanent pack ice in cold waters along ice edges of the north Atlantic, with the high concentrations in Davis Strait and the Labrador Sea.^{28,29}

COSEWIC status changes that affect Saskatchewan birds

The following species recently assessed by COSEWIC are eligible for addition to SARA Schedule 1, reclassification (upgrades or downgrades to status), or removal from the list (January 2022).³⁰

Lesser Yellowlegs (*Tringa flavipes*): eligible for addition to schedule 1(6): as Threatened status (November 2020).

Red Knot (*Calidris canutus*): note - there is clarification for populations within the Red Knot subspecies *rufa*, based on a 2019 report to COSEWIC. Now recognized are three distinct populations within *rufa* that migrate through Saskatchewan, but winter in different areas, and each has been given their own status under SARA (November 2020): Caribbean wintering

population (including southeast USA and Gulf of Mexico) up-listed from “Threatened to **Endangered**”; northeast South American wintering population down listed from threatened to **Special Concern**; Tierra del Fuego wintering population confirmed **Endangered**. Clarification is needed if these different populations can be reliably separated in the field — by date, by plumage, or only by measurements taken in the hand.

Short-eared Owl (*Asio flammeus*): up-listed from Special Concern to **Threatened** (May 2021).

Addenda and Errata

to the Birds of Saskatchewan¹ and the update by Taylor.²

1) **Least Bittern** (*Ixobrychus exilis*): recordings made by Trevor Herriot were shared with Jared Clarke and LeeAnne Loutremouille who helped confirm the record (addendum).²

2) **Surfbird** (*Calidris virgata*): credit is due to Josh Bilyk who discovered the Surfbird at Quill Lake on 19 August 1998; an omission in the *BofSk* account (p 260) (pers. comm. A.R. Smith) (addendum).¹

3) **Ivory Gull** (*Pagophila eburnea*): Fred Bard described seeing five immature plumaged birds at Nemeiben Lake, not adults, as mentioned in the *BofSk* account (p 289) (errata).¹

4) **Kentucky Warbler** (*Geothlypis formosa*): species name “*formosa*”, should not be capitalized; “a spell check” error introduced late in the editing process (errata).²

5) **Henslow’s Sparrow** (*Centronyx henslowii*): sonograms of the recordings, made by Brandon Holden on 8 July 2014, accompanied the draft article submitted for publication in *Blue Jay*. These sonograms were reviewed by C Stuart Houston, Peter Taylor and others, and together with the detailed habitat descriptions identify the bird conclusively as a Henslow’s Sparrow, confirming its Accidental status in Saskatchewan. It is

unfortunate that the complete article has yet to be published (A. McLeod pers. comm.) (addendum).²

6) **Lesser Goldfinch** (*Spinus psaltria*): the correct date of the Holtkamp reference is 2020 (not 2021) (errata).²

Discussion

The one new and four accidental species all have origins in North America, so although seldom reported in Saskatchewan, they are regularly encountered in other parts of the continent.^{31,32} The juvenile Ivory Gull, a very rare vagrant from its High Arctic breeding grounds, is also exceptional because of its Endangered status. The Costa’s Hummingbird, from the dry shrubland deserts of far southwestern United States, is perhaps most surprising vagrant because of the very late date and distance from its regular range. Spring migrants overshooting their normal breeding ranges best describe the April Hooded Warbler, the May Wood Thrush, and Green-tailed Towhee records. Post breeding dispersal may explain the wanderings of the fall Hooded Warbler, the Eurasian Tree Sparrows, Northern Pygmy-Owl, Red-bellied Woodpecker, Scissor-tailed Flycatcher and Pine Warbler.

Many bird populations around the world, including species that breed in or migrate across Saskatchewan, continue to decline, some at alarming rates. The exceptions include some waterbirds and waterfowl (ducks, geese and swans). The North American Bird Conservation Initiative (NABCI) issued a report on 12 October 2022 titled the *State of the Birds 2022* focusing on the USA, but relevant to Canada because we share the continental bird populations (<https://www.stateofthebirds.org/2022/>). Of particular interest may be the species that have declined most alarmingly, down over two-thirds in numbers in the past 50 years. These are discussed in “Bird Declines Are Reaching a Tipping Point – State of the Birds 2022” (<https://www.stateofthebirds.org/2022tippingpointspecies/>). Included are species that occur annually within

Saskatchewan: Black Scoter, Greater Sage-grouse, Yellow Rail, American Golden Plover, Lesser Yellowlegs, Whimbrel, Hudsonian Godwit, Ruddy Turnstone, Stilt Sandpiper, Buff-breasted Sandpiper, Pectoral Sandpiper, Semipalmated Sandpiper, Short-billed Dowitcher, Chimney Swift, Sprague's Pipit, Chestnut-collared Longspur, LeConte's Sparrow, Harris's Sparrow, Bobolink, and Evening Grosbeak. And some rare species: King Eider, Yellow-billed Loon, Ivory Gull, Great Black-backed Gull, Mountain Plover, Least Tern, Rufous Hummingbird, Pinyon Jay (Hypothetical in our province - H), Bendire's Thrasher (H), Prairie Warbler, Henslow's Sparrow, and Black-rosey Finch (H). Records of these species will be particularly important to document, and submit to formal sites like eBird, so conservation organizations can monitor changes in their numbers and distribution.

The advent of the Cornell Lab of Ornithology's "Merlin Bird ID app" in 2009 has been a boon for birders, especially those new to the activity and people with hearing loss. When properly used it can accelerate the process of identifying birds, even those hidden from view. Promotional phrases like "Merlin's ability to identify birds seems like magic" making it the "most updated field guide you can put in your pocket" have rapidly increased its popularity. However, as marvelous as Merlin's artificial intelligence process is, it still must be used with caution, only as a means to assist in finding and identifying birds not as the final, conclusive arbiter for an identification. Why? An increasing number of misidentified and "impossible" birds are being "discovered" and even posted on eBird, by people who perhaps naively place all their faith in the app's wizardry. Birders must be prepared "to verify the presence of each species using other means" (Harold Fisher pers. comm.) otherwise it can be a shortcut that is lined with pitfalls. It is not a substitute for careful study of birds in the field, using good field guides, taking notes or photographs, and seeking the help of experienced birders. Dan Sawatzky

writes "there is important information on Merlin Sound ID best practices that can be found under the eBird help section. The main point being, if you are uncertain of an ID, please do not add a record to eBird."

Special mention is due for the discovery of the Ivory Gull at Turtle Lake. Without the interest of Cliff Nesbitt, the presence of this rare vagrant to Saskatchewan may have gone unnoticed. Every person interested in this endangered species, especially those who made the long trip to see their first Ivory Gull, owe him a big *thank you* for willingly sharing his marvelous find.

Acknowledgements

Thanks are extended to many people for help with this article. Guy Wapple and Don Weidl for flagging rare bird records posted on the Sask Birders FaceBook site. Al Smith and Dan Sawatzky for discussions about the everchanging status of birds in the province and tricky ID questions. Dan S. for help navigating and mining eBird data. Ryan Dudragne for finding references on several species. Ron Jensen provided information for the Costa's Hummingbird account. Jocelyn Hudon, Curator of Ornithology, Royal Alberta Museum, who explained the difficult identification issues within the sapsucker complex. Spencer Sealy's advice helped to improve the text. Annie McLeod's careful editorial assistance was much appreciated.

And my grateful thanks to all the observers, whose careful documentation of their sightings contribute so much to our knowledge of Saskatchewan birds. Best wishes for your future birding adventures.

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Nature

SASKATCHEWAN

SPRING MEET 2023

JUNE 16-18, 2023 KINDERSLEY, SK

Friday, June 16

6:30 p.m. Registration at the Kindersley Inn
Refreshments will be available; coffee, tea, baking

7:30 p.m. Speaker TBA

Saturday, June 17

8:00 a.m. Board the bus at the Kindersley Inn to depart to the Meyers Nature Sanctuary, outside of Leader, to do a bio blitz

Lunch break - sandwiches, veggie trays, beverages, etc.

Afternoon: Touring locations TBD

5:00 p.m. Cocktails at the Kindersley Inn

6:00 p.m. Banquet at the Kindersley Inn

7:00 p.m. Speaker TBA

Sunday, June 18

8:00 a.m. Breakfast buffet at the Kindersley Inn

9:00 a.m. Annual General Meeting at the Kindersley Inn

SUGGESTED ACCOMMODATIONS

Kindersley Inn

601 - 11 Avenue East

1-306-463-6555

Group block reserved under **NatureSask** until June 1, which includes discounted room rates

Additional details, as well as a registration form, will be available in the next issue of the *Blue Jay* and on the Nature Saskatchewan website as soon as they become available.

THE NATURE NOTEBOOK: THE TIME TO PLAN IS NOW!

Jared Clarke

People love to ask me questions about my Purple Martin colony, and I love answering them. But unfortunately, the answers I give to people are not always what they want to hear. Usually it goes something like this: “I’d like to put up a Purple Martin house to attract martins this summer — when do I have to have it up by?” My response (in nicer words): “A month ago — you’ve missed your chance for birds this year”.

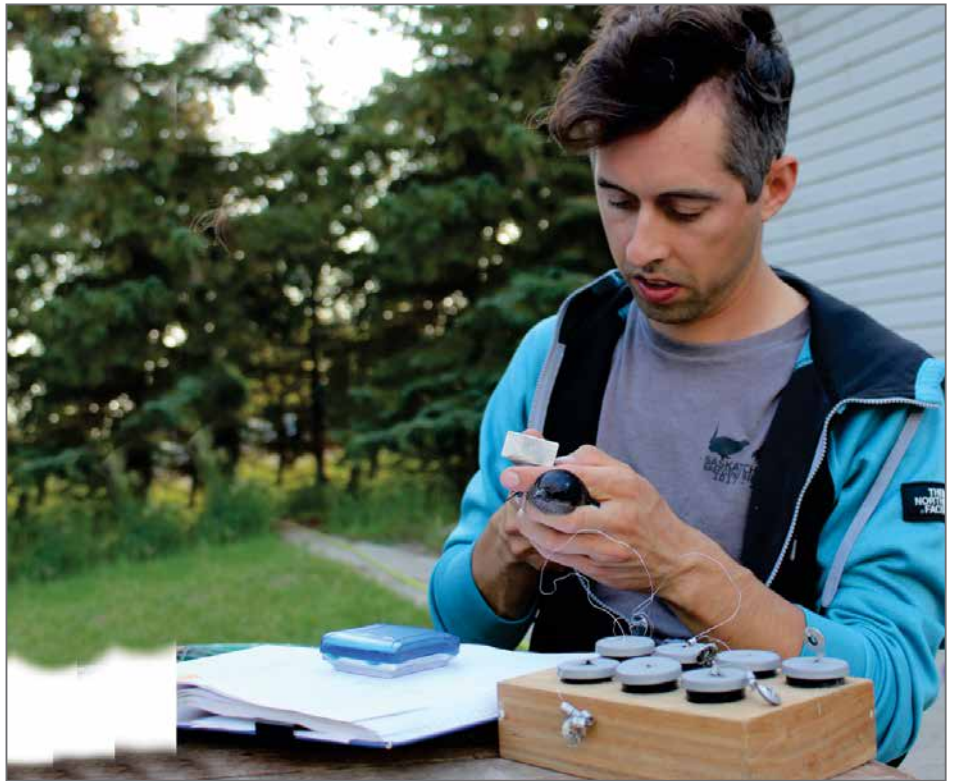
“Oh...”

Given this repeating conversation, I want to use this column to prompt you NOW, in February, to start planning your “nature upgrades” for this spring. When I say nature upgrades, I’m talking about a small project or goal that you will plan, in the face of the climate crisis AND biodiversity crisis, for your space (apartment balcony, your yard, your farm, etc.) to improve things for nature. If we all make small changes to our surroundings, we can collectively make big impacts over time.

For example, one small idea you could try is to plant some milkweed in your garden this year, to give endangered Monarch butterflies a helping hand. This may be something you have considered before, but never made it happen. Now is the time to start looking to source some seed so that come spring, you are ready to plant (or start early in your greenhouse or window).

Maybe it’s not just milkweed — maybe you want to plant more native plants in your garden to help bees and other insects. Or maybe you want to rip out that biodiversity desert of a front lawn and grow food or a prairie garden. Regardless, start looking now at local Saskatchewan seed companies to begin sourcing your seed!

Perhaps you want to put up a bird, bat, or bee house to encourage some of these critters to call your yard home.



You guessed it — now is the time to start figuring out what you want to do. Species like Black-capped Chickadees start selecting their nest sites in early April, so your bird house has to be out by then if it is to be considered. Some of the things you will need to research may include what species are likely to find the house in your yard, what dimensions do they need for a house, where the best place to put it is, and how you can prevent predators from accessing the home to give the residents a little better chance at survival.

To answer the question I started with at the beginning of this column, the first Purple Martins start arriving in Saskatchewan during the second half of April. Most will arrive in the first two weeks of May, but last year’s young won’t start arriving until the end of May. So, make sure you have that new martin house up by early May. And my suggestion is you make it (or buy it) such that each compartment can be opened and checked easily, and you put it on a

pulley system so that it can be raised and lowered.

If each of us who read the *Blue Jay* do one nature upgrade to our space this spring, we will make a big difference together. I hope you’ll join me! One of our nature upgrade plans for 2023 is to make a big effort to establish some more local native prairie flowers in a 10-acre tame pasture on our farm. We collected a lot of seeds from our prairie garden this past fall. We intend to start them in the greenhouse and then transplant a few hundred plants first thing this spring. I can’t wait to see what the results will be!

Reach out if you have any questions that I can help answer, particularly if it is about Purple Martins!

Jared Clarke is a grade 6/7 teacher and biologist who lives with his family on a small farm near Edenwold, SK. He has been bird watching since the age of five after a Spotted Towhee visited his yard. He can be reached at clarkejared@hotmail.com. 🐦

NEW RARE VASCULAR PLANTS FOR REDBERRY LAKE BIOSPHERE RESERVE

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Introduction

Considering the challenges of managing rare plants, it is important that land managers rely on accurate data to make management decisions.¹ Different types of red lists have been curated to rank plants based on the type of rarity and the threats to those species within specific geographic areas. Rare species have been ranked at different spatial scales: globally, nationally, and regionally.^{2,3,4} These lists can then be used to develop databases with the occurrence of rare plants to inform conservation planning.

Redberry Lake Biosphere Reserve (RLBR) was designated by UNESCO in 2000 as the only protected area of this type in Saskatchewan.⁵ Unfortunately, basic knowledge of the flora and its distribution in the biosphere reserve remains incomplete.⁶ The results of a recent study of rare vascular plants of RLBR have substantially enlarged the number of species and their occurrences. In total, 10 out of 18 rare plants were identified as new for the biosphere reserve.⁷ This highlights the continued importance of exploration and floristic research for biodiversity conservation, especially in the remote and understudied areas of the biosphere reserve.

The territory of RLBR (lately the word “reserve” in the name of the organization was replaced with the “region”) was recently substantially enlarged (from 112,200 ha to around 707,450 ha) with addition of new areas in the Boreal Transition and Aspen Parkland ecoregions.⁵ This study documents rare vascular plants of newly acquired areas of RLBR for which no floristic survey has yet been completed. This contribution aims to

support ongoing floristic inventory in the biosphere region by providing a complete list of rare vascular plants recorded on its territory.

Methods

For a detailed description of the study area, as well as methods used for collecting data and quality assurance processes, and analyzing and mapping species distribution, please see my previous paper on rare vascular plants of Redberry Lake Biosphere Reserve.⁷

Key methodological points are provided below. Data on rare plants (local distribution, population features, and threats to survival) were collected during the field surveys conducted in 2021-22. All locations were georeferenced using a GPS unit Garmin Oregon 650t. Additional information on occurrences of rare plants was obtained through the Saskatchewan Conservation Data Centre (SKCDC)⁴ and the HABISask database.⁸

Plants were identified *in situ* and a few photos for each species observed were taken. Herbarium vouchers of rare plants deposited at the W.P. Fraser Herbarium of the University of Saskatchewan (SASK)⁹ were examined. Data relating to the geographical distribution and origin of the study plant species come from the following databases – the Virtual Herbarium of Plants at Risk in Saskatchewan at the W.P. Fraser Herbarium of the University of Saskatchewan (VHPRSK)¹⁰ and Plants of the World Online (POWO).¹¹

The nomenclature of the taxa follows the Database of Vascular Plants of Canada or VASCAN.¹² The species conservation ranks are given according to the NatureServe¹³ and IUCN¹⁴ categories as well as listing by SKCDC.⁴

Results and Discussion

In addition to 18 vascular plants identified in the Redberry Lake Biosphere Reserve as being at risk at the global,

national, and subnational levels⁷, nine new rare plant species were recognized in the recently acquired areas of the biosphere region. Thus, the total list of rare vascular plants of RLBR include 27 taxa (Table 1). As mentioned earlier,⁷ occurrence of *Lemna minor* L. previously reported from the region was not confirmed and as such this species is not included in the list.

Among 27 rare plants for the biosphere region, four species were listed based on the information retrieved from SKCDC⁴ and the HABISask database.⁸ Further field surveys are required to confirm the presence of these rare plants in the flora of RLBR, since some of them were recorded around 70 years ago or their occurrence data are missing (Table 1). Below is a short characterization of the newly identified rare vascular plants following the format used in my previous paper.⁷

Asteraceae –

Aster (sunflower) family

Nothocalais cuspidata (Pursh) Greene (= *Agoseris cuspidata* (Pursh) Raf., *Microseris cuspidata* (Pursh) Sch.Bip.) – prairie false-dandelion

Habit: perennial plant to 30 cm in height with a rosette of linear leaves and a long flower stalk bearing a single flower head. Stems are sparingly hairy, woolly near the top. Leaves folded inwards, often crisped, having woolly margins, and a few hairs along leaf top and bottom. Flower heads bright yellow, consisting of all ray florets, with no disk florets. The ray florets have 5 teeth at the tip. Bracts overlap like shingles, in two series.

Range: from W. Central & Central Canada to W. Central & Central United States.

Distribution in SK: Mixed Grassland, Moist Mixed Grassland, Aspen Parkland. RLBR – may occur in the area (SKCDC⁴; HABISask⁸).

Habitat: dry, rock prairie bluffs and gravelly hillsides.

Conservation Status: S3 N3 G4.

TABLE 1. Taxonomic and conservation status of rare vascular plants of Redberry Lake Biosphere Region.

TAXA	SYNONYM	COMMON NAME	CONSERVATION RANK			YEAR LAST OBSERVED
			GLOBAL	NATIONAL	SUBNATIONAL	
Amaranthaceae						
<i>Corispermum pallasii</i> Steven	<i>C. hyssopifolium</i> var. <i>leptopterum</i> Ascherson	Pallas' bugseed	G4?	N4	S2	2022
<i>C. americanum</i> (Nutt.) Nutt. var. <i>americanum</i>	<i>C. hyssopifolium</i> var. <i>americanum</i> Nutt.	American bugseed	G5?T5?	N3N4	S3	2022
Asteraceae						
<i>Almutaster pauciflorus</i> (Nutt.) Á.Löve & D.Löve	<i>Aster pauciflorus</i> Nutt.	alkali marsh aster	G4	N3N4	S3	2022
<i>Bidens frondosa</i> L.		devil's beggarticks	G5	N5	S3	2021
<i>Nothocalais cuspidata</i> (Pursh) Greene	<i>Agoseris cuspidata</i> (Pursh) Raf., <i>Microseris cuspidata</i> (Pursh) Sch.Bip.	prairie false-dandelion	G5	N3	S3	absent data**
Cyperaceae						
<i>Amphiscirpus nevadensis</i> (S. Watson) Oteng-Yeboah	<i>Scirpus nevadensis</i> S.Watson	Nevada bulrush	G4	N4	S3	2021
Fabaceae						
<i>Astragalus australis</i> var. <i>glabriusculus</i> (Hooker) Isely	<i>A. aboriginorum</i> Richardson, <i>A. richardsonii</i> E.Sheldon	aboriginal milk-vetch	G5TNR	NNR	S3	1952**
Gentianaceae						
<i>Gentianopsis virgata</i> subsp. <i>macounii</i> (Holm) J.S.Pringle	<i>Gentiana macounii</i> (Holm) Ilitis	Macoun's fringed gentian	G5	N4N5	S3	2022
<i>Lomatogonium rotatum</i> var. <i>fontanum</i> (A. Nelson) J.S.Pringle		marsh felwort	G5TNR	NNR	S3	2022
Hydrocharitaceae						
<i>Elodea canadensis</i> Michaux		Canada waterweed	G5	N5	S3	2021
<i>Najas flexilis</i> (Willd.) Rostkovius & W.L.E.Schmidt		slender naiad	G5	N5	S3	2021
Lentibulariaceae						
<i>Pinguicula vulgaris</i> L. subsp. <i>vulgaris</i>	<i>P. vulgaris</i> var. <i>americana</i> A.Gray	common butterwort	G5	N5	S3	2022
Ophioglossaceae						
<i>Botrychium campestre</i> W.H.Wagner & Farrar		prairie moonwort	G3G4	N3	S3	2022
Orchidaceae						
<i>Cypripedium parviflorum</i> var. <i>pubescens</i> (Willd.) Knight	<i>C. calceolus</i> var. <i>pubescens</i> (Willd.) Correll	large yellow lady's slipper	G5T5	N5	S2	2021
<i>C. parviflorum</i> var. <i>makasin</i> (Farwell) Sheviak	<i>C. pubescens</i> var. <i>makasin</i> Farwell	small yellow lady's slipper	G5T4T5	N4N5	S3	2022
<i>C. passerinum</i> Richardson*		sparrow's-egg lady's slipper	G5	N5	S3	2022
<i>Corallorhiza striata</i> Lindley var. <i>striata</i>		striped coral root	G5T5	N5	S3	2021
<i>Liparis loeselii</i> (L.) Rich.		yellow twayblade	G5	N4N5	S3	2022
Poaceae						
<i>Elymus lanceolatus</i> subsp. <i>psammophilus</i> (J.M.Gillett & H.Senn) Á.Löve	<i>Agropyron psammophilum</i> J.M.Gillett & H.Senn	sand-dune wheatgrass	G5T3	NNR	S2	2022
<i>Danthonia californica</i> Bolander	<i>D. californica</i> var. <i>americana</i> (Scribner) Hitchcock	California oatgrass	G5	N5	S3	absent data**
<i>Festuca hallii</i> (Vasey) Piper	<i>F. altaica</i> var. <i>hallii</i> (Vasey) Harms	plains rough fescue	G5	N5	S3	2022
<i>Piptatheropsis canadensis</i> (Poir.) Romasch., P.M.Peterson & Soreng	<i>Oryzopsis canadensis</i> (Poir.) Torr. ex A.Gray	Canada ricegrass	G4G5	N4N5	S3	1958**
Rosaceae						
<i>Potentilla hudsonii</i> Ertter		Hudson's cinquefoil	GNR	NNR	S2	2022
<i>P. rubricaulis</i> Lehm.	<i>P. modesta</i> Rydb.	red-stemmed cinquefoil	GNR	NNR	S3	2021
Ruppiaceae						
<i>Ruppia cirrhosa</i> (Petagna) Grande	<i>R. occidentalis</i> S. Watson	western ditch-grass	G5	N5	S3	2021
Scrophulariaceae						
<i>Pedicularis groenlandica</i> Retzius	<i>Elephantella groenlandica</i> (Retzius) Rydb.	elephant's-head lousewort	G5	N5	S2	2022
Violaceae						
<i>Viola pedatifida</i> G.Don		crowfoot violet	G5	N4	S3	2022

Conservation ranks

NatureServe/SKCDC:

- G1 (N1, S1) Critically Imperiled/Extremely rare. At very high risk of extinction or extirpation due to extreme rarity, very steep declines, high threat level, or other factors.
- G2 (N2, S2) Imperiled/Very rare. At high risk of extinction or extirpation due to a very restricted range, very few populations, steep declines, threats or other factors.
- G3 (N3, S3) Vulnerable/Rare to uncommon. At moderate risk of extinction or extirpation due to a restricted range, relatively few populations, recent and widespread declines, threats, or other factors.
- G4 (N4, S4) Uncommon but not rare; some cause for long-term concern due to declines or other factors.

*IUCN:

VU Vulnerable.

**HABISask and SKCDC data.

**Hydrocharitaceae –
Frog-bit family**

Elodea canadensis Michaux – Canada waterweed

Habit: a perennial aquatic plant, or submergent macrophyte. Slender creeping or erect, rooted in substrate, 30–100 cm long, simple or abundantly branched. Lower leaves opposite or whorled, middle leaves in whorls of 3, spreading or recurved, linear to ovate, flat; terminal leaves crowded, flaccid, minutely serrate. Inflorescence solitary, sessile, dioecious. Flowers unisexual, usually projected to surface of water by elongate floral tube, sessile; corolla 3-merous white; staminate flowers several, pedicels long, perianth floating, sepals dark striate; pistillate flowers with a unilocular ovary, strap-shaped staminodia 3, styles 3, hypanthium elongate and filiform. The fruit is dry and splits open when ripe.

Range: the native range of this species is S. Canada to the United States. It is an invasive species in Europe, Asia, Africa, and Oceania.

Distribution in SK: Mixed Grassland, Moist Mixed Grassland, Aspen Parkland, Boreal Transition, Mid-Boreal Lowland, Mid-Boreal Upland, Churchill River Upland. RLBR – one location.

Habitat: ponds, ditches, streams, and lakes.

Conservation Status: S3 N5 G5.

Najas flexilis (Willd.) Rostkovius & W.L.E. Schmidt – slender naiad

Habit: it is an aquatic annual plant, 5–30 cm in height. Stems are densely tufted, branching, long, slender, anchored by roots. Leaves clustered at stem tips, 1–3 cm long, 0.2–0.8 mm wide, linear, apex attenuate, flaccid, pale green, margins minutely toothed. Staminate flowers with sepals connate into bilabiate tube, anthers 1 with 2 or 4 pollen sacs and enclosed in a membranous envelope; pistillate flowers sessile, with sepals absent, pistil single and 1-ovuled, stigmas 2–4. Fruits achenes olive-green to reddish; seeds 2.5–3 mm long, shiny, faintly reticulate.

Range: Temperate Northern Hemisphere. It is considered native throughout most of Canada, and the northern United States with disjunct populations in the southern states. RLBR – one location.

Habitat: shallow waters of ponds, protected lake bays, and quiet streams.

Conservation Status: S3 N5 G5.

**Lentibulariaceae –
Bladderwort family**

Pinguicula vulgaris L. subsp. *vulgaris* (= *P. vulgaris* var. *americana* A. Gray) – common butterwort (Figure 1A)

Habit: small insectivorous plant with bright yellow-green leaves with rolled edges, leaves greasy to touch. The leaves are covered with small glands that trap small insects. Single bluish-purple flowers, nodding, with a 3-lobed lower lip, 2-lobed upper lip, and a white throat. Leaves all in a basal rosette, 2–5 cm long, 1–2 cm wide, oblanceolate to elliptic, yellowish-green, succulent, margin revolute. Fruits capsules erect, 4–6 mm long.

Range: the native range of this species is Europe to Siberia, Subarctic America to N. Central & NE United States.

Distribution in SK: . Aspen Parkland, Boreal Transition, Churchill River Upland, Athabasca Plain, Selwyn Lake Upland. RLBR – three locations.

Habitat: springy areas, marly fens, and northern lake shorelines.

Conservation Status: S3 N4 G5.

**Orchidaceae –
Orchid family**

Cypripedium passerinum Richardson – sparrow's-egg lady's-slipper (Figure 1B)

Habit: it is a rhizomatous geophyte. Plants erect, up to 50 cm in height. Leaves 3–7, along length of stem, alternate, ascending to spreading; blade elliptic to elliptic-lanceolate or ovate-lanceolate. Flowers 1(–2); sepals white or green; petals spreading, white, oblong to linear-elliptic, flat; lip white, rarely pinkish, obovoid, 11–20 mm.

Range: Alaska to Canada, Montana.

Distribution in SK: Cypress Hills, Aspen Parkland, Boreal Transition, Mid-Boreal Lowland, Mid-Boreal Upland. RLBR – one location.

Habitat: moist forests, gravelly shores of lakes and rivers.

Conservation Status: S3 N5 G5; VU (this is the only rare plant in the RLBR designated by IUCN¹⁴).

**Poaceae (Gramineae) –
Grass family**

Elymus lanceolatus subsp. *psammophilus* (J.M. Gillett & H. Senn) Á. Löve (= *Agropyron psammophilum* J. M. Gillett & H. Senn) – sand-dune wheatgrass (Figure 1C)

Habit: perennial grass from rhizomes; stems 20–75 cm tall, erect, the nodes exposed, smooth. Leaves 5–25 cm long, 1–4 mm wide, scabrous or pilose to glabrous, usually involute. Sheaths smooth; blades flat or in-rolled when dry, mostly basal; ligules 0.5 mm long, finely jagged-edged; ear-shaped lobes at the leaf-bases 0.5–1 mm long. Inflorescence a spike 4–10 cm long, erect; spikelets solitary at each node; glumes lanceolate, flat, tapered from middle to sharp point, 5–7 mm long, densely hairy; lemmas 8–11 mm long, densely hairy, tips sharply pointed; paleas keeled, with few to many hairs below, rough above; anthers 2.5–4 (5) mm long.

Range: the native range of this subspecies is Alaska through Canada to N. United States.

Distribution in SK: Moist Grassland, Moist Mixed Grassland, Aspen Parkland. RLBR – one location.

Habitat: sand dunes.

Conservation Status: S2 NNR G5T3.

**Rosaceae –
Rose family**

Potentilla hudsonii Ertter – Hudson's cinquefoil (Figure 2A)

The species has recently been described¹⁵ using herbarium vouchers collected near Mennon, Saskatchewan in 1969. Named for the late J.H. Hudson, a dedicated amateur botanist who contributed much to floristic studies in the province.

Habit: Plants gray-green to silvery-white, tufted. Caudex simple or few-branched, not sheathed with marcescent whole leaves. Stems ascending to nearly erect, (7–)10–30 cm long. Basal leaves usually both ternate and palmate on same plant, rarely subpalmate; long hairs abundant to dense, 1.5–2 mm long; leaflets 3–5, not to somewhat overlapping, central leaflet oblanceolate to elliptic, nearly all of margin incised $\frac{3}{4}$ or more to midvein, revolute, abaxial surface white, long hairs dense on veins, cottony-crisped hairs

dense, short hairs and glands absent or obscured, adaxial surface grayish green to grayish, long hairs common to dense, 1.5–2 mm long, usually stiff, short and/or crisped hairs common to abundant. Cauline leaves (1)2(3). Inflorescences (3)–8–20(–25)-flowered. Pedicels 0.2–0.7 cm long, proximal ones to 1.2(–1.5) cm long. Flowers cup-shaped at anthesis; hypanthium 2–4(–5) mm diam.; sepals 3–4.5(–5.5) mm long, apex ± acute, glands absent or obscured; petals canary yellow, ± ascending at anthesis, scarcely overlapping,

equalling or slightly longer than sepals. Achenes about 1.3 mm long, smooth or lightly veined.

Range: The native range of this species is Yukon to Montana. The core range is the prairies of Saskatchewan and Alberta.

Distribution in SK: Moist Mixed Grassland, Aspen Parkland, Boreal Transition. RLBR – two locations.

Habitat: open spots in grasslands, often in sandy and/or heavily grazed sites, as well as gravelly slopes and roadsides.

Conservation Status: S2 NNR GNR.

Scrophulariaceae – Figwort family

Pedicularis groenlandica Retzius (= *Elephantella groenlandica* (Retzius) Rydb.) – elephant's-head lousewort (Figure 2B)

Habit: Plants 10–60 cm. Leaves petiolate or the upper ones sessile, 5–20 cm long, outline lanceolate, glabrous, deeply pinnatifid, divisions narrow and toothed. Racemes simple, 1 or 2, exceeding basal leaves, each 20–75-flowered; bracts linear to trullate, 5–10 x 2–10 mm, undivided to pinnatifid, margins entire, serrate, or



FIGURE 1. Rare plants of Redberry Lake Biosphere Region (Photo V. Kricsfalusy): A – common butterwort (*Pinguicula vulgaris* subsp. *vulgaris*), B – sparrow's-egg lady's-slipper (*Cypripedium passerinum*), C – sand-dune wheatgrass (*Elymus lanceolatus* subsp. *psammophilus*).



FIGURE 2. Rare plants of Redberry Lake Biosphere Region (Photo V. Kricsfalusy): A – Hudson's cinquefoil (*Potentilla hudsonii*), B – elephant's-head lousewort (*Pedicularis groenlandica*), C – crowfoot violet (*Viola pedatifida*).

2-serrate, surfaces glabrous. Flower calyx 5-lobed; corolla reddish purple or pinkish, rarely white; beak curved outward and upward, galea resembling an elephant head, lower lip 3-lobed; stamens 4. Fruits are glabrous capsules, flattened, curved.

Range: Subarctic America to W. & W. Central United States.

Distribution in SK: Boreal Transition, Churchill River Upland, Tazin Lake Upland, Selwyn Lake Upland. RLBR – one location.

Habitat: open black and white spruce woods, forested swamps and treed bogs.

Conservation Status: Status: **S2** G5 N5.

Violaceae – Violet family

Viola pedatifida G. Don – crowfoot violet (Figure 2C)

Habit: perennial plant with leafless flowering stems, 5–30 cm in height. The basal leaves, 2–11, ascending to erect, having blades deeply cleft, surfaces pubescent, hairs sometimes concentrated on veins. Flowers solitary, on leafless stalks, are purple-blue with a white throat, lateral petals heavily bearded. Flower measured to 18 mm diameter. Sepals lanceolate to ovate, margins ciliate or eciliate, auricles 1–2 mm; petals light to

soft reddish violet on both surfaces, lower 3 white basally, dark violet-veined, lateral 2 and lowest usually bearded, lowest 10–25 mm, spur same color as petals, gibbous, 2–3 mm; style head beardless. Fruit, in an ovoid capsule up to about 9–12 mm long, initially green, erect when mature and drying tan.

Range: Canada to W. Central & E. Central United States.

Distribution in SK: Boreal Transition, Churchill River Upland, Tazin Lake Upland, Selwyn Lake Upland. RLBR – one location.

Habitat: dry, hilly prairie and exposed banks.

Conservation Status: **S3** N5 G5.

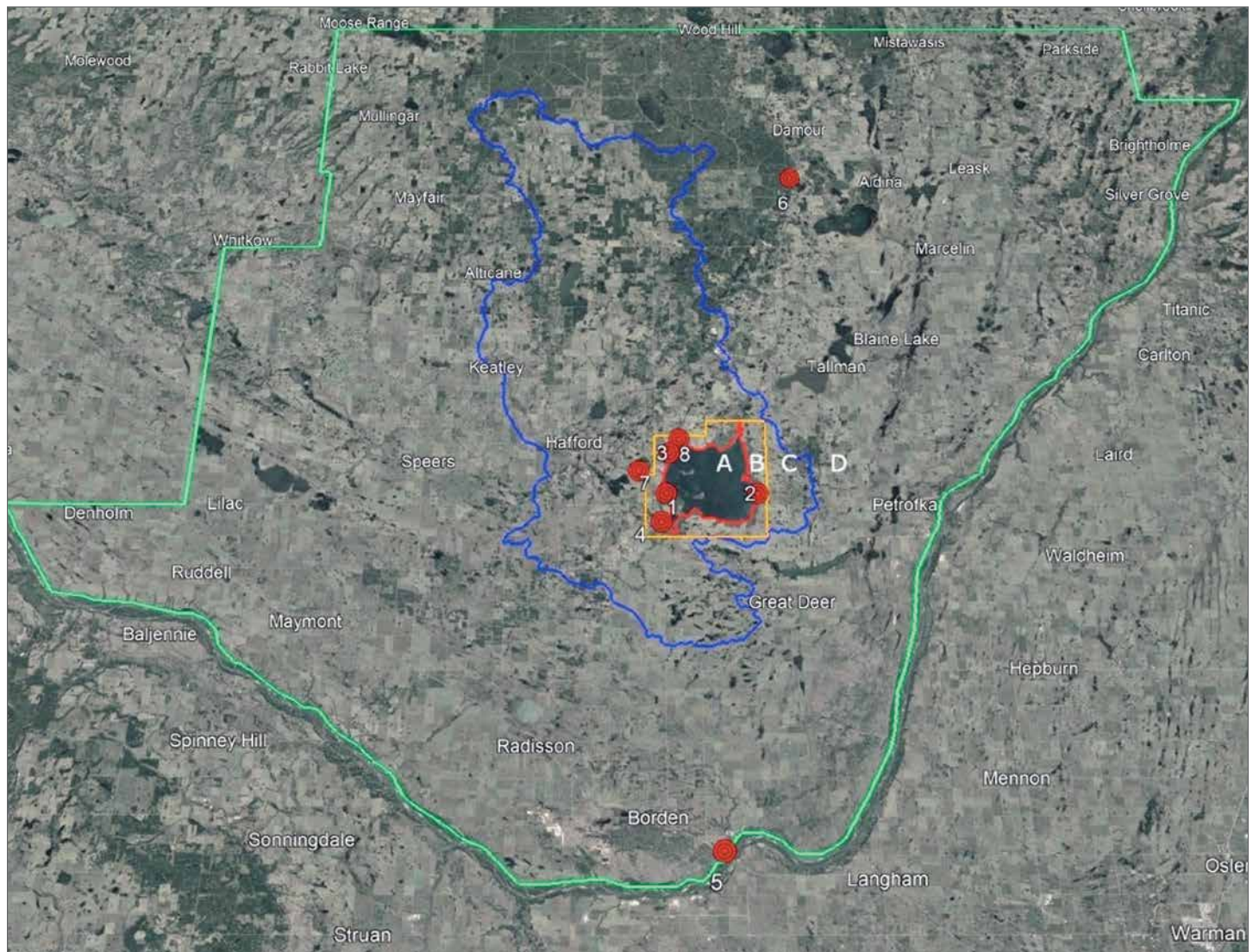


FIGURE 3. Zonation and biodiversity hotspots of Redberry Lake Biosphere Region (RLBR).

Three zones of the biosphere region: **A** (red outline) – core area, **B** (orange outline) – buffer zone, **C** (blue outline) – former transition area (Redberry Lake Watershed), **D** (green outline) – new transition area.

Hotspots of rare plant species: **1** – *Almutaster pauciflorus*, *Botrychium campestre*, *Corallorhiza striata* var. *striata*, *Corispermum americanum* var. *americanum*, *Corispermum pallasii*, *Cypripedium parviflorum* var. *pubescens*; **2** – *Almutaster pauciflorus*, *Amphiscirpus nevadensis*, *Corispermum americanum* var. *americanum*, *Corispermum pallasii*, *Ruppia cirrhosa*; **3** – *Almutaster pauciflorus*, *Gentianopsis virgata* subsp. *macounii*, *Cypripedium parviflorum* var. *pubescens*, *Liparis loeselii*; **4** – *Almutaster pauciflorus*, *Gentianopsis virgata* subsp. *macounii*, *Cypripedium parviflorum* var. *pubescens*, *Liparis loeselii*; **5** – *Astragalus australis* var. *glabriusculus*, *Corispermum pallasii*, *Elymus lanceolatus* subsp. *psammophilus*; **6** – *Cypripedium passerinum*, *Pedicularis groenlandica*, *Pinguicula vulgaris* subsp. *vulgaris*; **7** – *Almutaster pauciflorus*, *Gentianopsis virgata* subsp. *macounii*, *Pinguicula vulgaris* subsp. *vulgaris*; **8** – *Almutaster pauciflorus*, *Gentianopsis virgata* subsp. *macounii*, *Pinguicula vulgaris* subsp. *vulgaris*.

This study allowed the identification of nine new rare vascular plants in the recently acquired areas of Redberry Lake Biosphere Region. The obtained results indicate that the habitat preferences of newly discovered rare plants are as follows: grasslands (2 taxa), sand dunes (2), moist forests/swamps (2), aquatics (2), and fens (1). Overall, based on this and my previous study⁷ eight species-rich sites that possess more than two rare plants are delineated (Figure 3): 6 taxa (1 site), 5 taxa (1 site), 4 taxa (2 sites), and 3 taxa (4 sites).

Most of newly identified occurrences of rare plants are located outside of the core and buffer zone of RLBR. These locations are vulnerable to threats, such as habitat fragmentation and an increased disturbance regime due to agricultural intensification, resource extraction and recreational activities. The realization of conservation goals requires strategies for managing whole landscapes including areas allocated to both production and protection.¹ Therefore, land managers have to employ rare plants occurrence data to assess species distribution across multiple scales within the biosphere region to prioritize their population monitoring and adopt existing beneficial management practices.¹⁷ As suggested earlier, the rare plant occurrence data should be continually updated, and long-term monitoring plots must be established for the rarest species.¹⁶

Conclusions

Conducted surveys of rare vascular plants in the newly acquired areas of Redberry Lake Biosphere Region revealed several new geographic locations, habitat types and rare species. Populations of these rare plants are located in the transition zone of RLBR, which is intended for sustainable use of natural resources and not biodiversity conservation. Land management needs to include new areas for biodiversity conservation in addition to areas where resource extraction may continue (under restrictions and improved standards). It could be achieved through extending the buffer zone of RLBR and establishing Important Plant Areas (IPAs) within the biosphere region.

Acknowledgements

I am grateful to John Kindrachuk, Executive Director of Redberry Lake Biosphere Reserve, for giving access to the newly acquired areas of the biosphere region and for helping to organize my field visits. I thank Denver Falconer for guiding through plant collections at the W.P. Fraser Herbarium of the University of Saskatchewan. I also thank Kataya Ulrich, a student in the School of Environment and Sustainability at the University of Saskatchewan, for the fieldwork assistance.

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POETRY

turtles
 carapace-plastron
 basquing-feeding-socializing
 green-yellow-black-painted
 swimming-diving-hunting
 hibernating-emerging
 turtles

Brian K Jeffery
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A FOND FAREWELL TO OUR TEAM MEMBER & FRIEND (AND A BRIEF CENSUS UPDATE!)



Kaytlyn Burrows (front) and Rachel Ward taking a break during field work. Photo credit: Kaytlyn Burrows.

Kaytlyn Burrows

Habitat Stewardship Coordinator
Nature Saskatchewan

Hello *Blue Jay* readers! I want to take this time to express my immense gratitude for our co-worker and friend, Rachel Ward. She has now completed her term with us at Nature Saskatchewan and it has certainly left a void in our team and our hearts! Rachel began her time with us as a Habitat Stewardship Summer Assistant with the Stewards of Saskatchewan programs in May 2021, and was able to stay on with us as a Habitat Stewardship Coordinator until the end of her term in December 2022. Rachel has been an invaluable member of the team! She brought a wealth of wildlife knowledge, enthusiasm and an infectious passion for conservation to our organization. I was very fortunate to be able to work with Rachel for her entire term and we quickly realized how much we have in common and became fast friends. It's been such a pleasure working with her over this past year and a half and it won't be the same without her! We all wish Rachel the best as she continues to grow in her career and we know, without a doubt, she will find much success. Rachel, thank you for your contributions to Nature Saskatchewan and the Stewards of

Saskatchewan programs!

I also want to provide a brief update on the annual participant census that was featured in the last issue. We are very close to completing the census (90 per cent response being the goal) — so far 87 per cent of Operation Burrowing Owl participants have responded and report 27 pairs, 14 singles, and 10 young Burrowing Owls; 83 per cent of Shrubs for Shrikes participants have responded and reported 61 pairs, 175 singles, and 33 single Loggerhead Shrikes; 79 per cent of Plovers on Shore participants have responded and reported 14 pairs, six singles, and 23 young Piping Plovers; and 63 per cent of Stewards of Saskatchewan banner program participants have responded and reported 822 adult Barn Swallows, 41 Ferruginous Hawks, seven Short-eared Owls, 45 American Badgers, 37 Sprague's Pipits, 39 Bobolinks, 55 Common Nighthawks, 47 Northern Leopard Frogs, 21 Tiger Salamanders, and 15 Monarch butterflies.

If you would like more information on our stewardship programs or just want to chat about species at risk, please give me a call toll-free at 1-800-667-HOOT (4668), direct at 306-780-9833, or email obo@naturesask.ca. I would love to hear from you! 🐦

STAFFING CHANGES AT NATURE SASKATCHEWAN

This past fall saw a few changes to Nature Saskatchewan staff. In September, we welcomed Ashley Vass back, from maternity leave, to her position as Rare Plant Rescue Coordinator. Upon Ashley's return, Emily Putz moved into her new role as Habitat Stewardship Coordinator for the Shrubs for Shrikes, Plovers on Shore and our Banner Program, while Rachel Ward moved into a short-term position — until the end of 2022 — to help with the Stewards of Saskatchewan programs. We thank Rachel for all of her hard work and contributions to Nature Saskatchewan and the Stewards of Saskatchewan programs and wish her all the best.

In December, Shannon Chernick joined Nature Saskatchewan while Lacey Weekes, Manager of Conservation and Education is on maternity leave. Shannon brings a wide range of knowledge and expertise in outdoor education. She has been leading the Get Outside! Kids Club program for Nature Regina for three years along with Lacey and SaskOutdoors. The Get Outside! Kids Club received a Regional Centre of Expertise (RCE) Education for Sustainable Development Award in 2021. Shannon also created the Get Outside! Preschool Club for children between the ages of two and four, and their parent/caregiver, as well as the Get Outside! Field Trip program for inner city schools.

Shannon and her family created the Get Outside! Outdoor Adventure Guides, which received more than 300,000 Facebook views as the "Wandering Wednesdays" social media campaign. Shannon has been featured in local, provincial and national media and conferences as she shares her expertise about outdoor education. Shannon was also the Provincial Outdoor Play Coordinator for SaskOutdoors, encouraging and inspiring kids, families, teachers and adults to get outside and play! She received the Canadian Wildlife Federation - Youth Mentorship Award in 2021.

Shannon is deeply committed to reconciliation through outdoor education and is excited to continue her work with Elders and Knowledge Keepers.

Whether it is -50 or +40 degrees, you can find Shannon outside every day connecting with nature!

Welcome, Shannon! 🐦

2022 LOON INITIATIVES REPORT: MADGE LAKE, DUCK MOUNTAIN PROVINCIAL PARK



SURVEY YEAR	TOTAL ADULTS	# OF TERRITORIAL PAIR	SURVIVING JUVENILES	# OF CHICKS OR JUVENILES LOST
2010/12 AVERAGE	25	9		
2013	75	26	14	2
2014	86	26	9	2
2015	78	26	6	2
2016	82	26	10	0
2017	78	25	16	1
2018	72	26	12	0
2019	75	25	7	1
2020	72	26	10	2
2021	80	23	14	1
2022	82	25	10	2

TABLE 1. Madge Lake Loon Count Summaries 2010-2022.

Doug Welykholowa

Chairperson

YFBTA Loon Initiatives Committee

dougwelyk@gmail.com

This year the ice went off the lake on 16 May, with the loons starting to arrive about a week before as the ice receded from the shorelines, which allowed the birds access to the water. Our first spotting of loon chicks was on 19 June — about the same time as last year.

Circumstances beyond control resulted in us not doing a count until 26 June, when we spotted our first chicks. Of the six chicks initially seen, four were less than a week old and two were approximately two weeks old. This would put the first hatchings at about the middle of June.

Total numbers of Common Loons this year were similar to previous years, with a high count of 82 adults on 6 August (Table 1). We found 13 chicks/juveniles on the lake, of which 10 survived into mid-September. Six of those were only discovered as juveniles in early-to-mid-August. We are fairly confident that they were hatched on the lake, as they were closely accompanied by adults in known nesting territories. It is quite possible that the chicks avoided our previous counts by hiding in the reeds, which are quite extensive in those territories. This has become more prevalent over the years as boating traffic has increased on the lake.

A total of 25 nesting territories were noted this year, which is an increase of two territories from 2021. Four old territories were initially occupied, then abandoned during the summer, and five of six new territories were re-established from 2020 (Figures 1 and 2).

We had a very wet spring and early summer, with the water levels rising over a foot from 2021. This resulted in most of the previously occupied nesting sites having to be relocated to higher ground. As a result, we were only able to directly observe two nests.

The nest on a beaver lodge near St. Michael's Camp was moved higher on

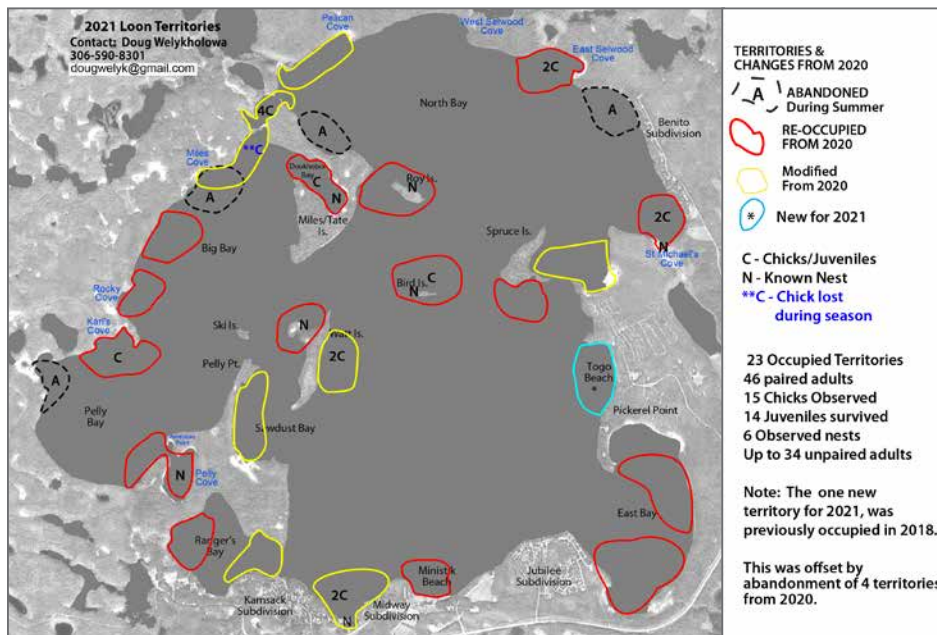


FIGURE 1. 2021 Loon Territories

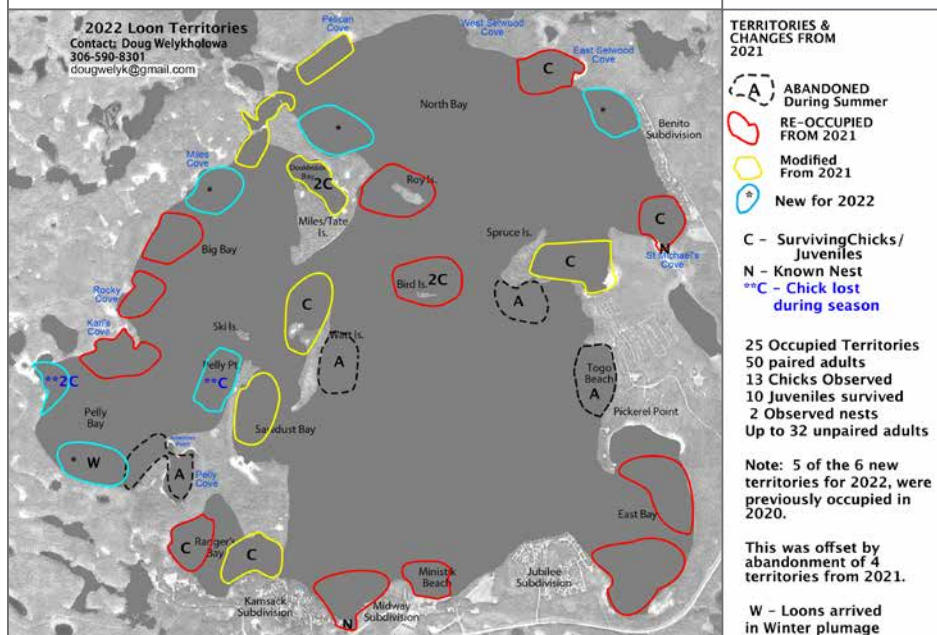


FIGURE 2. 2022 Loon Territories

the lodge, while the one in the old boat lagoon had to be moved about 10 feet deeper into the reeds and positioned on the shore. Previously, that nest was built at the edge of the reeds on an old grebe nest (Figure 3). This pair lost their first set of eggs, then laid another two. Unfortunately, the second set were also lost. This was likely due to predators that had easy access to the shore.

One unusual surprise this year was the arrival of a pair of loons that were still in their winter/non-breeding plumage, into a new territory in Big Bay/Pelly Bay (Figure 4). This pair remained throughout



FIGURE 3. Loon nest in foreground with two eggs. The nest was moved from approximately where the adult loon is due to high water drowning the old location.

the summer, and while the larger bird (likely the male) did eventually moult into its breeding colours by August, the other bird remained in its winter plumage the entire summer (Figures 5 and 6).

While there is normal variation of up to a week in when chicks hatch, we noticed at least one pair, new to the lake and in a new territory, had what was likely a chick from a second laying. On 24 July, when most of the chicks on the lake were around five weeks old, this chick was only about three weeks old (Figures 7 and 8). This is common and usually happens every year.

As in previous years, the lake played host to a large number of unpaired young adults (three-to-five year-olds). These loons were often spotted in different locations on the lake with each count, and group size varied from 10 to 32 birds, depending on the day. It is quite common for these young adults to gather in larger groups in the middle of the lake during the evening, learning to socialize, while dispersing during the day to feed in other locations, including the many nearby kettle lakes surrounding Madge. Normally you can get into the middle

of the group with your boat without the birds getting disturbed.

While the loon population on the lake appears to have remained stable over the last 13 years of data collection, we are beginning to see some disturbing trends in the data. Total numbers of adults have varied between 72 and 86. The totals are not absolute, however, given the difficulties in obtaining an accurate count. For instance, there are a large number of loon pairs residing on the larger kettle lakes within the park boundary, as well as those just across the border in Manitoba. Many of these birds likely fly to Madge periodically to feed, and thus can get caught up in our counts.

The one steady factor is the number of occupied nesting territories, which average 25.3 per year. The variables are the unpaired adults and any fly-ins. The disturbing trend, with variations from year-to-year, are the number of surviving juveniles produced on the lake. Long term studies by Birds Canada and organizations in the northern United States show that in order to maintain a viable loon population, the average number of surviving chicks (reaching



FIGURE 4. Loons in winter plumage, July 2022.



FIGURES. One loon has moulted into its breeding colours, while its mate remains in winter colours, 6 August 2022.

six weeks maturity) has to be above .47 chicks per breeding pair. Over the last 13 years, Madge Lake has averaged only .41 chicks surviving to six weeks per breeding pair. This indicates that the loon population on the lake may not be sustainable at the current levels in the future.

This is also a trend right across North America. In the eastern provinces and northeastern US, acid rain, pollution and resulting increases in methyl mercury are a main cause. Climate change is a contributing factor as well. Here at Madge, pollution and heavy metals are not thought to be as significant, but this is also an area that has not been properly studied. While some predators, such as eagles, are not believed to be a significant problem, other predators may be a problem.

One trend that we have observed, since keeping records, is a significant increase in power boat traffic each year. As previously mentioned, our observations indicate that — in most cases — breeding loon pairs are taking extra measures to hide their young and keep them out of the high traffic boat areas. More research is required to produce definitive answers, but this is well beyond our local capabilities. Whatever the cause is, the loons are an excellent indicator of the health of our environment. What affects them will have broad-reaching consequences in the future, and that should concern us all.

Acknowledgements

Thank you to everyone who accompanied Bob Wynes and I on our loon surveys: Nancy Welykholowa, Shevon Wilson, Rob Wilson and Laurie Murray. A big thanks as well to the Park and its staff for the support they provide us every year. Thank you to YFBTA, the Kamsack Times and Nature Saskatchewan who continually publish this annual report. 🐦



FIGURE 6. Loon in winter plumage feeding on a crayfish.



FIGURE 7. Adults with three week-old chick, 24 July 2022.



FIGURE 8. Loon and five week-old chicks.



All photos courtesy of Doug Welykholowa.

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WITHOUT YOUR VOICE, OURS BECOMES A WHISPER

CHASING NATURE: AN ECOLOGIST'S LIFETIME OF ADVENTURES AND OBSERVATIONS

ROBERT E. WRIGLEY (AUTHOR). ROB GILLESPIE (ILLUSTRATOR). MAY 2020. FRIESENPRESS. 388 PP.
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Imagine speaking with a local television reporter when a Steller's Sea Eagle, one of the world's largest and most magnificent raptors, attempts to land on your head! Well, this was just another day at the office for Dr. Robert E. Wrigley, whose seven decades of adventures in the natural world are recounted in *Chasing Nature: An Ecologist's Lifetime of Adventures and Observations*.

As the title suggests, *Chasing Nature* is an autobiography of sorts, with 230 stories broken into seven chapters coinciding with major chapters of Wrigley's life. First taking an interest in nature in his childhood homes of Argentina and Quebec, Wrigley went on

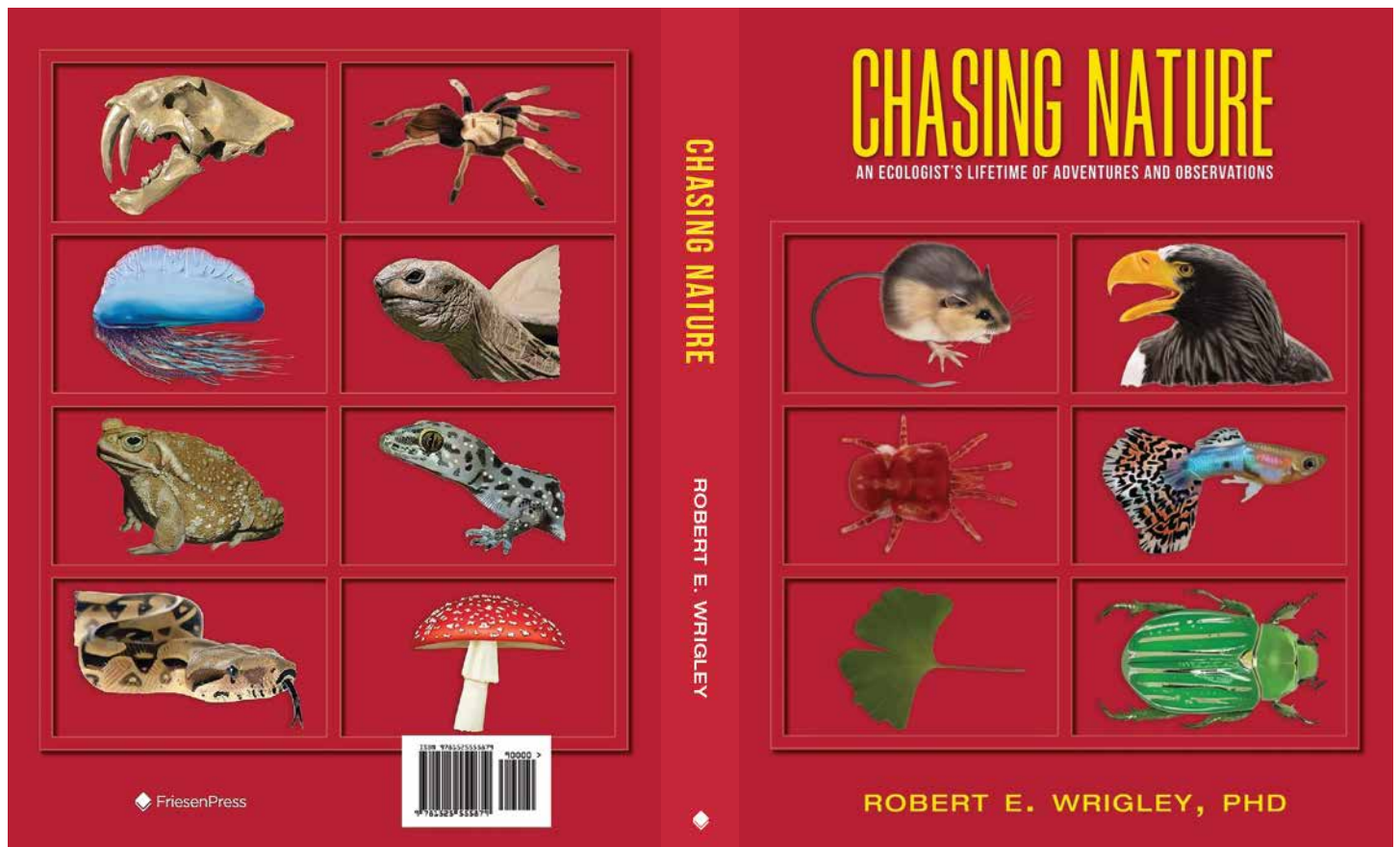
to study at McGill and during his career would compile a truly impressive resume that includes leadership roles at three major nature institutions in Manitoba — the Manitoba Museum, Oak Hammock Marsh Interpretive Centre (which he also helped to establish), and the world-class Assiniboine Park Zoo in Winnipeg.

This vast experience and accumulated knowledge coupled with vibrant storytelling make *Chasing Nature* an entertaining and engaging read. Stories run the gamut from confronting polar bears in the arctic tundra to finding rare insects circling the lights outside a gas station in the southwestern U.S. to the amazing variety of exotic creatures that have lived at the Assiniboine Park Zoo. Although the book is in roughly chronological order, each story stands on its own, meaning one can open it up to

any page and start reading.

Almost every story contains fascinating facts about natural phenomena — did you know all humans have roughly the same number of fat cells, and that they shrink or swell as they fill with oils? How about the fact that pronghorns shed the outer keratinous layer of their horns each year, unlike antlers which are shed entirely, or bovine horns which remain intact year-round? That the extinct Megalodon was three times as long and more than 20 times the weight of the Great White Shark? That Manitoba has native species of jellyfish?

Many of Wrigley's tales are also quite humorous, such as the time he unintentionally crept up on three young women sunbathing in the nude while searching for sand beetles on a Vancouver Island beach, or the times he has been



confronted by confused police officers when searching for insect specimens in obscure or dangerous locations. Many stories are illustrated with Rob Gillespie's cartoons, providing an additional light-hearted comedic element.

It should be noted that much of the field work in zoology is done with gun in hand, and indeed a good number of the wildlife experiences described in the earlier chapters of the book end in the animal's death. Readers who are unaccustomed to the reality of collection (i.e. killing) or are sensitive to such things may find those aspects of the book unpalatable. Indeed, Wrigley himself reflects with a measure of guilt on the large number of animals he has killed during the course of his research. He has also collected many thousands of insects, particularly beetles, although perhaps those are unlikely to arouse as much of the reader's sympathy.

As is all but unavoidable in a modern work of nature writing, there are many stories of loss and decline as a result of humankind's malice or carelessness, and Wrigley closes the book on an especially pessimistic note. Rather than *Homo sapiens* (wise man), Wrigley muses that modern man's culpability in the ongoing

sixth great extinction might make *Homo annihilator* (take a guess) a more fitting moniker.

In particular, Wrigley lays the blame for the current destruction of wild species on overpopulation, and for good reason — the human population has quadrupled just in Wrigley's lifetime, with predictable consequences for natural spaces onto which civilization has encroached. Ultimately, the consequences of burdening the world with too many people will lead not only to the extinction of countless species, but to increased conflict and unthinkable hardship for humanity as well. Short of a strict worldwide population control regime, Wrigley believes there is no hope.

Even so, Wrigley laments the potential loss of a society that has afforded him the opportunity to raise a family, build an extraordinary career and travel the world in peace and prosperity. Modern, western society is a "paradise" in his words, compared to the "short and bloody" lives of our distant ancestors. While Wrigley acknowledges that his own home is on land originally "usurped" from wilderness, he does not mention that the material abundance we enjoy

is a product of the same exploitative mentality that has already doomed countless species and lit the fuse for the population bomb Wrigley fears will continue to fuel climate change, habitat loss and pollution.

It is respectable to see a writer refuse to sugarcoat the direness of our situation, where others may be tempted to tack on a happy or optimistic ending. Wrigley believes that wild spaces should be left alone by humans entirely (except presumably by scientists), but perhaps rather than retreating from wild places, the way forward is to reconnect with an older way of thinking that sees humanity as an integral part of nature, rather than separate and apart from it.

Overall, Wrigley's deep love and respect for the natural world, and his genuine gratitude at being able to experience so much on our beautiful planet is inspiring. *Chasing Nature* will be a worthwhile read for anyone interested in ecology, particularly where mammals, insects, and the wildlife of Manitoba are concerned, but the sheer variety of topics covered are sure to pique the interest of just about anyone who loves nature. I know I will be taking a closer look at the beetles this spring! 🐦



Lhasa the Snow Leopard and two of her three subadult cubs at the Assiniboine Park Zoo, where Robert Wrigley was the Curator. Photo credit: Robert Taylor.

REMEMBERING MYIA TOVEE AND SHARING HER CONNECTION TO NATURE

Lacey Weekes

Conservation and Education Manager
(currently on leave)
Nature Saskatchewan

The YWCA Youth Employment Program aims to find supportive ways to help women who face barriers find employment that aligns with their goals. Nature Saskatchewan was eager to partner with the YWCA on this initiative and welcomed Myia Tovee as a Naturehood Assistant for two months. Myia's goals aligned perfectly with the goals of Nature Saskatchewan. She loved animals, natural history, and continuous learning. I feel very lucky and grateful to have been Myia's supervisor and friend.

Myia helped around the office with various tasks, including creating social media posts and conducting research. She spent most of her time assisting me on field trips with school groups to the Last Mountain Bird Observatory and green spaces in and around Regina. Myia was reconnecting with her Indigenous culture and led each field trip with a smudge to start the day in a good way. Myia was also willing to step outside her comfort zone and share her knowledge with the students.

Unfortunately, Myia passed away suddenly on October 31, 2022. She brought humour and joy to our office and all the students she taught, and she will be missed.

Prior to her passing, we had asked Myia to write a Human Nature article for the *Blue Jay*, which would share an outdoor space she connected with.

Here is Myia's article:

In my short time working at Nature Saskatchewan, it reminded me of all the things greater than myself. My time here has re-sparked my long-lost passion for nature and animals. The unexplainable feeling of

peace that I'm sure you understand. I could sit outside for hours and just stare at the natural beauty that we are so greatly trying to preserve ... it makes me a little sad, but also motivated to do something about it. Like picking up a coffee cup in a park, it shows you care and you are willing to do something.

The moment peace hit me I was at the Last Mountain Bird Observatory. I was walking by the water and I felt this pull to it, and with no further thoughts I went to it. I walked up to the dock and sat down alone. I sat there and stared out across the water. It was quite windy that day, watching the waves rise and sink as the tips turned white with force and power, and then whip into the shore creating the gentle curve of the shore. The sound of the wind zipping through the trees was like music to my ears. Glancing at the gulls, I watched them use the wind to glide, spin, and dart anywhere they wanted. Thinking about this was freeing. I didn't want to leave, and I could have stayed there forever.

Getting to see a Sharp-shinned Hawk up close, and then see it released right in front of my eyes, was one of the coolest things I have ever experienced and that will stick with me for a lifetime. I learned so much at the bird observatory, watching the birds be banded up close and learning that I could leave and do something for the plants and animals in Saskatchewan.

I never knew there could be so much beauty right in front of me, and that I could be a part of helping to preserve it. This was one of the very few times that I actually felt peace, and I wonder if some of the plants and animals that we help and teach people about feel like that, too. I never used to pay attention to birds and types of plants I walked by, but now I care about finding out what kind of bird I just saw, and then doing my best to watch out for them. It feels fulfilling. When I'm outside, I feel at peace in every way — mentally, emotionally, and spiritually. That's why, if I get any chances to go back to the Last Mountain Bird Observatory, I will. 🐦

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THE INEQUITY OF “BALANCE”

Lorne Fitch, P. Biol.

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My mother would give my older brother a chocolate bar, to be shared “equally” with me. He would break the bar in roughly half, then nibble off the extraneous edges so the halves were even. If too much was removed from one piece, the other one required attention, to achieve “balance”. Eventually we would each get the same amount, although he had a head start on the share. This is where I first perceived the inequity of balance.

In discussions about development and the environment, those on the side of development always make the case we need a “balanced” approach, meaning the environment has to give so they can get their share. I have flashbacks to my brother dividing up scarce chocolate bars when I hear this dubious reasoning.

If the expression, balance, meant an equitable, or proportional sharing of resources, landscapes or chocolate, it would be easier to swallow. The reality is most of our landscapes and a majority of our natural resources have already been developed, changed, or in some way lost. If we have already converted 80 per cent of the natural world into some economic endeavor it seems a bit of a stretch to achieve balance as we carve up the remaining 20 per cent. We are not weighing two equal things.

The word balance is a chameleon, depending on who is using it. When the off-highway vehicle community uses the word what they say is “Yes, the environment is important, but we must find a balance.” What they mean is, “We want to continue to drive off road with a minimum of restriction.” Loggers say it’s important to balance protection of old growth forest against forest renewal through clear-cutting. What they really mean is “Keep the annual allowable cut high for better economic return.” The oil patch says we need a balanced approach on controls of greenhouse gas emissions because the proposed actions would cost too much. In other words, “action on climate change is aspirational and breathing is optional.”

Politicians talk of “balancing responsible resource development with the needs

of our diverse landscapes.” Only current politicians could combine two plastic words — balance and responsible — into a fog of bureaucratic bafflelegab.

Without a starting point, a benchmark in time to measure from, trend analysis and a sense of thresholds and limits, balance is a meaningless term. Instead of giving us direction for resource management it sets the stage for continuing to divide up the spoils until the bits left are not worth fighting over. It avoids all that uncomfortable argument about resource depletion, loss of biodiversity and ecosystem failure and allows one to think the status quo can continue.

In planning we tend to ignore everything that happened prior to the plan and allocate resources based on what’s left. Institutional amnesia magically erases the existing development footprint allowing further division to be made, as we continually add to the imbalance of future development against protection. And, as the imbalance grows, we are further separated from the environment that sustains and provides for us.

Balance sounds appropriate, as any smooth-sounding word does, but it is a disingenuous term with much room for manipulation and misunderstanding. Balance is a word much used in public relations spin. The hidden meaning of balance seems to be excessive, unequal division and use of resources, not an equitable sharing, proportional use or restraint. Balance has to convey something more than two wolves and a sheep voting on what to have for dinner.

When the word balance is used, look for imbalance instead. Instead of acts of self-restraint, “balancing” competing demands liberates us from the tough decisions of limits. Writer and conservationist Kevin van Tighem, obviously fed up with this word and how it is used has suggested a moratorium on its use.

Life balances itself on a precarious ledge; through our actions we can maintain it or propel it off the edge. In many cases, to restore ecosystem function and lost or declining biodiversity a drastic re-balance is necessary. That means rolling back the tide of development in a fine adjustment between giving and taking. Imagine the thorns and thistles of local resistance and

business opposition to that idea of balance.

So, how much is enough? Ecologists, like the world-renowned E. O. Wilson, have long called for “Nature needs half.” The rationale is we need to protect and maintain half of the landscape to maintain ecosystem functions, just to allow us to survive. Of course, much of the world’s biodiversity would ride our coattails on this one.

To this I suggest we use the term balance as you might for your bank account. Too many withdrawals, too many expenses and not enough income means we are going broke. Calculations from the WorldWatch Institute indicate the planet has available 1.9 hectares of biologically productive land per person to supply resources and absorb wastes. Yet, the average person on earth already uses 2.3 hectares worth. A report prepared by 1,360 scientists for the World Bank warns that about two-thirds of the natural machinery that supports life on Earth is being degraded by human pressure. Dr. Bill Rees calculates we in the western world are using the equivalent of something like two and half earths to meet our demands.

One might think we have failed to balance our ecological cheque books. It is ironic that those most obsessed with the idea government needs to eliminate deficit spending in the economy continue to promote it in the environment.

Victor Hugo, the famous 19th century writer, remarked that, “To put everything in balance is good, to put everything in harmony is better.” Harmony implies restraint, stewardship and sustainability. To that end we have to decide between what we want and what we need; a gulf exists between these two points, in part due to the blind use of the word balance. We can fall into a deadly trap of thinking balance implies we need not concern ourselves with limits. The implication is we can carry on this ecological Ponzi scheme forever.

In the end it is the recognition we can’t have it all, only a little. If we’ve taken too much, some needs to be given back. Balance that against the prevailing use of the term “balance.”

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

THE ECOLOGICAL BUFFALO: ON THE TRAIL OF A KEYSTONE SPECIES

WES OLSON AND JOHANE JANELLE. JULY 2022. UNIVERSITY OF REGINA PRESS. 304 PP. \$39.95.

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While the focus of Nature Saskatchewan and other conservation organizations is necessarily on the current natural environment, the established 'natural history' part of our mandate means that we also need to understand our region as it existed in the past, including the life that it supported. In Saskatchewan, that means understanding bison and the role they played historically and pre-historically, as well as the role they can play now where they are re-established.

A major contribution to this field arrived in 2022, with the publication of *The Ecological Buffalo: On the Trail of a Keystone Species* by Wes Olson and Johane Janelle. *The Ecological Buffalo* is a wide-ranging compendium of history, research, data, first-hand observations, illustrations and excellent photographs. It provides a broad view of the bison's role as a keystone species within its environment, and a detailed view of the many other species it interacts with in the grasslands and woodlands environments. This theme, which is at the heart of the book, is introduced by an account of the destruction of the former vast herds of bison, and concludes with a description of initiatives to re-introduce bison in wild settings. *The Ecological Buffalo* also includes a substantial bibliography and set of notes, along with several appendices and regular sidebar explanations for those who need to refresh their memory on some of the biological concepts that are applied.

Olson and Janelle have spent a great deal of time observing bison, and their effects, in many ecological settings. Olson worked for decades in various conservation roles, including as a warden at several national parks. Bison became



Photo credit: Johane Janelle.

the special focus of his work, and he eventually became involved in several bison re-introduction projects, as well as many aspects of research, writing and education related to this specialty. His appreciation for the wildlife of our part of the world has also been captured in his work as a visual artist in several media. Janelle has also worked in many aspects

of conservation and wildlife study and education, which has grown into an emphasis on conservation photography. Olson and Janelle have collaborated on two previous books about bison.

The focus of *The Ecological Buffalo* on the bison as a keystone species is expressed in the ecological sense of how they "directly or indirectly influence the



Sketch by Wes Olson.

lives of virtually every organism they share space or time with”. The book is divided into chapters with accounts of plants, insects, birds, small mammals, amphibians and reptiles, ungulates and predators — with reference to 168 other species altogether.

One of the many detailed examples of the bison's relationship with other species is a vivid description of a food web involving bison, a kangaroo rat, a sidewinder rattlesnake, Indian rice grass, and dung beetles. Another example describes the role and use of bison dung — and, as the book says at one point, “it all begins with buffalo patties” — to the shelter and life cycle of burrowing owls, and their interplay with other species that they share their neighbourhood with.

The Ecological Buffalo especially brings the grasslands environment to life with

Olson's personal experiences, such as the time he lay down in the depression of an old buffalo wallow, escaping a gusty, cold wind to experience the shelter that had provided relief for a pronghorn giving birth a short time before. The descriptions of grassland or woodland ecology are not limited entirely to bison, as shown by a fascinating observation of cooperative hunting between a coyote and a badger in a prairie dog colony.

Olson also makes reference to bison as a “cultural keystone species” because of their significance to the people who once depended on them, but acknowledges that this is such a large subject that it couldn't have been adequately told with just a section of this book. The final section of the book does cover one current aspect of the relationship between bison and people — the efforts to re-introduce

bison to pieces of their old range — with a conclusion that bison ranges will continue to provide critical habitat for many species.

It is of course impossible to talk about the ecology of the North American bison without a sense of immense loss, but *The Ecological Buffalo* still creates an appreciation for the role that the bison had and can have, for the way that its former impact still endures, and simply for the example it gives of the complexity and beauty of the natural world.

The Ecological Buffalo is published by University of Regina Press. Nature Saskatchewan was a supporter of the project along with the Canadian Bison Association and several other contributors. The book can be purchased through the Nature Saskatchewan website as well as various retail outlets. 🐦

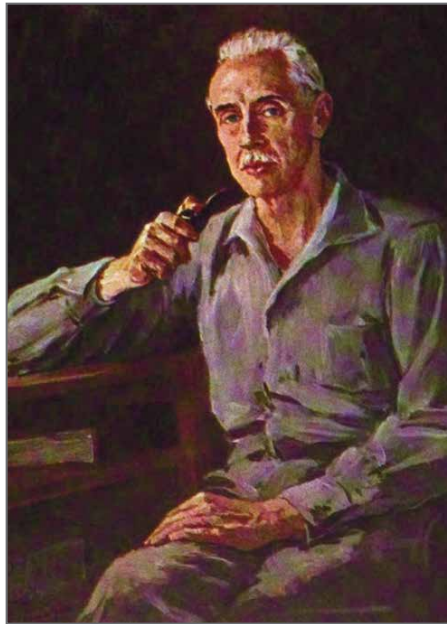
REX BRASHER: PHENOMENAL PAINTER OF BIRDS

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Having collected and enjoyed natural history books all my life, I learned decades ago that I had to use some sober judgment regarding which ones I should acquire for my library. After all, there are limitations when it comes to budget, shelf space, and time to read. Relevant nature books back in the 1950s and '60s were relatively uncommon compared to the books covering an enormous variety of topics that are being published at an astounding rate in recent times.

With an overlapping interest in art and biology, the wildlife art section of my bookshelf has still managed to creep steadily along, including books on dinosaurs and their only surviving descendants — birds. Many of these texts have such fascinating stories behind them, including the background of the artists and the challenges they overcame — rugged expeditions, painting steadily for decades, securing funding (from jobs, patrons and advance sales), and all the intricacies of dealing with publishing firms and galleries. The skill, dedication, and sheer workload achievements of many natural science artists of the past are often inconceivable.

One of these wildlife artists represented in my library is Rex Brasher (1869-1960), whom I knew little about until recently. In his massive two-volume magnum opus, entitled *Birds and Trees of North America*, he took on the challenge (without formal training) of preparing 875 watercolour paintings covering the 1,200 species and subspecies of birds based on the contemporary Checklist of North American Birds (American Ornithologists Union), plus integrating 400 native trees and shrubs in the portraits. Both genders of birds as well as immatures were presented, in habitat, and depicted typical activities. In total, he painted 3,000 individual birds (including now-extinct species); for example, eight Hairy Woodpeckers are illustrated, representing both sexes and six subspecies. This remarkable

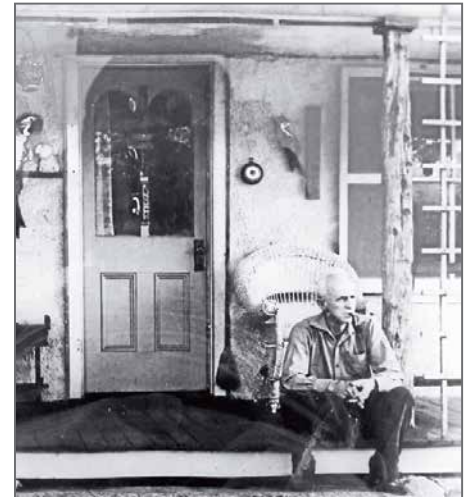


Rex Brasher, self portrait.

project generated more than twice the number of bird plates produced by John James Audubon or Louis Agassiz Fuertes. The work was described as “The most ambitious publication of colored plates of birds executed in this century,” by Sidney Dillon Ripley (famous ornithologist and Secretary, Smithsonian Institution from 1964-1984).

Rex Brasher's first edition in 12 volumes appeared between 1929 and 1932; my two volumes were published in 1962 by Rowman and Littlefield Inc, New York, which sadly, for economic concerns, deleted numerous plates. With dimensions of 16 x 12 inches (41-31 cm) and weighing a total of 17.2 lbs (7.8 kg), this work is definitely not a field guide, but truly wonderful books to enjoy at a desk. Turning page after page of these dazzling portraits becomes overwhelming, and it is hard to believe that one person could possibly generate such a body of work in their lifetime.

Rex Brasher began painting in his early teens, encouraged by his father Phillip (a Wall Street broker), who was also a keen naturalist and bird taxidermist. As the story goes, Phillip had made an appointment to visit John James Audubon in 1840, but upon travelling some distance and arriving at his home, he was rudely informed that



Rex Brasher at his Chickadee Valley homestead.

Audubon was too occupied to meet him. Able to view into a back room from the porch, he could see Audubon painting a dead bird hanging from an easel. Upon hearing this tale later, eight-year-old Rex resolved to become a better bird painter than Audubon. From that moment on, for rebuffed father and son, there was a definite goal on every trip into the countryside to observe and hunt birds for specimens, with young Rex first using a slingshot, then graduating later to a gun. Between his father's bird collection (soon to be donated to Yale University), and Rex's rapidly growing collection, the inevitable happened. One day, when Rex arrived home with fresh specimens of an Eskimo Curlew and Long-tailed Duck (at the time known as an 'Old Squaw'), he was told in the most direct terms by his mother that “There will be no more birds in this house. Those are the last two you can stuff.”

In the ensuing years, Rex increased his knowledge of bird life and anatomy by absorbing every book on birds he could find in local libraries and shops. At first, understandably critical of Audubon's work, he later developed an appreciation for the pioneer's achievements in painting 489 bird images. For a number of years, Rex took on odd tasks (e.g. farmhand, hardware store clerk, working on a fishing vessel, lithographer, engraving for Tiffany's, and betting on horses) to finance his painting materials and field excursions. One of



American Avocet.

his winnings at the track netted \$10,000, which more than covered his expenses for an extended trip to the Mid-West. Travelling by train and for months on foot, he visited every state and several provinces, lying for hours at a time in a blind, observing and sketching birds in their natural habitats.

Once, when staying at a boarding house in Louisiana, the proprietor asked Rex: "Ah! you hunt les oiseaux. But why have you not the gun?" Rex responded "I hunt with a pencil, not a gun." In addition, Rex studied bird specimens at the American Museum of Natural History in New York and, in 1907, he befriended Louis Agassiz Fuertes, whose skilled portraits of birds influenced his own painting. Suddenly dissatisfied with his early work, he twice burned all his paintings, numbering an estimated 700 canvases — the result of 14 years of labour. Interestingly, Rex later contributed numerous drawings for the renowned book *Birds of America* (1936), which featured 514 bird portraits by Fuertes.

Over the years, his niece, Katherine Marie Louise, was a close companion for Rex at his remote homestead he called Chickadee Valley, near Kent, Connecticut. She was instrumental in keeping the home, inspiring his paintings, aiding

his research, and typing up his notes. Then one day she remarked "Well Rex, you have only eight more to do" and he responded "Yes, and most of them are those damned sparrows." The LeConte's Sparrow was the last species in the massive collection completed in 1932, which all told consumed 48 years of his life. Often working 10 hours a day, with an occasional day off for chores and to greet visitors, he had succeeded in hand-colouring many thousands of individual bird reproductions to make 100 complete sets of his 12-volume books. What a remarkable display of passion and perseverance.

Rex was finally ready to publish his artwork and text, but the cost of printing all these colour plates was so prohibitive that no publisher would contemplate the venture. Not to be discouraged, Rex came up with the



Downy Woodpecker.

solution of having black-and-white images printed, and then meticulously hand-colouring (at 60 years of age) the many thousands of prints himself, using a watercolour airbrush and stencil technique that he developed, a task that took four years. After overcoming almost insurmountable technical, printing and financial challenges, he and his partners were finally able to produce a limited edition of 100 sets. At the end of each of the books were added complete notes on species' status, habitats, distribution, reproduction, and his personal observations.

Following several successful and prestigious exhibitions, including at the Smithsonian Institution in Washington, Rex sold the entire collection of original paintings to the State of Connecticut in 1941 for \$74,900. The intention of the State was to build a new gallery to house the collection, but with the failure to raise sufficient funds during austere times, the collection was transferred to the University of Connecticut and, since 1988, is now located at the Thomas J. Dodd Center for Human Rights in Storrs, Connecticut.

For much of his life, Rex lived simply on his farm (without electricity), preferring to paint by natural light, and even chopping firewood to heat his home. He finally passed away at the age of 91. The Rex Brasher Association was formed in 2008 to promote broader knowledge about this remarkable person's contributions to natural history, to investigate ways of exhibiting his collection, and to inspire a new generation of bird enthusiasts. I am hopeful that someday a publishing firm will decide to make his complete collection of bird paintings available in a



Piping Plover.

new book — a testament to one man’s passion. I would love to see a copy sitting on my library shelf. My 1962, two-volume, abridged set has long been out of print, but it occasionally is offered for sale by book dealers.



A page from Rex Brasher’s biography (#86 page, 54).

Selected reference

Brasher ME (1962) Rex Brasher: painter of birds, a biography. New York: Rowman and Littlefield. 345 pp. <https://babel.hathitrust.org/cgi/pt?id=mdp.39015031095261&view=1up&seq=414>

Dr. Robert E. Wrigley is a retired ecologist living in Winnipeg. He was the Curator of Birds and Mammals, and Museum Director, of the Manitoba Museum of Man and Nature, the founding Director of the Oak Hammock Marsh Interpretive Centre, and the Curator of the Assiniboine Park Zoo. Although trained as a mammalogist, he developed a passion for entomology, particularly beetles, and prepares annual donations of specimens to museums. 🐦

HUMAN NATURE: MCBRIDE LAKE

James Dahl

Grade 7 student
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Have you ever been to a cabin and looked at the lake or woods and felt a sense of freedom that you can’t have in the city? That’s how I feel when I go up to my grandparents’ cabin at McBride Lake every summer. I really enjoy the four-hour drive to the cabin because my brother and I watch the landscape change. When we leave Regina, there is lots of open prairie. As we get farther north, we begin to see a lot more trees. We know we are close to the cabin once we hit the forest. There is an exact line where the farmland changes to a forest line. My dad says it’s where “prairie meets pine”.

When we are at the cabin, one thing I like to do is go quading with my dad. There are many hunting and logging trails around the lake. Sometimes we get to see some of the forest animals. One time we came around a corner and a black bear was on the trail. She ran off, but we saw movement to the side and there were two bear cubs climbing a tree. It was the closest I had ever been to a bear. You have to be careful when quading, as you might run into a bear or you could even get a bug in your ear. Once a bug flew into my dad’s ear and he couldn’t get it out. It was buzzing against his ear drum so bad that he drowned the bug in his ear and had to go to the hospital to get it flushed out.

We also go fishing almost every day when we are at the cabin. I prefer to still fish. We don’t catch a lot of fish but we bring lots of snacks on the boat, which is

good. There are lots of things to see when we are fishing. We sometimes see a beaver swimming around the edge of the lake. One summer there was a pelican with a broken wing so it just stayed on this one bay. Some people would give it fish to eat since they felt bad for it. Often, we see deer coming down to the lake to get a drink. There are many loons that sing and dive under the water and we wait to see where they will come up. When we get back to shore, we often chat with the neighbours about who caught what. We try to have fish for supper once in a while.

When I am not doing things with my family, I do stuff with my friends. I have a little group of friends I hang out with. The last time I saw my best friend, Coen, at the lake was before the COVID-19 pandemic started, but I think I will see him this year. He is from Japan and he comes to Canada to visit his grandparents. Coen and I go on bike rides to the creek, go swimming, and go tubing together with his grandpa’s boat. We also hang out in each other’s cabins and have campfires with smores.

Summer is coming and I am looking forward to enjoying the freedom of the environment. This summer I will probably use our new kayaks a lot more. Kayaking is a good workout and I probably will be able to get closer to the birds on the lake. This past year my teacher taught me about all the different kinds of birds, so I am going to see how many different bird species I can identify. I hope the Saskatoon berries are better this year. I like to go pick them and the wild raspberries. I wonder what animals we will come across this summer? 🐦



McBride Lake. Photo courtesy of James Dahl.

MYSTERY PHOTO

SPRING 2023

QUESTION: What butterfly species is shown in this picture, and what are these butterflies doing?

Hint: this photo was taken in Cypress Hills Interprovincial Park on June 11, 2022, and the butterflies are pictured along the bank of a stream.



Photo credit: Annie McLeod.



WINTER 2022

ANSWER: The Elm Spanworm moth (*Ennomos subsignaria*) is found in North America, from Alberta to the Atlantic coast and south to Texas. The females lay about 250 eggs and if larvae are present in sufficient numbers, they can defoliate elm, birch, maple, and oak forests. In urban areas, male moths flying at lights at night can sometimes appear like a snowstorm in summer.

For more information on this beautiful moth, visit https://en.wikipedia.org/wiki/Ennomos_subsignaria and <https://legacy.winnipeg.ca/publicworks/insectcontrol/insect/elmspanworm.stm>

Photo credit: James R. Duncan.



Nature
SASKATCHEWAN

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