

DISTRIBUTIONAL NOTES ON SOME MAMMALS OF THE BATTLEFORDS REGION, SASKATCHEWAN

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Introduction

Knowledge of the species and distribution of mammals in Saskatchewan was updated in 1958 with the publication of W. Harvey Beck's *A Guide to Saskatchewan Mammals* (Figure 1).¹ In addition to specimens catalogued in the Saskatchewan Museum of Natural History (now Royal Saskatchewan Museum), Royal Ontario Museum, and University

of Saskatchewan Biology Museum, Beck relied on J. Dewey Soper's collections² to update and revise William A. Fuller's unpublished list of Saskatchewan mammals.³ More than 100 years had elapsed since Sir John Richardson and Thomas Drummond collected mammals in Saskatchewan, chiefly at Fort Carlton and along the North Saskatchewan River, between 1825 and 1827.⁴ There has not been an update of Beck's *A Guide to Saskatchewan Mammals* since 1958.

As a high school student in Battleford, Saskatchewan, from 1958 through 1961, I studied the accounts of each species of mammal in "Beck's Guide" and noted only one species had been recorded in the Battleford/North Battleford area (the Battlefords), as depicted by dots on the distribution maps that represented the localities given in the text where specimens were collected. Following an earlier plea for specimens of Saskatchewan mammals⁵, Beck encouraged naturalists to record mammals in their respective regions to fill gaps in the species' distributions. Beck provided instructions for preparation of specimens for permanent deposition in museum collections.¹

In response to Beck's plea, I observed mammals and preserved voucher specimens of primarily small mammals in the Battlefords area between 1959 and 1961, May to September 1962, 20-29 September 1975, 13-16 August 1999, and 30 July to 3 August 2005, with observations made opportunistically during annual

visits through 2024. Distributional notes are presented in the species accounts, whereas specimens of those and other species, habitats from which they were taken or individuals observed, and anecdotal notes on natural history, are given in Appendix 1.

Methods

Specimens were trapped with commercial mouse and rat traps from 1959 to 1962, but later with traps specially designed for sampling small mammals, which are slightly larger and generally do not damage the skulls and tooth rows upon which the identities of some species are confirmed. Hundreds of trap-nights were conducted in all habitats, in all seasons, to obtain voucher specimens, including fur bearers. Most bats were salvaged in and around buildings. Labels included measurements (nearest mm) of total length, tail vertebrae and hind foot, and notes were included for some specimens on reproductive condition. Specimens taken in 1999 and 2005 were weighed to the nearest 0.1 g on a triple beam balance. Unless otherwise stated, observations and specimens originated from within a radius of 15 km south and southwest of the centre of Battleford, particularly in the vicinity of Winniford Lake (N52.681939°, W108.42545°), which is known locally as "Johnson's Lake" (Figure 2), and in riparian woodlands that bordered the Battle River and North Saskatchewan River.

I preserved the skin and skull of each

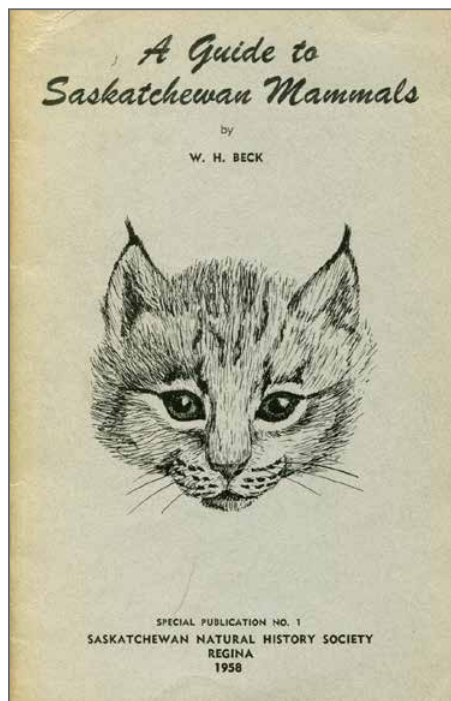


FIGURE 1. W. Harvey Beck's *A Guide to Saskatchewan Mammals* (1958).



FIGURE 2. Many specimens were collected near Winniford Lake, about 8 km south of Battleford. This photo was taken during a period of high water, in 2014. Photo credit: S.G. Sealy.

specimen, although a few skins, but not skulls, damaged by insects were discarded. Specimens were deposited in the Beaty Biodiversity Museum, University of British Columbia, Vancouver; Royal Ontario Museum, Toronto; Royal Saskatchewan Museum, Regina; and University of Saskatchewan Biology Museum, Saskatoon. I initially followed nomenclature used in Beck's Guide and later Banfield's *The Mammals of Canada*⁶ but because scientific names of many species have changed in recent years, I followed nomenclature and order of species listed in the *Revised Checklist of North American Mammals North of Mexico*.⁷

Following Bird's *Ecology of the Aspen Parkland of Western Canada*⁸, I identified 10 habitat types from which mammals were observed or collected in the Battlefords region: (1) native grass, between aspen (*Populus tremuloides*) groves (bluffs); (2) vegetated shorelines of wetlands when water levels were low; (3) potholes surrounded by broad-leaved cat-tail (*Typha latifolia*), willow (*Salix* spp.) and usually also aspen; (4) roadside ditches of predominantly brome grass (*Bromus inermis*) that extended into patches of wolf willow (*Eleagnus commutata*) surrounded by native grass; (5) mixed patches of rose (*Rosa* spp.) and snowberry (*Symphoricarpos occidentalis*) surrounded by native grass; (6) choke cherry (*Prunus virginiana*) adjacent to roadside ditches; (7) riparian woodlands, for example, along the south shore of Winniford Lake and the Battle River and North Saskatchewan River; (8) aspen bluffs; (9) native prairie in sand hills; (10) marsh; and (11) in or associated with buildings. Most photographs of habitats were taken between 20 and 29 September 1975 (Figures 3-6).



FIGURE 3. Vegetated shoreline of Murray Lake, Saskatchewan, during a period of low water level. Photo credit: S.G. Sealy.



FIGURE 4. Roadside habitat and prairie leading to an aspen bluff. Photo credit: S.G. Sealy.



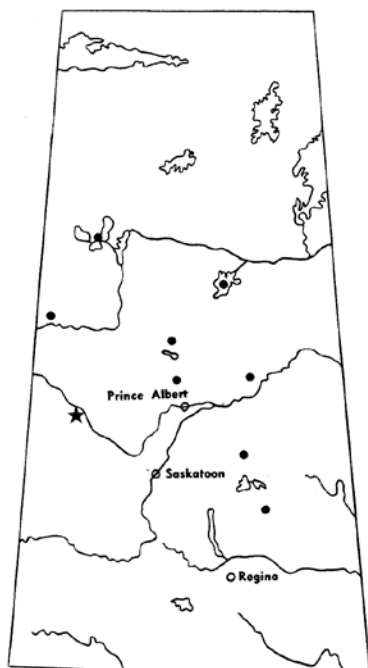
FIGURES 5. Aspen bluffs in juxtaposition with farmland. Photo credit: S.G. Sealy.



FIGURE 6. Farmland abuts a riparian woodland along the Battle River. Photo credit: S.G. Sealy.

Species accounts

Arctic Shrew (*Sorex arcticus*) – An unsexed, slightly decomposed individual was found in an otherwise empty nest of a Meadow Vole (scientific names in Appendix 1) in wild barley (*Hordeum jubatum*) along the margin of Murray Lake, 3 km east of Cochin, on 24 September 1975. One female and one male were taken in damp cattail at the edge of a moist pothole ringed with willow, which in turn was ringed with aspen, on 26 and 27 September 1975, respectively. The moist habitats from which these specimens were taken were similar to those described for Arctic Shrews elsewhere on the Canadian Prairies⁹⁻¹¹, although collections made later in Manitoba revealed use of dry sites.¹² Prior to these records, the southernmost record of Arctic Shrew in western Saskatchewan was about 290 km to the north, at Buffalo Narrows (Figure 7). Failure to collect this species prior to 1975, or since, possibly reflects its disjunct distribution along the southern edge of its range, difficulty in capturing the species because populations vary in size among years,¹³ or due to a lack of survey/trapping efforts for small mammals in Saskatchewan.



● *Sorex arcticus*

FIGURE 7. All but one species of mammal collected in this study added the Battlefords to the list of confirmed localities of occurrence in Beck's *A Guide to Saskatchewan Mammals*. Locations on the map shown here for Arctic Shrew in Beck's Guide (p. 8) depicted known localities of this species in Saskatchewan through 1958; the star indicates the Battlefords records, based on specimens taken in 1975.

Masked Shrew (*Sorex cinereus*) – At the outset of this project, two subspecies of Masked Shrew, *S. c. cinereus* and *S. c. haydeni*, were recognized in Saskatchewan.¹ In 1980, these subspecies were determined to represent two distinct species — Masked or Cinereus Shrew (*S. cinereus*) and Prairie or Hayden's Shrew (*S. haydeni*).¹⁴ The 13 specimens from the Battlefords were referred to *cinereus* by Randolph L. Peterson and Judith L. Eger of the Royal Ontario Museum.

The southern limit of the range of the broadly distributed Masked Shrew has been shown to occur just south of the Battlefords.^{6,14,15} The few records of Prairie Shrew (recorded as *S. c. haydeni*) mapped in Beck's Guide generally were restricted to grassland regions of southwestern Saskatchewan. Exceptions were Prairie Shrews taken near Saskatoon and Turtleford, the latter 82 km northwest of the Battlefords.^{1,14} Remains of six Prairie Shrews removed from pellets cast by Great Horned Owls (*Bubo virginianus*), however, confirm this species' occurrence in the region.¹⁶

Big Brown Bat (*Eptesicus fuscus*) – Prior to the present study, none of the five species of bats, including the Big Brown Bat (Appendix 1), was recorded from

the Battlefords. With the exception of the Eastern Red Bat, all species were expected to occur on the basis of the extent of their ranges known at the time. In an early assessment of the status of bat species in Saskatchewan, Austin L. Rand, then of the National Museum of Canada (now Canadian Museum of Nature), stated of the Big Brown Bat: "We have no specimens, but it undoubtedly occurs, and we would be interested in seeing some to determine whether the pale prairie or the dark eastern subspecies, or both occur."¹⁷ The following year, Fuller considered this species to be "probably [Saskatchewan's] most common [bat] species."³

Initially salvaged eight specimens of Big Brown Bat in and around Battleford Collegiate Institute in 1959–60¹⁸ (Figure 8) that were examined by Robert W. Nero of the Saskatchewan Natural History Museum. Nero wrote (*in litt.*, 29 March 1960), "[the] specimens are good examples of what may be called intermediates between *Eptesicus fuscus fuscus* and *E. f. pallidus*], at least by color. Most Regina specimens are paler, i.e. — *pallidulus* [*sic*] subspecies, although we have good examples of *fuscus*." Both subspecies had been reported in Saskatchewan, with specimens of *fuscus* taken in Saskatoon and specimens of *pallidus* taken at Estevan.³



FIGURE 8. Male Big Brown Bat (RSKM_MAMM_M-407/11978) found dead in a classroom of Battleford Collegiate Institute, Battleford, Saskatchewan, 19 November 1959. The insect damage at the tip of the left wing was a problem encountered during preservation of some of the early specimens. Courtesy of the Royal Saskatchewan Museum.

Eastern Red Bat (*Lasiurus borealis*)

— I collected a female (USBM-M 2387) roosting about 1 m high in Red-osier Dogwood (*Cornus stolonifera*) at the edge of an extensive stand of Cottonwood (*Populus angustifolia*) on 2 September 1965 (Figure 9). At the time, this was apparently the most northwesterly record of this species in Saskatchewan, but in 2001 one was captured and released farther west and north in Alberta, about 60 km north of Fort McMurray.¹⁹ Additional records have confirmed that this species' known range extends to northeastern British Columbia.²⁰

Meadow Vole (*Microtus pennsylvanicus*) —

A large sample of *Microtus* was preserved because of the possibility that the Prairie Vole (*M. ochrogaster*) also occurred in the region. The eight specimens collected in 1959 and 1975 were identified as Meadow Voles, referable to *M. p. drummondii*, the subspecies expected to occur in the region on geographic grounds.^{1,21} Specimens were collected in wet margins of wetlands, including an alkaline slough; patches

of *Bromus-Eleagnus* and *Carex* along roadsides, and in native prairie at edges of pastures. Of 197 individuals of *Microtus* dissected from pellets cast by roosting Great Horned Owls in the region in 2014-15, all were Meadow Voles.¹⁶

A recent record of Prairie Vole (RSKM_MAMM_M-3722) has come to light — a skull removed from the stomach of a Great Horned Owl salvaged by a Conservation Officer at North Battleford on 30 July 2012. This confirms the occurrence of this species in the region and reveals another source of data for occurrences of small mammals in a region. The northernmost record of Prairie Vole in Saskatchewan depicted in Beck's Guide was an individual found dead at Dundurn.¹

Northern Grasshopper Mouse

(*Onychomys leucogaster*) — A male was captured in an active burrow of the Northern Pocket Gopher in a potato patch, 8 km south of Battleford on 2 September 1959. This record was about 85 km west of the previous western record of this species in Saskatchewan, at Asquith.¹ This species is more common in the Battlefords than this record indicates, as the RSKM holds specimens of 39 individuals extracted from Great Horned Owl pellets.¹⁶ The Northern Grasshopper Mouse's use of burrows constructed by other mammals has been noted previously in Saskatchewan.²⁰



FIGURE 9. Female Eastern Red Bat collected at a roost site in Red-osier Dogwood, 2 September 1965. This was the first record of this species for the Battlefords, but records obtained since have extended the species' known range through Alberta to northeastern British Columbia. The specimen (also shown above, prior to preservation) is preserved in the University of Saskatchewan Biology Museum (USBM-M 2387). Courtesy of the University of Saskatchewan Biology Museum.

Western Jumping Mouse (*Zapus princeps*)

— I became aware that at least one species of jumping mouse occurred in the area when single individuals bounded away on 21 June and 19 July 1960 amid brome grass in roadside ditches and a third jumping mouse bounded away in a patch of wolf willow that bordered a riparian woodland along the south edge of Winniford Lake, 8 July 1969. On 12 August 1999, I trapped a jumping mouse at the edge of a patch of wolf willow on the south side of Winniford Lake, where the two individuals had flushed in 1960, but the specimen was lost when a freezer malfunctioned. Two juvenile Western Jumping Mice (Figure 10) were taken 1 August 2005 in brome along a road allowance; the next day another juvenile was taken at the same site, all near Winniford Lake.

Thirteen-lined Ground Squirrel

(*Ictidomys tridecemlineatus*) — Although this and the next species of ground squirrel had not been recorded in the Battlefords at the outset of my observations¹, they were expected to occur on the basis of their distributions mapped later in Canada.⁶



FIGURE 10. Juvenile Western Jumping Mice (ROMM 118450, 118452, 118454), collected at the southern edge of Winniford Lake. Courtesy of the Royal Ontario Museum.

The Thirteen-lined Ground Squirrel was the most widely distributed species of ground squirrel, with individuals and their inconspicuous burrows observed along country roads bordered by grass and patches of rose and wolf willow, prairie at edges of aspen bluffs, and in the dry grasslands of the sand hills, where neither of the two following species was recorded.

Franklin's Ground Squirrel (*Poliocitellus franklinii*) – Despite hundreds of hours roaming the countryside and travelling country roads, I never heard or saw Franklin's Ground Squirrels. In fact, I encountered them only three times, all in 1960: one individual recorded as prey in a Northern Harrier's (*Circus cyaneus*) nest on 28 June (with one Western Meadowlark, *Sturnella neglecta*); one photographed near a haystack at the edge of a pothole surrounded by willows on 3 July; and one collected at its burrow at the edge of an aspen bluff on 30 July. In a comprehensive summary of the historical and current status of Franklin's Ground Squirrel, Taylor plotted the Battlefords specimen and more recent sightings and photographic records in the region.²²

Richardson's Ground Squirrel (*Uroditellus richardsonii*) – This species was patchily distributed in the abundant fragments of native grassland when I arrived in Battleford in July 1958. A large population occupied the open prairie from the southern edge of Battleford to the Battle River, but within 10 years, most of this habitat had been developed into an industrial park. Scattered individuals remained in the ensuing decades along Highway #4 south of Battleford, on the grounds of Fort Battleford Historic Park, and in the adjacent campground. Only a few deserted burrows in these same areas were observed during recent visits, 2022-24. South of Battleford colonies were confined to pastures and along roadsides that bordered cultivated fields. One site that supported a dense colony, about 1 km east of Winniford Lake, was heavily grazed by sheep in the late 1950s and early 1960s, but ground squirrels disappeared within a few years after the sheep were removed. I did not record this species in the sand hills where Thirteen-lined Ground Squirrels were frequently encountered.

Discussion

With the exception of Red Fox, specimens of the other species collected in the Battlefords area added new locations to the distribution maps in Beck's Guide. Additional species are expected to occur, however, as more information becomes available. Examples are provided by the shrews and bats. Specimens of Arctic Shrew and Masked Shrew confirmed their presence in the Battlefords area, although specimens of the subspecies *cinereus* had been taken at three sites within 100 km west of the Battlefords.¹ Up to five additional species, including Prairie Shrew discussed above, may occur in the area.^{1,15} Specimens of Northern Short-tailed Shrew (*Sorex brevicauda*) taken in the 1960s in the parklands of north-central Saskatchewan extended this species' known range north of the North Saskatchewan River and west to Keatley²³, about 50 km east of the Battlefords. That I took no specimens of this species suggests the northwestern extent of this species' range lies just east of the Battlefords, but additional collecting may narrow this gap. American Pygmy Shrew (*S. hoyi*), Dusky Shrew (*S. monticolus*) and American Water Shrew (*S. palustris*) may be recorded in the area, especially if pit-fall traps (containers sunken into the ground) are employed. A more effective alternative to conventional trapping to reveal the diversity of mammalian communities, however, has focused on the analysis of the contents of owl pellets.²⁴ Additional records for the Battlefords obtained by this method were noted for some species above, and the first record of Preble's Shrew (*S. preblei*) for Saskatchewan was based on a mandible dissected from an owl pellet.²⁵

In the early 1940s, Rand listed nine species of bat in Saskatchewan, three confirmed with preserved specimens (Silver-haired Bat, Eastern Red Bat and Hoary Bat [*Lasiurus cinereus*]) and five species considered to "probably occur" in the province, and another species of doubtful occurrence.¹⁷ That Rand's research was thorough is shown by a specimen of Southeastern Myotis (*Myotis austroriparius*) that was originally thought to have been collected in Saskatchewan, and which was held in the British Museum for nearly 200 years. Thomas Drummond had actually collected that specimen within its normal range in the

southeastern United States.²⁶

Information on bat diversity that increased through efforts of biologists at the Royal Saskatchewan Museum in the 1950s, much of it noted in Beck's Guide. Records from recent research fill gaps in the distribution of four bat species. Acoustic surveys and mist-net captures, which have been used to detect bats in other areas of Saskatchewan²⁷ may reveal the presence of other species in the Battlefords area. Hoary Bats probably give birth in the region and/or migrate through the area, as the species' range extends westward through and beyond the region.⁶ Big Brown Bats have since been recorded, based on specimens submitted for rabies testing²⁸, and a hibernaculum was recently discovered in the Battleford Post Office.²⁹

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W. Harvey Beck, Fred W. Lahrman and William J. Maher offered encouragement, provided information, or deposited specimens in their respective collections. Maher provided copies of William A. Fuller's and J. Dewey Soper's unpublished manuscripts on mammals of Saskatchewan. Lorne Scott and G.C. Watson catalogued some specimens in the Royal Saskatchewan Museum collected through 1975. Danae Frier provided spreadsheets with current catalogue information on those and more recent specimens, owl pellet data and photographs in the Royal Saskatchewan Museum, and — along with Ryan Fisher — commented on a draft of the manuscript. At the Royal Ontario Museum,

Randolph L. Peterson and Judith L. Eger catalogued and confirmed identifications of additional specimens; Jacqueline Miller photographed the Western Jumping Mice. Ray G. Poulin provided information on the use of data derived from dissected owl pellets in studies of mammalian distribution and commented on an early version of the manuscript. My thanks as always to Noreen Sealy for field assistance on all fronts in the later years of this study.

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Appendix 1

Specimens of mammals collected in the Battlefords area, Saskatchewan, between 1959 and 2005. Unless noted otherwise, skin and skull of each specimen were deposited in the following museum collections: Beaty Biodiversity Museum, University of British Columbia, Vancouver (UBCBM CTC M); Royal Ontario Museum, Toronto (ROMM); Royal Saskatchewan Museum, Regina (RSKM_MAMM_M); and University of Saskatchewan Biology Museum, Saskatoon (USBM-M). Museum acronyms are given with catalogue numbers for the first specimen when a series of specimens is held in the same museum; dates of collection of specimens are listed chronologically. Accession numbers are included for specimens in RSKM. Habitat(s) from which specimens were collected are indicated by numbers that correspond to the habitat designations described in the methods.

Snowshoe Hare (*Lepus americanus*). **RSKM_MAMM_M-1460**/11958: ♀ (skull), 29 Oct 1959. Habitat: 7, observed in 3, 7, 8.

White-tailed Jackrabbit (*Lepus townsendii*). **RSKM_MAMM_M-1461**/11959: ♀ (skull), 10 Oct 1959. Habitat: 4, observed in 1, 9.

Arctic Shrew (*Sorex arcticus*). **ROMM 75319**: unsexed (skull), 24 Sep 1975; **75647**: ♀, 26 Sep 1975; **75157**: ♂, 27 Sep 1975. Habitat: 2, 3.

Masked Shrew (*Sorex cinereus*). **ROMM 75651**: unsexed (skull), 10 Nov 1959; **75652**: ♀, 11 Aug 1962; **75646**: ♀, 24 Sep 1975; **75650**: ♀, 3.2 g, 24 Sep 1975; **75648**: ♀, 3.5 g, 25 Sep 1975; **75653**: unsexed (skull), partially eaten, 27 Sep 1975; **75649**: ♂, 3.5 g, 28 Sep 1975; **118457**: ♀, 2.1 g, 1 Aug 2005; **118458**: ♀, 2.0 g, 1 Aug 2005; **118459**: ♂, 3.2 g,

1 Aug 2005; **118449**: ♀, 2.6 g, 2 Aug 2005; **118460**: ♀, 2.8 g, 2 Aug 2005; **118461**: ♀, 3.1 g, 2 Aug 2005. All specimens identified as *Sorex cinereus* by R.L. Peterson and J.L. Eger. Habitat: 5, 6, 7, 8.

Big Brown Bat (*Eptesicus fuscus*). **RSKM_MAMM_M-404**/11975: ♂ (skull), 2 Sep 1959; **403**/11974: ♂ (skull), 3 Sep 1959; **402**/11973: ♀, 16 Nov 1959; **406**/11977: ♀, 16 Nov 1959; **473**/7273: ♀, 16 Nov 1959; **407**/11978: ♂, 19 Nov 1959 (Figure 8); **401**/7272: ♀, 4 Jan 1960; **411**/11979: ♂ (skin), 12 Mar 1960; **405**/11976: ♂, 3 Aug 1962. Among eight specimens submitted to the RSKM in 1960, four (401-02, 406-07) were noted previously¹⁸ and are permanently catalogued. On the basis of these records, van Zyll de Jong (p. 162) included Battleford among the “peripheral” localities of this “widespread” species in Canada.³⁰ Habitat: 11.

Silver-haired Bat (*Lasionycteris noctivagans*). **RSKM-MAMM_M-322**/11971: ♂, 9 Jun 1960; **321**/11972: ♂, 4 Sep 1962. Habitat: 7, 11.

Eastern Red Bat (*Lasiurus borealis*). **USBM-M-2387**: ♀, 16.1 g, 2 Sep 1965 (Figure 9). Habitat: 7.

Little Brown Bat (*Myotis lucifugus*). **RSKM-MAMM_M-275**/11969: ♀, 28 Aug 1962; **276**/11971: ♂, 28 Aug 1962. Rand’s comment regarding this species ... “we have no [Saskatchewan] specimens, but it is probably common”¹⁷, was applicable to many species in the province when Beck’s book was published. Habitat: 11.

Coyote (*Canis latrans*). **UBCBBM CTC M009295**: ♂ (skull), taken by a commercial trapper; the skinned carcass was examined 19 Feb 1960. One extra molar (M3) is present on the upper right tooth row.³¹ On 23 February 1960, I observed a Golden Eagle (*Aquila chrysaetos*) and three Coyotes competing for the remains of a White-tailed Jackrabbit on the snow-covered ice of Winniford Lake; the eagle was soon driven away. Habitat: observed in 1, 2, 3, 4, 7, 8.

Red Fox (*Vulpes vulpes*). **RSKM-MAMM_M-1458**/11956: unsexed (skull), 31 Aug 1962. A decomposed specimen was found in an aspen bluff. Previous record, Jackfish Lake, ♀ (skull), 1 Dec 1954 (ROMM 26251). Habitat: 8, observed in 4, 7.

Canada Lynx (*Felis canadensis*). **RSKM_MAMM_M-1457**/11955: ♂ (skull), 26 Dec 1963. Commercial trapper’s carcass, shoreline of Cochin Creek.

Striped Skunk (*Mephitis mephitis*): **RSKM_MAMM_M-1477**/11992: ♂ (skin, juvenile), 9 Jul 1960. Habitat: 7, observed in 2, 8.

Ermine (*Mustela erminea*). **RSKM_MAMM_M-1473**/11987: ♀, 18 Nov 1959. Habitat: 7, 8.

Long-tailed Weasel (*Mustela frenata*). **RSKM_MAMM_M-1474**/11986: ♂ (skull), 17 Nov 1959; **1475**/11989: ♂ (skull), 7 Dec 1959; **14781**/11993: ♀ (skin), 4 Sep 1960; **1479**/11994: ♀ (skin), 2 Apr 1960; **1480**/11995: ♀ (skin), 8 Nov 1960. I watched a Long-tailed Weasel take a Thirteen-lined Ground Squirrel at the edge of an aspen bluff on 24 September 1975. Habitat: 7, 8.

American Mink (*Neovison vison*). **RSKM_MAMM_M-1472**/11986: ♂ (skull), commercial trapper’s carcass provided on 10 Jul 1963.

American Badger (*Taxidea taxus*). **RSKM_MAMM_M-1471**/11985: ♂ (skull), 24 Oct 1959. Nine badgers were observed between 1958 and 1962, but none during subsequent visits to the region, although fresh and old burrows were observed. One badger was observed in a ditch adjacent to a fallow field about 1 km from Winniford Lake on 21 May 1960. Another badger began to dig a burrow at the edge of a stubble field 19 km southwest of Battleford on 5 July 1960; it disappeared underground within a few minutes. On 25 August 1962, I encountered an adult badger with five large juveniles on the road along the south edge of Winniford Lake. As the car approached to within about 30 m of the group, one by one, the juveniles entered the same burrow at the edge of the ditch, but the adult stood its ground in the middle of the road and bared its teeth. It remained there until the car was about 10 m away, before it followed the young into the same burrow. Habitat: 7, observed in 1, 4, 8, 9.

American Beaver (*Castor canadensis*). **RSKM_MAMM_M-49**/11953: ♂ (skull), 4 Oct 1960 (roadkill); **52**/11954: unsexed (skull), 1 Nov. 1959. Common along Battle River and North Saskatchewan River, but this species disperses widely with beaver sign detected at widely dispersed sites in the parkland that required considerable overland travel to be reached. Habitat: 7, observed in 3.

Meadow Vole (*Microtus pennsylvanicus*). **ROMM 75659**: ♀ (skull), 7 Nov 1959; **75660**: ♂ (skull), 7 Nov 1959; **75654**: ♂, 17.7 g, 25 Sep 1975; **75655**: ♀ (lactating, 4 placental scars), 17.5 g, 27 Sep 1975; **75656**: ♂, 25.7 g, 25 Sep 1975; **75657**: ♀, 16.2 g, 26 Sep 1975; **75658**: ♀, 15.5 g, 25 Sep 1975; **75661**: ♀ (skull), 27 Sep 1975; **118451**: ♂, 24.4 g, 2 Aug. 2005; **118453**: ♂, 25.3 g, 1 Aug 2005; **118456**: ♀ (four fetuses), 26.1 g, 2 Aug 2005. Of 197 individuals of *Microtus* dissected from pellets cast by roosting Great Horned Owls in the region¹⁶, all were Meadow Voles. Three Meadow Voles were recorded as prey in a Northern Harrier’s nest, in addition to two Brewer’s Blackbirds (*Euphagus cyanocephalus*), June 1960. Habitat: 2, 3, 5.

Southern Red-backed Vole (*Myodes gapperi*). **RSKM_MAMM_M-1469**/11982: ♂, 19 Sep 1959. **ROMM 118455**: ♀ (four placental scars), 30 Jul 2005; **118462**: ♀, 1 Aug 2005. Habitat: 7, 8.

Common Muskrat (*Ondatra zibethicus*). Accession number 11998: ♂, 5 Nov 1959. Specimen submitted to RSKM in 1976; on permanent loan to Canadian Wildlife Service. In the falls of 1958 and 1959, this species’ burrows and push-ups were abundant at wetlands throughout the area. Light snowfall and little rain saw most wetlands, including Winniford Lake dry by 1962. In conversation with Richard Johnson, who farmed near Winniford Lake, I learned that this lake had not been dry since the mid-1930s. Muskrat habitat returned by 1965 as wetlands in the area again filled with water, and reached their highest levels in the 2000s. Habitat: 10.

Northern Grasshopper Mouse (*Onychomys leucogaster*). **RSKM_MAMM_M-1463**/11964: skull, ♂, 2 Sep 1959. Potato patch, captured in active burrow of the Northern Pocket Gopher.

North American Deermouse (*Peromyscus maniculatus*). **RSKM_MAMM_M-1470**/11983: ♂, 4 Sep 1959. A total of 550 individuals was dissected from Great Horned Owl pellets obtained in the region.¹⁶ Habitat: 3-8.

Western Jumping Mouse (*Zapus princeps*): **ROMM 118450**: ♂ (juvenile), 15.9 g, 1 Aug 2005; **118452**: ♀ (juvenile), 15.8 g, 1 Aug 2005; **118454**: ♂ (juvenile), 14.1 g, 2 Aug 2005 (Figure 10). Habitat: 4.

North American Porcupine (*Erethizon dorsatum*). **RSKM_MAMM_M-1459**/11957: ♀, 5 Mar 1960. A young porcupine was observed in a patch of *Symphoricarpos* on 12 May 1959. Seven porcupines were observed along a 1-km section of trail on an island in the North Saskatchewan River on 19 December 1960. Habitat: 7, observed in 4, 5, 8.

Northern Pocket Gopher (*Thomomys talpoides*). **RSKM_MAMM_M-1481**/11996: ♂, 1 Sep 1959; **1482**/11997: ♀, 1 Sep 1959. **ROMM 118443**: ♀, 120.0 g, 14 Aug. 1999; **118445**: ♀ (placental scars), 123.8 g, 13 Aug 1999; **118446**: ♂ (enlarged testes), 14 Aug 1999. Habitat: 1, 4, 5, 9.

House Mouse (*Mus musculus*). **RSKM_MAMM_M-11961** (accession number, specimen lost): ♀ (skull), 11 Nov 1959. Habitat: 11.

Norway Rat (*Rattus norvegicus*). **RSKM_MAMM_M-11962** (accession number, specimen lost): 5 September 1959. Habitat: 11.

Northern Flying Squirrel (*Glaucomys sabrinus*). **RSKM_MAMM_M-1464**/11965: ♂, 18 Aug 1961. This cat-killed specimen, which was salvaged at a farm along the north shore of Winniford Lake, remained the only record for this area until flying squirrels were observed in 2010, and annually thereafter, foraging at feeders near Denholm, about 27 km southeast of Battleford.³² North of the study area, a litter of flying squirrels was recorded in a fire tower in the Glaslyn district, about 72 km north of Battleford, in 1960.³³ Habitat: 8.

Thirteen-lined Ground Squirrel (*Ictidomys tridecemlineatus*). **RSKM_MAMM_M-1487**/12002: ♀, 29 Apr 1960. **ROMM 118448**, ♂ (juvenile), 129.9 g, 1 Aug 2005. One Thirteen-lined Ground Squirrel was taken as prey to a Northern Harrier's nest in June 1960, and I observed one taken by a Long-tailed Weasel in 1975. Habitat: 4, 5, 9.

Franklin's Ground Squirrel (*Poliocitellus franklinii*). **RSKM_MAMM-M-1476**/11990: ♀ (skull), 30 Jul 1960. Habitat: 8, observed in 5.

Least Chipmunk (*Tamias minimus*). **RSKM_MAMM_M-1465**/11966: ♂, 5 Sep 1959; **1466**/11967: ♂ (juvenile), 24 Sep 1975; **1467**/11968: ♀ (skull), 25 Sep 1975; **2459**/20510: ♀, 51.6 g, 14 Aug 1999; **2560**/20510: ♀, 46.5 g, 14 Aug 1999; **2461**/20510: ♂, 15 Aug 1999. **ROMM 118444**: ♂, 49.0 g, 14 Aug 1999; **118463**: ♀ (juvenile), 35.3 g, 31 Jul 2005; **118447**: ♀, 40.0 g, 1 Aug 2005. Habitat: 6, 7.

Red Squirrel (*Tamiasciurus hudsonicus*). **RSKM_MAMM_M-1483**/11999: ♂, 24 Sep 1959; **1484**/12000: ♂, 9 Dec 1959. This species was observed throughout the treed portion of the region; most often encountered in riparian woodlands along the Battle River and North Saskatchewan River and in aspen bluffs. Its presence was often evident by fungi stored in predominantly willows near its tree nests or underground burrows. Habitat: 3, 7, 8.

Richardson's Ground Squirrel (*Urocitellus richardsonii*). **RSKM_MAMM_M-1462**/11963: ♂, 3 Sep 1959. Habitat: 1, 4. 🐿

FROM THE PRESIDENT

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knowledge in this area is very valuable.

Nature Saskatchewan has also seen other activities, such as combining the former newsletter (Nature Views) with the *Blue Jay*, the revamping of the journal into a new format, and older issues of the *Blue Jay* have been digitized and housed through a website with the University of Alberta. Several Special Publications have been produced, including *Trees Against the Wind*, and the comprehensive *Birds of Saskatchewan*, which was completed in 2019. This masterpiece is undoubtedly one of the most complete regional bird lists in North America.

Another important contribution Jordan has made during his term with Nature Saskatchewan is financial management. As a non-profit and charitable organization, a lack of funding often restricts the good work needed to make a difference. Through Jordan's good management, we have not had to cut programs or staff, and he always seemed to find funds for anything unexpected that arose.

The above observations are just some of Jordan's many contributions to Nature Saskatchewan during his 12-year tenure and, on behalf of the Board, I'd like to say thank you to Jordan for everything he has done for Nature Saskatchewan, and for nature in Saskatchewan. As he ends his working career with us, Jordan looks forward to spending more time with his wife Tanja and daughters Shae, Kiara and Teagan. We wish him well and know that he will continue to contribute to the wellbeing of nature and conservation in our great province.

While we are saying goodbye to Jordan, we are also extending a warm welcome to our new Executive Director, Peter Brown. We look forward to working with Peter and will take some time to introduce him to members in the Summer 2025 *Blue Jay*, once he's had a chance to settle into his new role. 🐿

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