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AN ECOLOGICAL SURVEY OF RANCH LAKE,  
SASKATCHEWAN

by

R. Caldwell, R. MacLennan  
W. Harris and H. Wolowski

1973

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All the authors are indebted to the Sid Rice family for the many kindnesses shown, not the least of which was allowing the trailer to be kept in their farmyard during the summer and connected to their source of electricity. Their interest and knowledge of the wildlife of the area was also helpful.

The authors are indebted to Dr. J. B. Gollop, Canadian Wildlife Service, and Mr. J. Frank Roy, City Park Collegiate, Saskatoon, for their critical review of this report and valuable suggestions offered; to Mr. John Hudson, Saskatchewan Research Council, for identifying many of the plants and to C. A. Matthews, Canadian Wildlife Service, for checking the scientific names. They gratefully acknowledge the timely proposals made by Mr. Millard Wright, Ducks Unlimited, Regina, that proved useful in planning the surveys at Ranch Lake. Thanks are also extended to Ducks Unlimited (Canada) for use of their equipment.

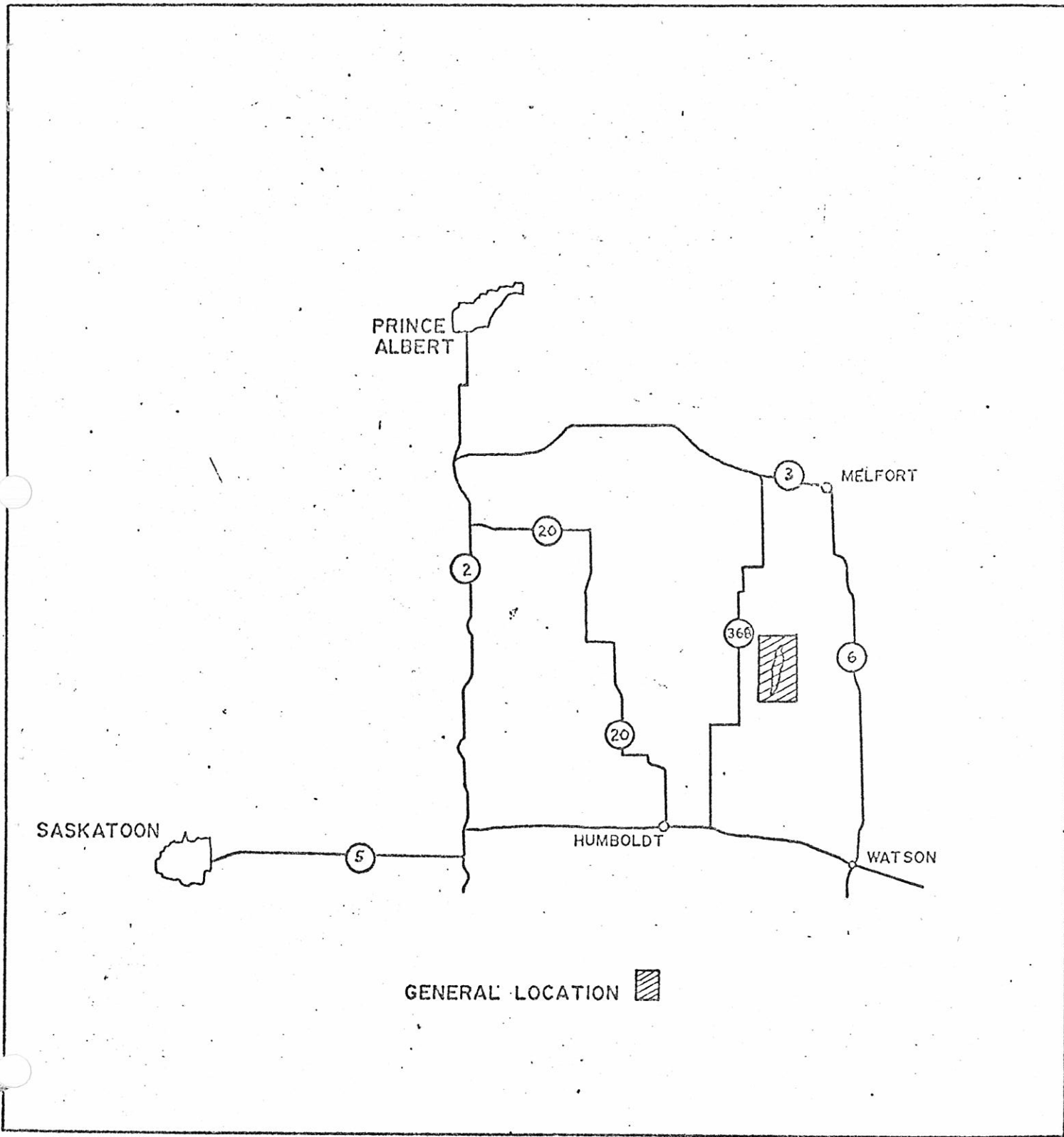


Figure 1. The Geographic Location of Ranch Lake.

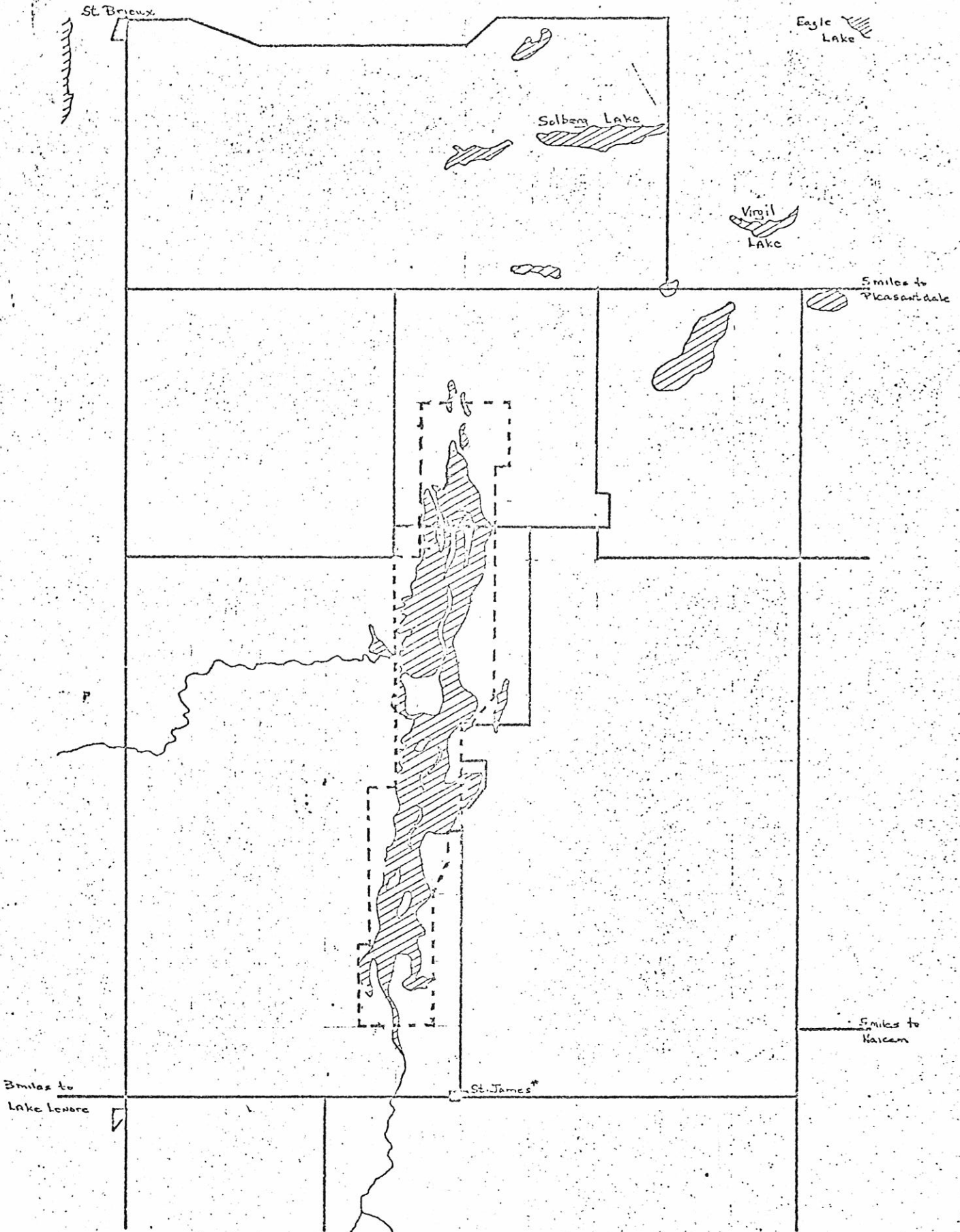


Figure 2. The proposed Ranch Lake Wildlife Area (bounded by broken line):



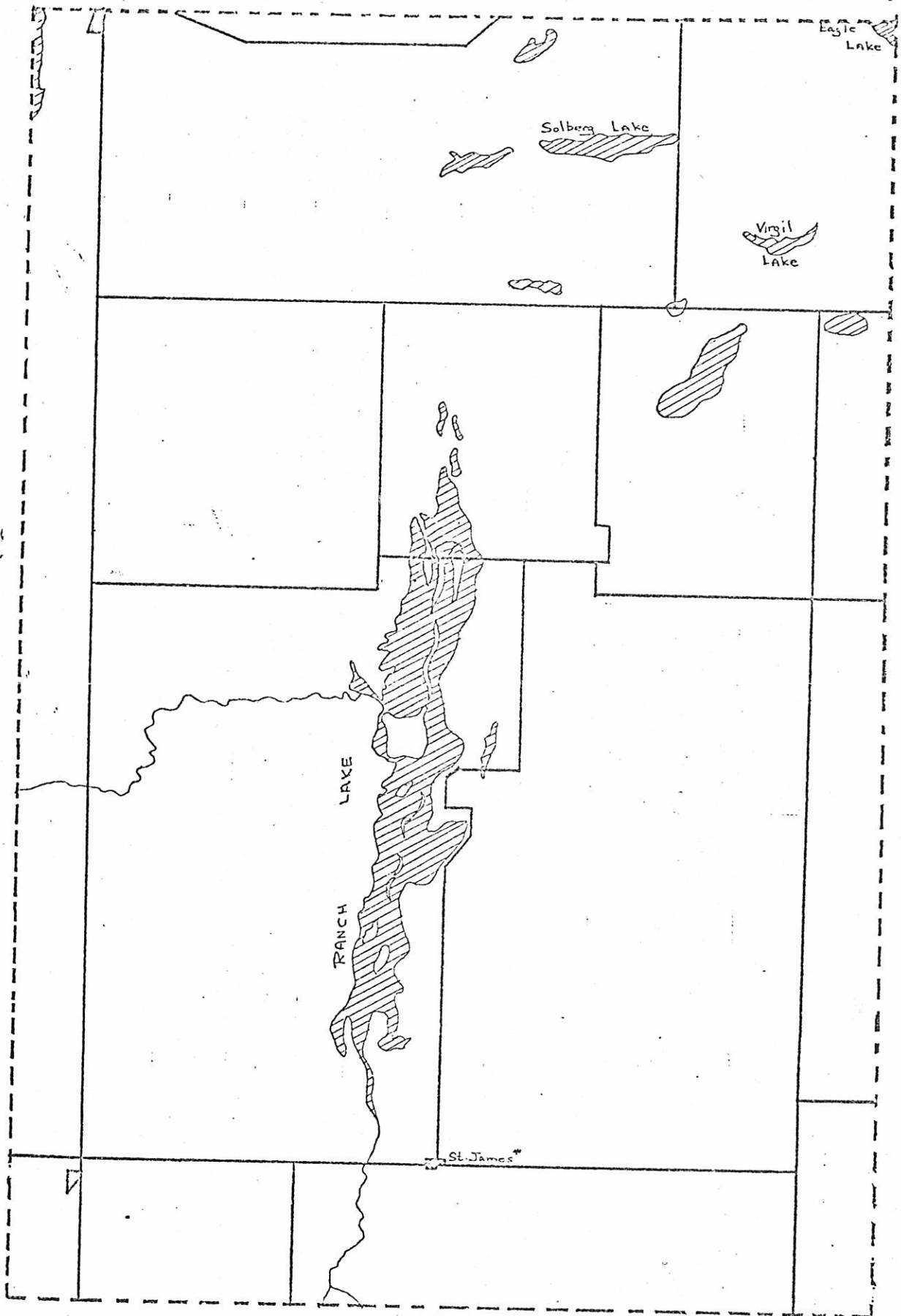


Figure 3. Area (bounded by broken line) from which bird list was compiled. It extended beyond the lake for approximately five miles in four directions.

## AN ECOLOGICAL SURVEY OF RANCH LAKE, SASKATCHEWAN

### Introduction

An ecological survey of Ranch Lake was initiated by the Saskatchewan Department of Natural Resources and The Canadian Wildlife Service in the spring of 1972, under the supervision of R. MacLennan (DNR) and J. R. Caldwell (CWS). The field work was done by Harvey Wolowski (DNR) and Wayne Harris (CWS contract). Surveys commenced on May 8 and were terminated on August 10. Both Wolowski and Harris were in the area each week until July 20, when the former left to accept another position with the provincial government. Harris continued to work at Ranch Lake until August 10.

The surveys, which are the basis for this report, were considered essential because Ranch Lake has long been a source of conflicting interests. Some people want it drained for agricultural purposes while others feel it should remain intact. The problem will eventually be resolved and it is the hope of both the Dept. of Natural Resources and the Canadian Wildlife Service that the decision will be in favor of wildlife. If so, the need for ecological information is apparent, especially if some management of the area for wildlife becomes possible.

### The Area

Ranch Lake is an irregular, shallow basin located 8 miles east of the town of Lake Lenore and 12 miles west of Naicam, Saskatchewan. It is approximately 9 miles long and at its widest point almost 1 mile across. Most water enters the lake from the south and east, while the outlet is on the west side.

Formerly, the east and most of the west side of the marsh were heavily wooded, although along the southeast there was some grassland.

In recent years habitat near the lake has changed considerably with the clearing of brush. The southern two-thirds is now mainly open and cultivated, while the remainder still has some tree cover along the shore. Most bluffs, however, are found at the extreme north end, and even here some clearing is taking place.

In the summer of 1972 there were 9 islands in Ranch Lake, but of these, only 4 are present during a year of normal water levels. Then, the others are part of the mainland. The permanent islands are generally very rocky, with abrupt shorelines. They vary in length but at most are not much over an eighth of a mile long and 100 yards wide. Little of the emergent vegetation, so abundant over much of the marsh, was found near them nor did ducks use them for nesting or loafing areas. The common species of plants on them included: Trembling Aspen, Balsam Poplar, Willow, Gooseberry, Saskatoon, Pin Cherry, Choke Cherry, Rose, Wild Raspberry, Wolf Willow, Snowberry and Red-osier Dogwood.

Vegetation on the temporary islands was either predominately grasses and sedges with some spikerush, cattail and bulrush along the periphery or a combination of trees, shrubs, grasses and various forbs. Unlike the permanent islands, these tended to be fairly level with gradual shorelines and few rocks. Many birds particularly waterfowl, nested on the temporary islands and also used them extensively as loafing sites.

Soils at Ranch Lake range from black to grey-wooded, a transition that can be seen in the ditch-cut, as one travels northward along the east side. The topography also changes from gently undulating at the south end to slightly rolling towards the northern extremities.

During the course of the surveys the lake level was abnormally high because beavers had dammed the outlet. In May, water spread out over hundreds of acres of farm land, thereby, affecting bird life in the area.

Flooded fields provided excellent habitat for migrating shorebirds, but high water also destroyed most of the suitable upland nesting cover for waterfowl thus delaying or curtailing breeding activities. Many ducks did not commence nesting until mid-June and it is thought that some moved to other areas because of poor nesting habitat. It was Harris's opinion that, because of existing conditions during the waterfowl census, it was impossible to get a true picture and that to establish the status of some birds, especially ducks, another summer's work would be needed.

#### METHODS

The first task was to establish a number of transects along the lake-shore and record breeding pairs of waterfowl found on them. Twenty-eight transects, averaging 430 yards in length were located around the lake. The beginning and end of each was usually designated or marked by using some easily seen object such as a tree, shrub, fence-post or stake. In the pair census, all single birds (drakes or hens) plus drakes in groups of five or less, were tabulated in addition to the breeding pairs. The count extended along the transect and out from it to a distance of about 220 yards in the lake. Each transect was selected, if possible, so that birds on it could be counted from a distance using binoculars and/or spotting scope. By using this method, disturbance, which often caused ducks to relocate, was reduced and (hopefully) so was the duplication of pair counts due to "roll-up". Between May 8 and June 5, four breeding pair surveys were made along each transect.

Twenty-two of the breeding pair transects were subsequently used for weekly brood counts between June 27 and August 7. Initially, it was believed that these would be ideal locations in which to observe broods, but most of them proved unsatisfactory because by mid-summer a peripheral band of

emergent vegetation was so dense that broods could seldom be seen.

Twenty photographic stations were established at various locations along the lake to record changes in marsh vegetation as the season progressed. Pictures taken from two of these stations have been included in this report.

Some time was also spent searching for waterfowl nests in various types of cover around the marsh and on the islands. At the same time, all observations of mammalian predators (and their dens) within the proposed wildlife area were noted. In addition, a cursory survey of the birds, plants and mammals found on the islands was undertaken.

As nesting cover (or lack of it) is one of the most important factors related to waterfowl production, some information on grazing around Ranch Lake, was considered desirable. The number of livestock found on some of the limited areas of pasture adjacent to the lake was also recorded. Photographs showing the result of heavy grazing have been included in this report.

A major part of the work done at Ranch Lake was the listing of birds, mammals and plants observed during the summer of 1972 and the preparation of a cover map of the proposed wildlife area. These are found in the Appendix.

## RESULTS

### Breeding Pair Transects

The total area on which breeding pairs were counted amounted to 547 acres or .8 square miles, while the length of shoreline covered was 6.8 miles. Though the observers felt that by June 5 (the last date of breeding pair surveys) emergent vegetation was reducing their visibility and, therefore, affecting the survey, the tabulations do not support their contention.

Table 1. Summary of Breeding Pair Survey, Ranch Lake.

<u>Species</u>	Survey Dates				<u>Total</u>	
	<u>May 17</u>	<u>May 23</u>	<u>May 30</u>	<u>June 5</u>		
Mallard	38	50	56	83	227	(33.7)
Gadwall	12	13	19	16	60	( 8.8)
Widgeon	15	27	21	24	87	(12.7)
Pintail	19	36	40	38	133	(19.5)
Green-winged Teal	3	8	3	9	23	( 3.3)
Blue-winged Teal	20	29	28	38	115	(16.8)
Shoveler	10	20	22	30	82	(12.0)
Redhead	20	19	17	22	78	(11.4)
Canvasback	2	9	12	19	42	( 6.17)
Lesser Scaup	133	108	98	130	469	(68.9)
Ruddy	20	18	11	14	63	( 9.26)
Bufflehead	7	9	12	6	34	( 5.0)
Ring-necked Duck	<u>4</u>	<u>3</u>	<u>15</u>	<u>29</u>	<u>51</u>	( 6.8)
Total	303	349	354	458	1464	

( ) Figure in brackets is the average number of pairs per shoreline mile of transect.

## Nest Searches

There were two main reasons for conducting nest searches. First, an effort was made to find a nest of every species thought to breed in the area. The second reason was to discover the type of upland nesting cover ducks were using because around the lake it was generally sparse. But in the process some additional information was obtained including the average clutch size and the most abundant nesting species of waterfowl.

Of the 68 duck nests found, 30.4% were Blue-winged Teal, 16.2% were Lesser Scaup, 16.1% were Mallard and 13.3% were Pintail. The mean clutch size was 5.2 eggs per clutch. Thirty-seven (54%) duck nests and all (4) goose nests were on islands. Thirty (44%) duck nests were found in snowberry or a mixture of snowberry and other plants such as rose and native grass. While some birds may prefer snowberry, it probably provided the only good nesting cover near the lake, particularly on land grazed by livestock.

It is not surprising that of the duck nests found, more than half were on islands because nesting cover on them was superior to that on the mainland near the lake. Also, studies have shown that some species of ducks have an affinity for islands as nesting sites (Hammond and Mann, 1956). The nest searches at Ranch Lake served to confirm the value of islands as nesting sites, particularly in localities where agricultural practises eliminate most of the upland vegetation.

Table 2. Waterfowl Nests Located at Ranch Lake - 1972.

<u>Species</u>	<u>Date Nest Found</u>	<u>No. of Eggs</u>	<u>Cover Type</u>
Mallard	May 12	6	Snowberry, rose
"	June 2	1	Aspen, dogwood
"	June 5	9	Snowberry
"	June 5	6	Snowberry
"	June 5	5	Snowberry
"	June 20	5	Snowberry, sedge
"	June 20	1	Sedge
"	June 21	8	Snowberry
"	June 21	5	Snowberry
"	June 21	4	Snowberry
"	June 28	8	Sedge
Pintail	May 24	4	Wheat stubble
"	May 31	2	Barley stubble
"	June 5	8	Snowberry, silverwillow
"	June 7	7	Nil-summerfallow
"	June 16	4	Summerfallow
"	June 20	8	Sedge
"	June 21	8	Snowberry
"	June 21	8	Snowberry
"	June 28	5	Snowberry
Blue-winged Teal	May 31	9	Native grass
"	June 2	5	Native grass, silverberry
"	June 2	2	Grass
"	June 6	5	Native grass
"	June 2	8	Native grass
"	June 8	9	Bromegrass



Table 2. Waterfowl Nests Located at Ranch Lake - 1972 (cont'd.).

<u>Species</u>	<u>Date Nest Found</u>	<u>No. of Eggs</u>	<u>Cover Type</u>
Blue-winged Teal	June 14	1	Snowberry, grass
"	June 15	3	Snowberry, grass
"	June 16	10	Native grass
"	June 16	4	Native grass
"	June 16	2	Native grass
"	June 16	2	Snowberry, native grass
"	June 21	6	Sedge
"	June 21	12	Snowberry
"	June 21	6	Snowberry, native grass
"	June 21	2	Native grass
"	June 26	7	Snowberry
"	June 30	8	Snowberry
"	June 30	3	Native grass
"	June 30	3	Sedge
Gadwall	June 8	4	Brome grass
"	June 20	1	Snowberry, sedge
"	June 21	5	Snowberry, sedge
"	June 21	3	Snowberry
"	June 21	10	Snowberry, grass
"	June 21	4	Snowberry, grass
"	July 4	8	Snowberry
Shoveler	June 19	2	Sedge
Widgeon	June 5	10	Brome grass
Green-winged Teal	June 21	6	Snowberry, grass
Canvasback	June 8	7	Reeds

Table. 2. Waterfowl Nests Located at Ranch Lake - 1972 (cont'd.).

<u>Species</u>	<u>Date Nest Found</u>	<u>No. of Eggs</u>	<u>Cover Type</u>
Canvasback	June 26	12	Reeds
"	July 11	8	Cattail
Redhead	June 28	7	Cattail
Ruddy Duck	June 26	6	Reeds
"	June 28	13	Cattail
"	June 15	2	Cattail
Lesser Scaup	June 20	13	Snowberry
"	June 20	1	Sedge
"	June 20	1	Snowberry
"	June 20	3	Sedge
"	June 20	2	Snowberry
"	June 28	21	Sedge
"	June 28	13	Sedge
"	July 4	27	Sedge
"	July 4	29	Sedge
"	July 4	13	Sedge
"	July 4	2	Sedge
Canada Goose	May 12	7	Grass cover (light)
"	May 17	4	Snowberry (short)
"	May 25	7	Grass (short)
"	May 25	(3 goslings)	Grass

### Brood Surveys

Brood counts were made at 22 sites, nearly all of which had been originally breeding pair transects. A total of five surveys was carried out on each.

The disparity between broods and breeding pairs raises the question of the validity of production inventories on large marshes. Most workers agree that, because of variables, brood counts are inaccurate, though to what extent is never known. At best, production figures might be used as an index in some instances.

Although Harris and Wolowski attributed the low numbers seen to poor visibility because of emergent cover, they also believed that production was greatly reduced at Ranch Lake by lack of nesting cover and a fairly high predator population. Even considering the visibility factor it appears production was very low when compared to the 250 broods observed on the area in July, 1962 (Nelson).

Table 3. Brood Observations at Ranch Lake, 1972.\*

<u>Transect No.</u>	<u>Date</u>	<u>Species</u>	<u>Brood Size and Class</u>
1	July 4	Canvasback	9 B
	July 12	Mallard	10 B
	July 12	Canvasback	11 A + (4 A Redheads)
	July 12	Canvasback	5 B
	July 18	Canvasback	5 A
4	July 12	Mallard	6 A
6	July 6	Mallard	8 B
10	July 13	Canvasback	5 A
	July 13	Lesser Scaup	10 A
12	July 6	Pintail	6 A
	July 6	Mallard	8 B
	July 6	Canvasback	4 B
	July 13	Bufflehead	7 B
	July 13	Blue-winged Teal	6 A
	July 30	Mallard	4 B
	Aug. 2	Mallard	<u>6 B</u>
Total			110 young or 8.8/brood

\* Duck broods were seen on only 5 of 22 transects. Twenty-eight broods of coots were observed on 7 transects.

Class A = Downy young.

Class B = Any young with feathers but not flying.

### Birds and Mammals on the Islands

With the exception of the Spotted Sandpiper and the Red-winged Blackbird, all the birds seen on the permanent islands were species usually associated with tree and shrub cover. Those observed were: Song Sparrow, Red-eyed Vireo, Yellow Warbler and Eastern Kingbird. Only two mammals, the beaver and the muskrat were known to use these islands.

All of the waterfowl commonly seen on the lake, were also observed on the temporary treeless islands, besides the Savannah Sparrow, Wilson's Phalarope and many shorebirds. Three mammals were seen here - the skunk, meadow vole and muskrat.

Temporary islands that contained not only grasses and forbs but also small bluffs, were used by a greater variety of birds and mammals. In fact, all species observed on the other two types of islands were found on them.

## Mammalian Predators

Not only were several coyotes, foxes and skunks observed at Ranch Lake during the summer of 1972, but dens of all three species were found there, too. Of the three, skunks were believed to be the foremost predator of waterfowl nests. In one instance, they were credited with destroying nearly every duck nest on a temporary island. The observers felt that predation of waterfowl nests could be related to the lack of good upland nesting cover. Pastures near the lake were usually heavily grazed so residual cover was sparse. Even where some did occur, it was often in such small patches, that predators had little difficulty in locating any nests concealed in it.

Table 4. Mammalian Predators Observed at Ranch Lake, 1972.

Species	Date	No. Seen
Coyote	May 12	1
Coyote	June 7	1
Coyote	June 18	2
Coyote	July 13	1
Fox	May 17	1
Fox	May 29	1
Skunk	May 25	1
Skunk	June 2	2
Skunk	July 12	1
Skunk	July 19	1

## Grazing and Its Possible Effect on Nesting Cover at Ranch Lake

The following table has been included to indicate that over-grazing on certain lands adjacent to the lake is a distinct possibility. Photographs taken of some pastures in early summer seem to bear this out, for even then there was little upland cover remaining that ducks might nest in.

If we look at the number of livestock per quarter section in Table 5, it appears that grazing pressure is not excessive on these particular areas. However, aerial photographs show that few quarter sections along the lake contain 160 acres of pasture. Often they are partially under water or covered by bluffs, so the actual amount of pasture is much less.

But to indicate that over-grazing could be occurring as suggested, and, therefore, adversely affecting nesting cover, requires that the amount of available pasture be compared to the number of livestock using it for a four-month period. The approximate acreage of land that could be grazed in each pasture listed was calculated from aerial photographs taken in July, 1970. The amount required is based on a rate of 1 acre/month/animal unit, although the recommended rate ranges from 1 to 3 acres/month/animal unit (Guide to Farm Practises In Saskatchewan, 1963). A four-month grazing period has been used because pasture around the lake is quite limited until harvest is completed, therefore livestock must be kept on the areas available.

Table 5. Livestock Observed on Some Pastureland at Ranch Lake, 1972.

<u>Date</u>	<u>Land Location</u>	<u>Approx. Acres of Pasture</u>	<u>No. of Livestock</u>	<u>Acres Required For 4 Month Period</u>
July 11	NE 1/4-2-41-20, W2	90 acres	20	80-240 acres.
July 11	S 1/2-12-41-20, W2	80 acres	29	116-350 acres.
July 12	NE 1/4-20-40-20, W2	60 acres	34	136-400 acres.
July 12	S 1/2-25-41-20, W2	80 acres	22	88-264 acres.
July 12	SE 1/4-14-41-20, W2	75 acres	14	56-168 acres.
July 12	W 1/2 of NW 1/4-1-41-20, W2	70 acres	14	56-168 acres.
July 13	SE 1/4-23-40-20, W2	30 acres	23	92-276 acres.



## THE BIRDS OF RANCH LAKE

The birds of the area were tabulated within a unit that included Ranch Lake plus an approximate five mile expansion around the lake as shown on the map. Thus it was possible to obtain a list of birds which were actually in the proposed wildlife area and those which were found in similar habitat but adjacent to it.

The coot, (Fulica americana) apparently was by far the most numerous (and successful) breeding bird on the marsh. On July 14 Harris observed a flock of over 3000 in a small bay. Young birds were described as being common.

High water levels during the spring and early summer probably had some effect on bird populations in the area. Spring migrating shorebirds were quite abundant and may have been present in larger numbers than when the lake was lower. They seemed to be attracted by the flooded fields and at least some species were observed that might normally by-pass Ranch Lake. Ducks, particularly those that nest in upland vegetation, may have been less abundant than normal, because much of the nesting cover usually available was inundated.

A total of 175 species were recorded and of these 68 were regarded as positively nesting in the area. These birds have been designated with an asterisk (\*). Birds thought to nest in the district but which could not be positively substantiated are marked with two asterisks (\*\*). Classification and nomenclature follows that used in "A Field Guide to Western Birds".

- \*\* Common Loon (Gavia immer). An uncommon migrant and summer resident. First recorded at St. Brieux on May 16 (2) and west of Pleasantdale on May 18 (1). Recorded on Ranch Lake as a migrant; May 23 (2), May 25 (2), May 29 (2), and May 31 (2). They were not recorded on Ranch Lake after May 31. Loons were heard and seen on several of the small lakes northeast of Ranch Lake throughout the summer. These included Meyer's Lake, Virgil Lake, and two small unnamed lakes in the same vicinity. They probably breed on these lakes.
- \* Red-necked Grebe (Podiceps grisegena). A common summer resident. They were already present upon our arrival on May 8. Pairs were found nesting in the reeds throughout the northern half of Ranch Lake. Only one nest was located (May 30 - a female observed sitting on a nest) and its contents were not checked. Many broods were seen consisting of 1-3 young throughout July. They were also recorded on Virgil Lake (July 31 - broods of 1 and 3 young) and on a small lake west of Meyer's Lake.
- \* Horned Grebe (Podiceps auritus). A common summer resident. They were present upon our arrival and were recorded almost daily throughout the summer. They were also found on many of the small ponds and lakes throughout the area. A total of three nests were located; June 20 (9 eggs and 4 eggs), and June 26 (2 eggs). Several broods were seen from June 19 (2) throughout the remainder of the summer.
- \* Eared Grebe (Podiceps caspicus). A fairly common migrant and an uncommon summer resident. They were first noted on May 9 (25+). Large flocks were recorded on May 11 (66), and May 25 (50+, and 20+). A few pairs nested on the lake in a colony believed to be located along the east shore on the NE 1/4-26-40-20-W2. Although no nests were found, adult birds were seen in this area throughout the summer and two adults with two young each were noted on June 29. This is the only location on the lake where they were seen with consistency and they were not recorded elsewhere outside of the proposed Ranch Lake area.
- Western Grebe (Aechmophorus occidentalis). A rare migrant which was not recorded within the boundaries of the proposed Ranch Lake area. The only record for this species is 2+ on Meyer's Lake on May 31, 1972.
- \* Pied-billed Grebe (Podilymbus podiceps). A common summer resident. They were present upon our arrival and were recorded daily from then until August 10. One nest was found which contained eight eggs on May 23 and nine eggs the following day. Broods were first recorded on July 4 (6 and 2 young). They were also found on many of the sloughs around the Ranch Lake area.
- White Pelican (Pelecanus erythrorhynchos). An uncommon migrant and summer visitant. All records are for flocks flying over the lake; May 12 (53), May 30 (45), July 12 (40+), July 14 (8), and July 20 (57). They were recorded resting on the lake only once August 9 (111) but were reported to have summered here last year.

- \* Great Blue Heron (Ardea herodias). An uncommon migrant and a rare summer resident. They were first recorded on May 16 (3) flying northwest over the lake. They were recorded regularly throughout the summer, though no more than one or two at any one time. A single nest was found which contained three very large young on July 12. This nest was located on the NE 1/4-2-41-20-W2, in a large aspen bluff along the lake shore. The conservation officer at Humboldt, Steve Korol, reported that a small colony was located at Eagle Lake, 11 miles east of St. Brieux, or 6 miles northwest of Pleasantdale, just outside of the study area.
- \*\* Black-crowned Night Heron (Nycticorax nycticorax). An uncommon summer resident. They were recorded infrequently throughout the summer. Flocks were noted feeding along the creek which drains Ranch Lake on May 17 (6) and May 26 (5). A single adult was also recorded on Ranch Lake during June. It flushed from a cattail marsh off the tip of an island at the south end of Ranch Lake on June 21. This bird circled this area calling continuously while I was present. The same behavior was noted on June 30. Although no nest was found it is suspected that this was a breeding individual.
- \*\* American Bittern (Botaurus lentiginosus). A fairly common summer resident. They were first recorded on May 15 (2) and were heard or seen regularly thereafter. No nests were found but it undoubtedly breeds here. They were recorded only on Ranch Lake itself and not on any of the smaller sloughs nearby.
- Whistling Swan (Olor columbianus). A migrant whose status as such was not determined as we arrived after the majority had left. A flock of 50+ were seen on a flood field northwest of Ranch Lake on May 2. A flock of nine on May 9, a small wave on May 12 (19, 18), and 18 on May 15 were the only records. On the latter three dates the birds were seen flying over and were not believed to have stopped.
- \* Canada Goose - Large (Branta canadensis). A fairly common summer resident. A total of four nests were located with one other seen from the air but not located on the ground. It was estimated that at least another three pairs nested on the lake. Nests were located on islands where the main cover was grass with some snow-berry. They did not use the treed islands. Nests were located on May 12 (7 eggs) on a dugout pile surrounded by water in the creek draining into Ranch Lake, on May 24 a nest was found with 2 eggs, which on June 5 had 4 eggs. These eggs were hatching on June 20. On May 25 nests with seven eggs, and one with three young, were found on the same island about 200 yards apart. The other nest which was spotted from the air was on a muskrat house in the reeds at the north end of the lake. Broods on the lake were first noted on May 29 when two adults and three goslings were observed. Broods were observed regularly throughout June. On June 21, 10 adults were seen leading approximately 25 young. Flocks of adult birds were noted on June 5 (26, 9) and may have been preparing for moulting. The only record of geese outside of Ranch Lake was for a pair on Meyer's Lake on May 31.

Canada Goose - Small (Branta canadensis). A migrant. The only record for this species was for 5+ on May 8 feeding in a field off the south shore of Ranch Lake. They were among a large flock of White-fronted geese. These apparently left that day as they were not seen thereafter.

White-fronted Geese (Anser albifrons). A common spring migrant. Large numbers of this species stop over on the lake during their flight north. A flock of 3,000+ were seen on a slough west of Ranch Lake on May 2. On May 8, a flock of 1,000+ were feeding in a field southwest of the lake, and were again noted there on May 11 (1,000+). On May 12, a flock of 2,700+ were flushed from the south end of the lake. The majority of these head north and continued to gain altitude until out of sight, and apparently continued north as no large numbers of geese were seen thereafter. My last date for this species is for a flock of 50+ on May 17.

Snow Goose (Chen hyperborea). An uncommon migrant. They were noted in small numbers mixed with the flocks of White-fronted geese which stopped over here. On May 8, about 10+ were counted, mainly at the south end of the lake. My last date is for one on May 12 with a flock of White-fronts.

Blue Goose (Chen caerulescens). A rare migrant. I recorded this species only once when a single bird was observed in a large flock of White-fronted geese on May 12.

\* Mallard (Anas platyrhynchos). A common breeding species. This is probably the most common breeding species of duck. They were well distributed in pairs over most of the lake on May 8. A total of 10 nests were found from May 10 (5 eggs) to June 28 (8 eggs). The first brood was seen on June 2 (9 young) and they were already 2-3 days old. Many mallards use the lake as a moulting area. Over 1,000 were using a low muddy island as a resting spot and many of these were already flightless or nearly so on June 20. Numerous flightless birds were observed throughout July. The majority of them were observed on the muddy edges of the islands.

Black Duck (Anas rubripes). A rare summer visitant. A single bird was flushed from a marsh on the west shore of the lake on June 30. This was the only time that I recorded this species.

\* Gadwall (Anas strepera). A fairly common summer resident. Were present in small numbers on May 8, and became more common over the next week. They were well distributed over the entire lake but not in large numbers. The majority of these birds appeared to be nesting on the small grassy islands and in the thick grass close to the shore of the lake. Nests were found from June 8 (4 eggs) to July 4 (8 eggs). On June 21, nests containing 3, 3, 10, 4 eggs were found on one of the islands. A total of seven nests were located. On a low grassy island a gadwall nest with eight eggs also contained two lesser scaup eggs. Very few gadwall broods were noted, all of these in July. A few gadwall moulted on the lake; on June 29, 50+ were observed with a flock of widgeon. Several of these could not fly on this date.

- \* Pintail (Anas acuta). A common summer resident. Not as common as the mallard or blue-winged teal. A total of 10 nests were found between May 24 (4 eggs) and June 28 (5 eggs). The average clutch size was 8-9 eggs. The first brood was noted on June 6 (5 young). Very few ducks appeared to moult on the lake. Exact numbers were not recorded but small numbers of flightless individuals were observed mixed with flocks of moulting mallards.
- \* Green-winged Teal (Anas carolinensis). An uncommon summer resident. They were present upon our arrival and were recorded irregularly thereafter. Very few pairs were recorded. Only one nest of this species was located and it contained six eggs on June 21. The only flock noted was on June 16 (50♂♂) at the north end of the lake. These birds did not moult there as the area dried up within a week. No moulting birds were observed. The only brood which was recorded was 5+ young on Virgil Lake on July 19.
- \* Blue-winged Teal (Anas discors). A common summer resident, second only to the mallard as a breeding bird. They were present upon our arrival on May 8, but did not become common until May 11. A total of 20 nests were found between May 31 (9 eggs) and June 30 (3 eggs). Full clutches ranged in size from 10-12 eggs. The first brood was recorded on June 19, when 12 young were seen. Several broods were seen thereafter but they did not appear very regularly. No flocks of moulting birds were observed but rather they were scattered throughout the flocks of mallard and widgeon. Flightless individuals were recorded from the end of June until the middle of August. The first large flock of birds which I observed was on August 9 when 700+ were flushed from the east shore. All of these were capable of full flight and were probably flocking for migration.
- \* American Widgeon (Mareca americana). A common summer resident. They were well established upon our arrival on May 8. Only one nest was located and this contained 10 eggs on June 5 and 11 eggs on June 7. Very few broods of this species were encountered throughout the summer. Ranch Lake appears to be a major moulting area for this species. On June 29 a flock of 2,000+ consisting mainly of males (90%) was flushed along the west side of the lake. These remained at this spot throughout the summer and definitely moulted there. Widgeon were also present in large numbers over the entire lake. They were the most common moulting species on the lake. Flightless adults were still seen on the lake on August 9.
- \* Shoveler (Spatula clypeata). A common summer resident. They were well established upon our arrival on May 8. Only a single nest was found, which contained two eggs on May 19. This was the only evidence of breeding of this species as no broods were observed. They probably were a much more common breeding species than our records would seem to indicate as many pairs were observed along the lake shore. A large number of this species moulted on the lake. It probably is the third most common moulting species behind the widgeon and mallard. The first flightless adults were recorded on June 29 in with a flock of widgeon. They did not appear in large flocks as moulting birds but rather as scattered individuals over the entire lake.

- \* Redhead (Aythya americana). A fairly common summer resident. The majority of this species was found in the marshes at the north and south end of the lake. Only one nest was located, June 28 (7 eggs), but two canvasback nests were found to contain redhead eggs; June 8 (7 canvasback eggs plus 8 redhead eggs) and June 26 (12 canvasback eggs plus 2 redhead eggs). No broods of this species were observed. Very few of this species were believed to moult on the lake. On May 18 (16♂♂: 1♀) and May 19 (21♂♂) small flocks of males were noted on the south end of the lake. Whether these were preparing to moult, still migrating, or non-breeding birds is questionable.
- \* Ring-necked Duck (Aythya collaris). A fairly common migrant and an uncommon summer resident. First recorded on May 15 (2 pair). They were recorded regularly thereafter in small flocks, with numbers tapering off to a few pairs by the beginning of June. Some remained on Ranch Lake throughout the summer. No nests were found but one or two pairs probably nested on Ranch Lake. The only evidence of them breeding within the study area is of a brood of seven young on Virgil Lake on July 20.
- \* Canvasback (Aythya valisineria). A common summer resident. Like the redhead they were most common at the north and south ends where reeds and cattails were in abundance. A total of three nests were found with two of these containing redhead eggs, June 8 (7 eggs plus 8 redhead), June 26 (12 eggs plus 2 redhead) and July 11 (8 eggs). Canvasback broods were seen almost daily and in good numbers. Although no specific records were kept on the number of broods, I thought them to be the most common species with broods seen on the lake. Very few of this species moulted on the lake and on June 7 a flock of 179 males along the west side of the lake were believed to be migrating to moulting grounds.
- \* Lesser Scaup (Aythya affinis). A common summer resident. This is the most common diving duck on the lake. Upon our arrival on May 8 an estimated 6,000 birds were present. Their numbers gradually decreased throughout May but loose flocks were recorded on the lake throughout the summer indicating that non-breeding birds summer here. They are a fairly common nesting species, with all nests being found on the grassy islands. A total of 11 nests were found between June 20 (1, 1, 2, 3, 13 eggs) and July 4 (27, 29, 13, 2 eggs). Also on July 4 a gadwall nest was found to contain two scaup eggs. The first brood was recorded on July 13 (10 young) and a few were seen regularly thereafter.
- \* Common Goldeneye (Bucephala clangula americana). An uncommon migrant and rare summer resident. The largest number recorded on Ranch Lake was a flock of 38 males and 4 females on May 24. They were not recorded on the lake after that date. Outside of the proposed Ranch Lake area they were recorded as breeding on Virgil Lake, July 20 (6 young) and probably nested on Meyer's Lake.

- \* Bufflehead (Bucephala albeola). An uncommon summer resident. They were recorded on the lake throughout the summer. A few small flocks summer in the area, June 5 (17) near the south end of the lake and July 20 (15♀♀) on Virgil Lake. No nests were found but a brood of seven young at the north end of the lake on July 13 provided the only positive proof of breeding. Several pairs were scattered along the wooded shores of the north half of the lake and they too were probably nesting.
- \* White-winged Scoter (Melanitta deglandi). Common summer resident but very local. This species was never recorded on Ranch Lake. They were seen on only one lake, Meyer's, during the summer. They were first recorded there on May 18 (1 pair) and their numbers continued to increase throughout the summer May 31 (109+) and reached a peak on July 9 (145+). After this date numbers gradually decreased. Many of these birds were moulting on July 9. Only one brood was recorded, that being on August 2 (7 young).
- \* Ruddy Duck (Oxyura jamaicensis). A common summer resident. First recorded on May 9 (a flock of 10+) and in numbers regularly thereafter. They were equally common on all parts of the lake. A total of 3 nests were found between June 15 (2 eggs) and June 28 (13 eggs). The first brood was recorded on July 20 (7 young). No summer flocking was recorded on the lake.
- Hooded Merganser (Lophodytes cucullatus). An uncommon migrant. They were recorded only once, that being four males on May 18, in a small bay along the west shore of Ranch Lake.
- Sharp-shinned Hawk (Accipiter striatus). An uncommon summer visitant. I recorded this species only twice in the late summer, July 31 (1) and August 9 (1) both being in the heavier wooded areas northeast of the proposed Ranch Lake area. I do not believe this species bred in the area.
- \*\* Cooper's Hawk (Accipiter cooperii). An uncommon summer resident. This species was recorded three times May 9 (1), May 17 (1), and May 29 (1) all in an area approximately 1/2 mile north of the north end of Ranch Lake. I was unable to find the nest but I believe they nested in this area.
- \* Red-tailed Hawk (Buteo jamaicensis). A common summer resident. This is the common hawk species in the area. A total of six nests were found between May 9 and July 12 (1+ young). All nests with the exception of the July 12 nest were checked on June 30 and contained 1, 1, 2, and 3 young and another contained two cracked eggs. By the beginning of August this species was seen everywhere and it was not infrequent to have counted more than 20 different individuals in one day.
- \*\* Broad-winged Hawk (Buteo platypterus). An uncommon summer resident. A single migrating bird was observed on May 2, flying north. They were recorded regularly in two localities, one east of St. Brioux and the other just north of Meyer's Lake. I was unable to locate a nest at either location but felt sure that they did breed there. At the Meyer's Lake location I saw an adult carrying food on July 17 and a single immature bird on August 7.

- \* Swainson's Hawk (Buteo swainsoni). An uncommon summer resident. Only one pair was observed in the area. They were present throughout the summer and were defending a nest site. When this nest was checked on July 31 neither adult was present and the nest was empty. The nest was lined but apparently no young were fledged and possibly eggs were never laid.
- \* Marsh Hawk (Circus cyaneus). A common summer resident. They were recorded regularly throughout the summer. Only one nest was located and it held three eggs on May 23, four eggs on May 26 and six eggs on June 14. All the eggs had hatched by July 3 and four young flew from the nest on August 1, my first date for flying young. Flying young were recorded regularly thereafter and adult birds became rare.
- Peregrine Falcon (Falco peregrinus). A rare summer visitant. I recorded a single adult bird on July 31 along the east shore of the lake. A large unidentified falcon was also seen on May 18 along the west shore and it was probably also this species.
- \* Pigeon Hawk (Falco columbarius). An uncommon summer resident. They were recorded regularly throughout the spring and early summer. They were first observed on May 2. On May 10 a nest containing one egg was found in a spruce tree in a shelterbelt around abandoned buildings, northwest of Ranch Lake. The nest was rechecked on May 19 (4 eggs), June 24 (3 young and 1 egg) and on July 4 the nest was empty. I suspect that the adults were either shot or the young taken from the nest. This species was also sighted on May 11 (1 female) at the south end of the lake, June 14 at St. James, and at the end of June, east of Annaheim, outside the area.
- Sparrow Hawk (Falco sparverius). An uncommon summer resident. A few were recorded throughout the spring and summer. It may have bred in the area although I neither found nests nor flying young. A pair were recorded from July 20 to August 10 just north of St. James.
- \*\* Ruffed Grouse (Bonasa umbellus umbelloides). A fairly common summer resident. They were not recorded within the proposed Ranch Lake area. Two were heard drumming northeast of Ranch Lake on May 15 and one on June 1. Three were also recorded near Meyer's Lake on May 18. The odd individual was seen occasionally throughout the summer in these same localities. I found neither nests nor young but it undoubtedly nested here.
- \* Sharp-tailed Grouse (Pedioecetes phasianellus jamisi). A rather uncommon summer resident. This species was recorded on only two occasions, May 11 (1) south of Daylesford and June 30 (7+ flying young) near the north end of Ranch Lake. They were not recorded within the boundaries of the proposed area.
- \* Ring-necked Pheasant (Phasianus colchicus). An uncommon summer resident. I regularly saw a pair of birds two miles west of St. James. I found neither nests nor saw any broods, but a nest containing nine eggs was reported to me in the middle of June and was located about two miles south of St. James. By the time I heard the report it was too late to check.



- \* Gray Partridge (Perdix perdix). An uncommon summer resident. A few pairs were seen throughout May and June. They were usually seen near farm shelterbelts. I found no nests but recorded a brood of nine plus flying young southwest of Ranch Lake on August 4.
- Sandhill Crane (Grus canadensis). A migrant. They were recorded in small numbers on Ranch Lake until May 12. On May 10 a northward movement was recorded with flocks of 50+, 25+ and 30+ flying high overhead. Small numbers had begun to return by July 27 when they were heard over the lake. These, however, did not stop at the lake and up to August 10 non had stopped at Ranch Lake.
- \* Virginia Rail (Rollus limicola). A fairly common summer resident. They were first recorded on June 28 (1). A nest containing 11 eggs was found on the same day. I established a total of 23 territories on Ranch Lake and estimate that there were at least twice that number on the lake. The largest number of calling birds recorded on one day was 20 on July 4. I last recorded them on July 12 although they were probably present after this date but are virtually impossible to find when not calling. This species seemed to prefer the heavy cover of the grasses and reeds along the lakeshore. No territories were found where the water was more than a few inches deep. They were present along the south end, the east shore, and the north end. The west shore was not checked.
- \* Sora (Porzana carolina). A common summer resident. This species was first recorded on May 11 (1) and was common everywhere by May 12. They were present along the shores of the entire lake and one or two were present in every small slough away from the lake. As an indication of their abundance as many as 23 could be heard from one spot on a calm evening. I found only one nest, which contained four eggs (July 4). It was already deserted when found. I flushed many young birds from around the lake from mid-July until August 10. They are probably one of the commonest breeding species.
- \* American Coot (Fulica americana). A common summer resident. This species is by far the most abundant bird on the lake. I found many nests between May 23 (10, 10, 3, 8, 11, 7, 12 eggs) and June 20 (9 eggs). Coot broods were seen everywhere from the end of June to August 10. On July 14 a flock of 3,000+ were observed in a small bay. A partial albino coot was observed on July 14. It was completely white on the back of the head and forward portion of the back. The remainder of the back was blotched with white and black.
- Semipalmated Plover (Charadrius semipalmatus). A very uncommon migrant in spring, more common in the fall. My first date for this species was May 24 (1) and again May 25 (2). These were my only records for spring migration. The first birds arrived from the north on July 31 (13). They were again seen on August 2 (18) and August 7 (11). They were recorded only on Ranch Lake in the spring and were seen only at Virgil Lake in the fall.

Piping Plover (Charadrius melodus). A rare summer resident. They were recorded only on Ranch Lake on a stony stretch of shoreline along the west side. The first date was May 24(2). They were not seen again until June 7 and were present thereafter. On July 14 a total of four were seen at this area one which had no neck ring and was taken to be a juvenile. I could not find the nest but I suspect that they did breed here.

\* Killdeer (Charadrius vociferus). A common summer resident. They were recorded regularly throughout the summer. I found no nests but two non-flying young were seen on June 21. The first flocking was noted on August 2(12).

American Golden Plover (Pluvialis dominica). A fairly common spring migrant. They were first recorded on May 18(25+) and the peak of their migration occurred on May 24(85). My last date for this species was eleven on May 26. They were not recorded in the fall.

Black-bellied Plover (Squatarola squatarola). A common migrant. They were not recorded until May 23(90+). The peak in their migration occurred on May 23-24 when a total of 160+ were recorded. Their numbers dwindled until June 5(1) my last date for this species. A minor wave occurred on May 31 when 35+ in two flocks, were observed flying north at a fairly high altitude.

Ruddy Turnstone (Arenaria interpres). A common migrant. My first date for this species was May 18(39). Peak numbers were recorded on May 23(83+), May 24(312+), and May 25(56+). They were recorded in small groups of 1 or 2 ranging in flock size from that to 59, and 75 in size. An exception was a large flock on May 24(180+). They were most frequent in the flooded fields at the south end of the lake. Their numbers continued to decrease until June 7(4) my last date. They were not recorded again from that time until my departure on August 10.

\*\* Spotted Sandpiper (Actitis macularia). A fairly common summer resident. They were recorded regularly throughout the summer. They were found in most areas where the shore was rocky or sandy. I neither found nests nor saw any young but a few pairs undoubtedly nested.

\*\* Common Snipe (Capella gallinago). A fairly common summer resident. This species was recorded regularly throughout the summer. I estimated that 10 or 15 pairs nested on the lake. I found no nests but from mid-July to August 10 an area at the south end of the lake regularly had four or five birds winnowing where prior to mid-July the maximum number recorded there was two. This may indicate that young birds were present on the territories.

Solitary Sandpiper (Tringa solitaria). An uncommon migrant. I did not record this species during the spring and my only record is for a group of three, around a small dugout just northeast of Ranch Lake on August 7.

- \* Willet (Catotrophorus semipalmatus). An uncommon breeding species. They were recorded regularly throughout the summer. I estimated that a maximum of five pairs nested around the lake. I located one nest which contained three eggs on June 5. This nest was located about 1/4 mile back from the water in a cultivated field with no cover at all.
- Greater Yellowlegs (Totanus melanoleucus). An uncommon migrant. I recorded them only once on Meyer's Lake on May 18(2) in the spring. The first migrant to arrive back was on June 28(1) at the south end of the lake. They were seen daily after that date with the most I recorded being a flock of eight on July 14.
- Lesser Yellowlegs (Totanus flavipes). A fairly common migrant and uncommon summer resident. They were present on our arrival on May 8 and were recorded almost daily until my departure on August 10. A group of three remained at a small slough at the north end of the lake throughout the summer. I do not believe that they nested although one individual was separated from the group on June 23 and reacted noisily to my presence, but a constant check on the area did not reveal any young birds. The first migrants arrived on July 13(32) and were recorded in fair numbers thereafter.
- Knot (Calidris canutus). A rare migrant. My only record is for a group of four on May 24, feeding in a flooded field at the south end of the lake.
- Pectoral Sandpiper (Erolia melanotos). An uncommon migrant. They occur in small numbers in both spring and fall. I recorded them from May 11 to May 31 and the first had returned by July 13 and were still present on August 10. The largest number recorded was on May 11(8). They were usually seen as single birds and where more than one was present in one area they were usually scattered rather than in the compact flocks like most other "peeps".
- White-rumped Sandpiper (Erolia fuscicollis). A rather uncommon migrant. This species was recorded only during the spring. The first of this species arrived on May 24(10) and they were recorded until June 7(4). The peak of their migration occurred on May 25 when a total of 49+ individuals were identified.
- Baird's Sandpiper (Erolia bairdii). A common migrant. I first recorded them on May 17(5) and a few remained until June 6(3+). The first fall migrants had arrived back of July 13(6) and were still present on August 9(15+). The peak in the spring migration occurred on May 25(78+). They did not occur in as large a number in the fall.
- Least Sandpiper (Erolia minutilla). An uncommon migrant. This species was not recorded in any large numbers in either the spring or the fall. They were first recorded on May 12(4). The peak of their migration occurred on May 25(40+) and my last record was for 4+ on June 6. The first fall record was for two on July 31 and they were recorded in small numbers thereafter.

Long-billed Dowitcher (Limnodromus scolopaceus). A very uncommon migrant. I recorded this species only twice May 10(2) and August 2(1). In both cases the birds were identified by call. I have only one other record of a dowitcher and that is for a single bird on May 24.

Stilt Sandpiper (Micropalama himantopus). A common migrant. They were first recorded on May 23(2) and remained until June 6(25+). The peak of their migration occurred on May 25(90). The first fall migrants were seen on July 14(7) and the last date before my departure was August 2(25).

Semipalmated Sandpiper (Ereunetes pusillus). A fairly common migrant. I first recorded them on May 18(4+) and my last date was June 6(10+). Their migration peaked on May 23(50+). They appear to be a less common migrant in the fall and I recorded them on only two dates, July 13(1) and August 10(2).

Marbled Godwit (Limosa fedoa). An uncommon migrant. They were recorded only once in the spring, that being on May 12 when six were seen. They definitely did not nest here. My only other record is for two birds for the latter half of July.

Sanderling (Crocethia alba). An uncommon migrant. I recorded them on only three dates all of them during spring migration. The first was on May 24, when a single bird was seen on an island. A small peak of 11 birds was recorded on May 29 and my last date was for 2+ on June 6.

"Peeps". There appeared to be two peak dates in their migration. On May 23 a total of 200+ moved through the area and on May 25 three flocks totalling more than 500 were seen flying north over the lake.

\*\* American Avocet (Recurvirostra americana). A very uncommon summer resident. They were present on our arrival on May 8, and were seen almost daily throughout the summer. Only one pair were believed to nest in the proposed Ranch Lake area and one other pair outside the area. I was unable to locate a nest at either location but in both cases the birds were very distressed at my presence and I received a reaction from them when approaching within 1/4 of a mile of the areas where they were present. One or two single birds also summered here but did not breed.

\* Wilson's Phalarope (Steganopus tricolor). A common breeding species. They were first recorded on May 16(1 pair) and were seen regularly thereafter. They frequented the damp grassy areas where they nested in good numbers. A total of three nests were found between June 5 (4 eggs) and June 21 (3 eggs). Only males were recorded after the middle of June and I suspect that the females move, after mating and laying take place to another area for summering. They were still present at my departure on August 10.

Northern Phalarope (Lobipes lobatus). An uncommon migrant. They were first recorded on May 29(17) and a flock of 25+ on May 31. My last date for this species was June 2(1). The first migrants arrived back on July 14(6) and again on July 31(7). These are the only records for this species.

- California Gull (Larus californicus). An uncommon summer visitant. I recorded the first of this species on June 20(1). They were recorded irregularly thereafter, but never more than one or two on any given day.
- Ring-billed Gull (Larus delawarensis). A common migrant and uncommon summer visitant. The first that I positively identified were on May 11, however 2,000+ white-headed gulls of which the majority were probably this species were present during the first half of May. They were seen regularly throughout the summer in small numbers.
- Franklin's Gull (Larus pipixcan). An uncommon summer resident. They were present in good numbers upon arrival. Approximately 1,000+ birds were present on May 11, mostly at the south end of the lake. From this date on their numbers gradually declined until the end of June when only about 50+ birds were present. They definitely did not breed as a thorough search was carried out for their nests. They were still present on August 10.
- Bonaparte's Gull (Larus philadelphia). An uncommon migrant. They were first recorded when a single immature bird was seen on May 24. I again saw a group of 5+ immatures the following day. The only other record for this species was for 12 adults on July 14. These birds were resting on a mudflat and when I approached them they flew west and were not seen again.
- Forester's Tern (Sterna forsteri). An uncommon migrant. They were seen on only three occasions; May 16(4+) at a small lake west of St. Brieux, May 24(1) and May 25(3), on Ranch Lake. They may have nested west of St. Brieux as I saw terns which I thought to be Forester's near the end of June and early July hovering over the marsh at the north end of the lake.
- Common Tern (Sterna hirundo). An uncommon migrant and summer visitant I saw one on May 29, a single on June 21, and another single on August 1. Those are the only sightings of this species.
- \* Black Tern (Chlidonias niger). A common summer resident. The first migrants arrived on May 12(11). They became common over the next week. I found a total of 14 nests between June 5 (1, 2 eggs) and July 11 (2 eggs and 1 young). I first recorded young in nests on June 28 (2,2,3,3,3,2,1,2,1 young) but a heavy rainstorm the next day killed all of these. Flying young were first seen on July 16(1+).
- \* Rock Dove (Columbia livia). A rather uncommon summer resident. They were recorded daily in only two locations throughout the entire area, an old barn along the east shore of the lake and in the church bell tower at St. James. Nests with young and eggs were found at the latter location on July 31.

- \*\* Mourning Dove (Zenaidura macroura). A fairly common summer resident. They were present upon our arrival. They were especially common in the wooded areas northeast of Ranch Lake. I found no nests but observed young near the end of July.
- \*\* Black-billed Cuckoo (Coccyzus erythrophthalmus). A fairly common summer resident. The arrival date of this species was on June 8 when one was heard calling in Rice's yard. They were heard regularly thereafter but rarely seen. I was unable to locate any nests but was able to locate 5+ territories. They were last heard on June 26 but undoubtedly were present long after this date. This species has been present in the area since 1947 and has only been absent during three years up to 1972 (Rice's).
- \* Great Horned Owl (Bubo virginianus). A fairly common resident species. I was able to locate two nests which contained two young and one young on May 30. They were common in the heavier treed areas to the northeast of Ranch Lake and less so in the more open areas in the south half of the area.
- Long-eared Owl (Asio otus). The status of this owl is unknown. I recorded this species on only one date, July 12(1). It may breed in small numbers in the area but is probably not common as I spent many hours in the late evening and at night and did not hear them calling.
- Short-eared Owl (Asio flammeus flammeus). A very uncommon summer resident. I recorded this species only once in the area on June 21(1) but also at Naicam at the end of June and Lake Lenore at the beginning of August both well outside the study area.
- \*Saw-whet Owl (Aegolius acadicus). A very uncommon summer resident. I heard a single bird calling northeast of Ranch Lake at about midnight on May 15. The next evening I located the nest in a hollow stump. The nest was successful and five young fledged. The only records of this species are from this nest.
- \*\* Common Nighthawk (Chordeiles minor). A fairly common summer resident. They were first seen on June 6(2) and were recorded regularly thereafter. I found no nests but saw flying young at Virgil Lake from the end of July on. They appeared to prefer the wooded areas.
- \*\* Ruby-throated Hummingbird (Archilochus colubris). A fairly common summer resident. They were first recorded on May 23(1), and were recorded regularly thereafter. Although I was unable to locate any I feel certain that they did nest. I saw two juvenile birds on August 2 feeding at sapsucker drains east of St. Brieux.
- Belted Kingfisher (Megaceryle alcyon). A rare migrant. This species was recorded on only one occasion, that being a single female on May 10.
- \* Yellow-shafted Flicker (Colaptes auratus). A common summer resident. This species was recorded regularly throughout the summer. I found only one nest and that was on May 17. They became more common during late July, presumably young birds.

- \*\* Yellow-bellied Sapsucker (Sphyrapicus varius). A fairly common summer resident. They were present upon our arrival and were recorded regularly throughout the summer. I found no nests but on July 12, two pair of birds were very disturbed at my presence, so it was suspected that these were nesting.
- \*\* Hairy Woodpecker (Dendrocopos villosus). An uncommon resident. This species was observed only in May. The two sightings were both of a single male in Rice's yard. Although none were seen throughout the rest of the summer, they probably do breed in the area.
- \*\* Downy Woodpecker (Dendrocopos pubescens). An uncommon resident. They were recorded only twice, once in June and once in July. The July date is for a juvenile which is an indication that they nested in the area.
- \* Eastern Kingbird (Tyrannus tyrannus). A fairly common summer resident. The first individuals arrived on May 16(2). I found a single nest containing four eggs on June 14. Many juvenile birds were seen by the end of July.
- Western Kingbird (Tyrannus verticalis). A very uncommon summer resident. I recorded this species on only one occasion, that being on July 17(1) in the extreme southeast corner of the study area. It may have bred there as it was in a hedge of maple and carragana and in open country.
- \*\* Great Crested Flycatcher (Myiarchus crinitus). A fairly common summer resident. The first individual was recorded on June 5, and they were recorded regularly thereafter. I did not find any nests nor see any young, but was able to delineate a total of 9+ territories. The highest one day count was five on June 28. They undoubtedly nested in the area.
- \* Eastern Phoebe (Sayornis phoebe). A common summer resident. They were present on our arrival on May 8. I found a total of four nests between May 18(5 eggs) and July 20 (4 young plus 1 egg). A pair were present at almost every abandoned farm which had trees around it. Most of the bridges in the area also had a pair of Phoebes.
- \*\* Traill's Flycatcher (Empidonax traillii). A fairly common summer resident. I first recorded them on May 17(2) and they were heard regularly thereafter. They frequented boggy areas and slough sides although a few were heard in aspen groves. I found no nests nor saw any young although they undoubtedly nested in the area.
- \* Least Flycatcher (Empidonax minimus). A common summer resident. They were first recorded on May 29(2) and were heard regularly thereafter. I located only one nest (June 2) which was in a small aspen bluff. A pair was present in most aspen bluffs throughout the entire area.

Eastern Wood Pewee (Contopus virens). Rare. I recorded this species on two occasions in the same locality. On June 6, I saw a pewee and heard a call (a distinct 3 part whistle) which suggested that it was C. virens rather than C. sordidulus, the species expected in that area. I also heard the same call on June 17.

\*\* Western Wood Pewee (Contopus sordidulus). An uncommon summer resident. I heard the first individual on July 4. I was unable to find any nests but was able to establish at least two territories. AT one of these localities the individual present on July 31 was very distressed at my presence and therefore was suspected as having a nest or young nearby.

Olive-sided Flycatcher (Nuttallornis borealis). A rare migrant. I recorded this species only once, a single bird heard on May 25.

\* Horned Lark (Eremophila alpestris). A common summer resident. They were found in good numbers in all open areas around the lake. No nests were found but many short-tailed, flying young were seen in late May and throughout June.

\* Tree Swallow (Iridoprocne bicolor). A common summer resident. They were present on our arrival on May 8. Many nests were found throughout the summer. Summer flocking in preparation for migration was noted on August 9 when a group of 300+ were seen.

\* Bank Swallow (Riparia riparis). An uncommon summer resident. They were first recorded on May 18 when several pairs were seen flying around a gravel pit where they eventually nested. This was the only colony that was located. Flocking was noted by July 19 (50+, and 40+).

\* Barn Swallow (Hirundo rustica). A common summer resident. The first migrants arrived on May 9(6). Many nests were found, mainly in old buildings but some were found under bridges. Young were still being fed in nests on August 10.

\* Cliff Swallow (Petrochelidon pyrrhonota). A common summer resident. The first individuals arrived on May 31 and were recorded regularly thereafter. I found many colonies (5+ to 50+ individuals) throughout the area. All of these were situated around farm buildings.

\* Purple Martin (Progne subis). A common summer resident. They were first recorded on May 15(1female) and were recorded regularly thereafter. All the small towns in the vicinity had a colony present. On May 29 I saw at least two entering and leaving several holes in a tree. On July 12 a census of nests in hollow trees in a small bog northeast of Ranch Lake revealed a total of 23 being used. No juvenile birds were seen flying in the vicinity then, but as they were observed 10 days later, it was assumed they were still present in the nests. This represents a rather large colony of birds nesting without the aid of man.



- Blue Jay (Cyanocitta cristata). An uncommon migrant. The only record is for four individuals on May 17. These were first seen flying from tree to tree in a small aspen grove and later flew northwest and were not seen again.
- \* Black-billed Magpie (Pica pica). A fairly common summer resident. Nesting was under way on our arrival. I found two nests, one on May 8 and another on May 19 (7 eggs). The latter nest was located inside a building. Flying young were numerous by early July.
- \* Common Crow (Corvus brachyrhynchos). A common summer resident. Nesting was under way on our arrival as a nest was found containing two eggs on May 9. They were most common in the more open areas near the south end of the lake and were considered rare in the heavily wooded areas in the northeast corner.
- \* Black-capped Chickadee (Parus atricapillus). A fairly common summer resident. This species was recorded regularly throughout the summer. No nests were found but a group of five juveniles were observed on June 22 which were undoubtedly raised in the area.
- \* House Wren (Troglodytes aedon). A common summer resident. The first migrant arrived on May 11, and were common the next day. Many nests were found throughout June. They appeared to reach their peak of abundance during the first week of August after which their numbers decreased abruptly.
- \* Long-billed Marsh Wren (Telmatodytes palustris). A fairly common summer resident. This species was not recorded until June 8(1) although they were present prior to this as I found five empty nests on that date which had been constructed this year. The only nest containing eggs (8) was found on June 26. I estimated that there were 50± territories on Ranch Lake. They were found almost everywhere but usually in extensive stands of cattails and bulrush, in some cases in tall grass. I found many "dummy" nests in all of these types of habitats, but most commonly in bulrush. Singing had tapered off by mid-July and my last record for a singing individual was on August 2 (1).
- \*\* Short-billed Marsh Wren (Cistothorus platensis). A rare summer resident. I recorded this species only once when a single individual was heard and later observed near Virgil Lake on July 12.
- \* Catbird (Dumetella carolinensis). A common summer resident. The first individual arrived back on May 18 and they were recorded regularly thereafter. I located two nests on July 26 and both contained four eggs. This species seemed to be restricted to farm yard as this is the only place where I recorded this species.

- \*\* Brown Thrasher (Toxostoma rufum). An uncommon summer resident. The first migrants arrived on May 15(2). They were recorded irregularly thereafter. I found no nests nor saw any young birds but undoubtedly a few individuals did nest in the area.
- \* Robin (Turdus migratorius). A common summer resident. They were already nesting on our arrival on May 8. I found many nests between May 9 (3 eggs) and August 10 (1 young). An extraordinarily large clutch of seven eggs was found in mid-May. All of these eggs hatched but the young died before fledging. They were very common around most farm yards and less so in the woodlands. Nesting densities were the highest I have ever seen. In Rice's yard, three nests were located all within 30 feet of each other, two of these being only about seven feet apart!
- \*\* Hermit Thrush (Hylocichla guttata). A rare summer resident. I did not record this species on migration. My only record is for a singing individual at Meyer's Lake July 13. I later located this bird and had a good look at it, but when I was present it acted very disturbed, so because of its behavior I suspect that it may have been nesting.
- \* Swainson's Thrush (Hylocichla ustulata). An uncommon migrant and summer resident. I recorded this species only once on migration, on May 9 (1+). My only other record is for a single adult feeding a young cowbird on July 12.
- Grey-checked Thrush (Hylocichla minima). An uncommon migrant. This species was recorded only once, May 9(1).
- \*\* Veery (Hylocichla fuscescens). A common summer resident. The first migrant arrived on May 15. This species was not recorded again until May 29 after which it was found commonly in the wooded areas. I found no nests nor saw any young but it undoubtedly nested in the area.
- \* Eastern Bluebird (Sialia sialis). A rare summer resident. On May 17 I saw a single female sitting on a wire fence along the east shore of Ranch Lake. On June 5, a female flushed from a hollow tree and although the contents were not checked it is presumed that it was nesting. This female, which was apparently mated with a male Mountain Bluebird, was present through June but when checked on July 4 she was not present but young were noted in the area with the male Mountain Bluebird. The young showed no evidence of being Eastern in any part. The female was not seen again.
- \* Mountain Bluebird (Sialia mexicana). A fairly common summer resident. They were present upon our arrival on May 8. I found no nests but saw flying young on several occasions. They were found mainly in the wood areas at the north end of the lake. A male of this species apparently mated with a Eastern Bluebird.
- Spragues Pipit (Anthus spragueii). A rare migrant. I recorded this species on only one occasion on June 5 when one was heard singing over a wet meadow. It was not recorded again in this area thus the status of a migrant.

- \*\* Cedar Waxwing (Bombycilla cedrorum). A common summer resident. They were not seen until June 16(3) after which they became common. I found no nests nor saw any young although they undoubtedly nested in the area. They seemed to prefer the more extensively wooded areas over the open farmland area at the south end of the lake.
- \* Loggerhead Shrike (Lanius ludovicianua). A fairly common summer resident. They were present upon our arrival as one was recorded on May 8. They were seen irregularly thereafter. I found only one nest that being on July 18 (6 young). At least three more pair were suspected as nesting although the actual nests were not located.
- \* Starling (Sturnus vulgaris). A common summer resident. This species was recorded regularly throughout the summer. Several nests were found, all being in hollow trees. Flocking of birds was first noted on June 24(50+).
- \*\* Red-eyed Vireo (Vireo olivaceus). A common summer resident. The first migrants arrived on May 15(3+) and they became common by the end of May. No nests were found and the only juvenile I saw was on August 2 which could have been a migrant. In spite of this they undoubtedly nested throughout the area as singing males were heard where ever suitable habitat was found.
- Philadelphia Vireo (Vireo philadelphicus). An uncommon migrant. I recorded this species only in the fall. A single bird was present in Rice's yard on August 7 and again on August 8. These were my only records.
- \*\* Warbling Vireo (Vireo gilvus). A common summer resident. The first migrant arrived on May 15(1), but were not recorded as being common until the end of May. I found no nests but saw two juveniles on July 31 which were probably raised in the area. They were most common in the extensive woods northeast of Ranch Lake. Although many of the smaller bluffs had a pair of birds.
- Black-and-white Warbler (Mniotilta varia). An uncommon migrant. I recorded this species only on one occasion May 15(1).
- Tennessee Warbler (Vermivora peregrina). An uncommon migrant. The first spring migrant arrived on May 15(1) and my only other spring record is of a single female found dead in a summerfallow field on May 30. This individual was fresh and had probably died the preceeding night. The first fall migrant arrived on August 8 (1).
- \*Yellow Warbler (Dendroica petechia). A common summer resident. The first arrived on May 18 and were recorded regularly thereafter. The only nest which was located was in fresh condition but apparently the young had already fledged. On August 2 a short tailed juvenile was found dead on a road. Yellow Warblers were still present on my departure.

Mrytle Warbler (Dendroica coronata). A common migrant. The first individuals were noted on May 9(52+) and this also appeared to be the peak of their migration. They were again recorded on May 15(1) and May 16(4). These were the only records of this species.

Blackpoll Warbler (Dendroica striata). A fairly common migrant. The first individuals arrived on May 15(13) and as with the previous species this also was the peak of their migration. They were recorded again on May 16(2), my last date for this species.

Palm Warbler (Dendroica palmarum). An uncommon migrant. This species was recorded on only two occasions, May 15(4) and May 16(1).

Northern Waterthrush (Seiurus noveboracensis). An uncommon migrant. A single bird on May 9 was my only record of this species.

\*\* Yellowthroat (Geothlypis trichas). An uncommon summer resident. The first individual was recorded on June 1 and they were heard regularly thereafter. I was able to establish two territories but could not find any nests. The only evidence of breeding is for a flying juvenile and an adult on July 12. There were probably many more territories as much of the suitable habitat was not checked.

Wilson's Warbler (Wilsonia pusilla). An uncommon migrant. This species was recorded on only one occasion, that being a single female on May 9.

\*\* American Redstart (Setophaga ruticilla). An uncommon migrant and summer resident. This species was not recorded until July 12 when a singing male was located. No nest or young were seen at this location but it may have nested. The first fall migrants arrived on August 10(2).

\* House Sparrow (Passer domesticus). A common resident. This species was restricted to farm buildings and towns. Several nests were located. They seemed to be less common around buildings in the more extensively wooded norther portions of the area.

\*\* Bobolink (Dolichonyx oryzivorus). An uncommon summer resident. This species was recorded only twice, in two different localities. Two males on June 5 in an alfalfa field were probably breeding, and a single male on June 16 in a damp grassy meadow was also probably nesting. However, I found no direct evidence of nesting.

\*\* Western Meadowlark (Sturnella neglecta). An uncommon summer resident. I was able to find only one pair of birds in the entire area. These were probably breeding although I found no nest. This lack of meadowlarks was probably due to the lack of suitable habitat as there is virtually no prairie remaining.

\* Yellow-headed Blackbird (Xanthocephalus xanthocephalus). A common summer resident. This is by far the most common of the blackbird species. They inhabited both cattails and bulrushes. A nest was under construction by May 23 and eggs were found in nests by May 29. Many nests were found throughout the summer and young were still found in nests on July 11. Many large flocks of this species were noted on the lake by the middle of July.

- \* Red-winged Blackbird (Agelaius phoeniceus). A common summer resident. They ranked second to the previous species in numbers for blackbirds. Many nests were found between July 19 (2 eggs) and July 11 (a nest under construction). Flocking was beginning by mid-July.
- \* Baltimore Oriole (Icterus galbula). A common summer resident. The first migrant arrived on May 19 and they were recorded in good numbers two days later. I found no nests but juveniles were first seen on July 13 and almost daily thereafter. At least three pairs nested in Rice's yard.
- \*\* Brewer's Blackbird (Euphagus cyanocephalus). An uncommon summer resident. This species was restricted to open areas where farm shelterbelts had been planted. I found no nests but they undoubtedly nested in the area. A few were seen with flocks of yellow-heads and red-wings by the end of July and I found them to be common in these flocks by August 9.
- Common Grackle (Quiscalus quiscula). An uncommon migrant. My only record is for a single bird on May 18, which was apparently moving through as it was not seen again.
- \* Brown-headed Cowbird (Molothrus ater). A common summer resident. They were present on our arrival and were recorded regularly throughout the summer. The only evidence of breeding was a single young being fed by an adult Swainson's Thrush.
- \*\* Rose-breasted Grosbeak (Pheucticus ludovicianus). An uncommon summer resident. This species was first recorded on June 6, when a pair of birds were observed. This pair was observed regularly thereafter and undoubtedly nested. Fall migration had begun by August 7 when a juvenile appeared in Rice's yard and a single bird heard the next day at the same locality.
- Purple Finch (Carpodacus purpureus). A migrant. My only record is for a single bird which appeared in Rice's yard on August 10 and proceeded to sing for almost a half hour.
- Pine Siskin (Spinus pinus). A migrant. My only record of this species is on August 10 when four were feeding in Rice's yard.
- \* American Goldfinch (Spinus tristis). A common summer resident. The first migrant arrived on May 17 and they were common by the end of May. The only evidence of breeding was a nest which was under construction on July 12.
- \* Savannah Sparrow (Passerculus sandwichensis). A common summer resident. They were present in good numbers upon our arrival but still may have been migrating as a single bird of this species was identified in a flock of mixed sparrows. I found only one nest, that being on June 5 at which time it contained three young. Fall migration had presumably begun by August 7 as a single bird was found in an aspen grove.

- \*\* Le Conte's Sparrow (Passerherbulus caudacutus). An uncommon summer resident. This species was not recorded until June 24 when 5+ were heard in a grassy bog near Virgil Lake, although they were undoubtedly present much earlier than this. They were again recorded at this spot on July 12.
- \*\* Sharp-tailed Sparrow (Ammospiza caudacuta). An uncommon summer resident. Not recorded until June 24(1) although undoubtedly present before this. At least 6+ singing males were heard at various locations around the lake. My last date for this species was July 12(1).
- \*\* Vesper Sparrow (Poocetes gramineus). An uncommon summer resident. I did not record this species until May 17(3) although they were undoubtedly present before this. They were infrequently seen during the summer and in small numbers. There was very little suitable habitat for this species.
- Tree Sparrow (Spizella arborea). A migrant. They were recorded only on May 8(5+) and on May 9(2). The major wave of their migration had presumably passed through earlier.
- Chipping Sparrow (Spizella passerina). An uncommon migrant. My only record of this species was a single bird in a mixed flock of sparrows on May 9.
- \* Clay-colored Sparrow (Spizella pallida). A common summer resident. They were present upon our arrival although still migrating. I found several nests, all which were under construction when found. The first of these was found on May 26.
- Harris' Sparrow (Zonotrichia guerula). An uncommon migrant. Single birds on May 9 and again on May 16 were my only records.
- White-crowned Sparrow (Zonotrichia leucophrys). An uncommon migrant. I recorded this species on only one occasion, that being on May 25(1).
- \*\* White-throated Sparrow (Zonotrichia albicollis). A common migrant and an uncommon summer resident. This species was present upon our arrival and my last date for migrating was on May 17(2+). On June 1 a singing male was heard and it was recorded regularly at that location for the remainder of the summer. On July 12 another was heard at a different location. I found no nests at either location.
- Fox Sparrow (Passerella iliaca). An uncommon migrant. This species was recorded on only one occasion, that being on May 9(1).
- Lincoln's Sparrow (Melospiza lincolni). An uncommon migrant. This species was recorded on May 9(1), my only record.
- Swamp Sparrow (Melospiza georgiana). An uncommon migrant. This species was recorded on only one occasion, May 19(1).

\*\* Song Sparrow (Melospiza melodia). A common summer resident. This species was present on our arrival and was recorded regularly throughout the summer. I found no nests but on two occasions adults were distressed at my presence. This species was most common in the wooded areas in the northern portions of Ranch Lake.

Lapland Longspur (Calcarius lapponicus). An abundant migrant. They were present in good numbers upon our arrival. Peaks in migration occurred on several days May 12 (8,500) and May 18 (10,050). My last date was on May 24 (1,450) although a few may have remained later.

Snow Bunting (Plectrophenax nivalis). A rare summer visitant. A single bird on June 1 was my only record of this winter species.

## Mammals

A total of 31 species (plus 1 hypothetical) were recorded in the area throughout the summer. Mammals were only recorded when seen within the proposed Ranch Lake Area. All records are by sight as no specimens were collected. Common and scientific names used follow those in "A Field Guide to the Mammals".

Shrew (Sorex sp.). A small shrew was seen running across a road on the east side of the lake on July 31. They are probably more common than records indicate.

Bats. Rice reported seeing bats occasionally over the years here but they were not recorded in 1972.

Black Bear (Euarctos americanus). Rice reported that one was shot near the north end of the lake several years ago. They were not recorded in 1972.

Raccoon (Procyon lotor). Rice reported that they had been seen in the area. We did not record them in 1972.

Shorttail Weasel (Mustela erminea). Only recorded once when one was found dead in a summerfallow field.

Longtail Weasel (Mustela frenata). Common. Seen on several occasions throughout the summer.

Mink (Mustela vison). Uncommon. Two sightings in July were probably the same individual as the location was identical in each case.

River Otter (Lutra canadensis). Hypothetical. A badly decomposed animal believed to be of this species was found in May, washed ashore on one of the islands.

Striped Skunk (Mephitis mephitis). Common. Recorded regularly throughout the summer. A total of four dens were located. Family groups were seen throughout July.

Badger (Taxidea taxus). Uncommon. Tracks were seen only once and no dens were located.

Red Fox (Vulpes vulpes). Common. Only two sightings, May 17(1), and May 29(1). A total of five fox dens were found within the area.

Coyote (Canis latrans). Common. Recorded on May 12(1), June 7(1), June 18(2), July 13(1), July 20(1). A total of two dens were found.



- Woodchuck (Marmota monax). Rice reported seeing one young on a road near the north end of the lake. Although we did not record them they are probably scattered throughout the wooded areas.
- Richardson's Ground Squirrel (Citellus richardsoni). Uncommon. Noted only in one locality; a large pasture on the east side of the lake. Aside from this locality they were not recorded in the area.
- Thirteen-lined Ground Squirrel (Citellus tridecemlineatus). Uncommon. Noted regularly throughout the entire area.
- Franklin's Ground Squirrel (Citellus franklini). Common. Found mainly in farm yards. Recorded regularly throughout the summer.
- Least Chipmunk (Eutamias minimus). Uncommon except in the northern portion of the area where they are more common. Recorded regularly throughout the summer.
- Red Squirrel (Tamiasciurus hudsonicus). Uncommon. They were recorded occasionally in the woods near the north end of the lake during the summer.
- Northern Flying Squirrel (Glaucomys sabrinus). Sid Rice reported catching one in a trap several years ago. They were not recorded in 1972.
- Northern Pocket Gopher (Thomomys talpoides). Common. One found dead in May. Mounds were abundant throughout the area.
- Beaver (Castor canadensis). Common. Noted irregularly throughout the summer. Five huts were located and dams were found along the creek draining Ranch Lake.
- Deer Mouse (Peromyscus maniculatus). Common. Recorded regularly throughout the summer.
- Gapper's Red Backed Mouse (Clethrionomys gapperi). Uncommon. The only recorded, is of one found dead in a Great Horned Owl nest in late May.
- Meadow Vole (Microtus pennsylvanicus). Common. Found in good numbers in the meadows especially where there was heavy grass cover.
- Muskrat (Ondatra zibethicas). Common. Found throughout the entire lake but especially common in the extensive marsh at the north end of the lake.
- Norway Rat (Rattus norvegicus). Uncommon. Signs of this species were noted around some farm buildings.
- House Mouse (Mus musculus). Uncommon. Remains of a mouse thought to be of this species were found in a farm yard in July.

Porcupine (Erethizon dorsatum). Uncommon. Only one record, that being one found dead on a road on July 31.

Whitetail Jack Rabbit (Lepus townsendi). Common. Recorded almost daily throughout the summer.

Snowshoe Hare (Lepus americanus). Common. Recorded regularly throughout the summer in all wooded areas.

Whitetail Deer (Odocoileus virginianus). Common. Seen occasionally all summer. Tracks indicate its abundance.

Moose (Alces alces). Rare. Rice informed me that moose have been seen in the vicinity of Ranch Lake.

## Plants of the Proposed Wildlife Area

Plants were collected only from the proposed Ranch Lake Wildlife Area which is outlined on the map. They are listed in this report according to the three habitat types which they were part of - Aspen Bluff, Native Grassland and Marsh (wetlands). As extensive efforts were not directed towards the botany of the area many species were undoubtedly missed. It is expected that those listed are fairly representative.

The Aspen Bluff included all natural treed areas usually consisting of Trembling Aspen, but there were also some stands of Balsam Poplar and Willow.

Native Grassland consisted of all uncultivated land not covered with trees, although perhaps containing extensive patches of Snowberry. Due to grazing or other factors, some other species not normally associated with grassland vegetation might also be present.

Plants of the Marsh or Wetland habitat consisted of those species actually in the water (submerged or emergent) as well as vegetation found on very wet soils bordering the lake or adjacent sloughs. Missing from the list, but probably overlooked, are two important genera, undoubtedly represented at Ranch Lake. These are Potamogeton (pondweed) and Myriophyllum (water milfoil).

The common and scientific names follow those used in "A Key to Plants of the Farming and Ranching Areas of the Canadian Prairies".

## PLANTS OF THE ASPEN BLUFF AREAS

<u>Maianthemum canadense</u>	(Two-leaved Solomons Seal)	Liliaceae
<u>Polygonatum commutatum</u>	(Common Solomons Seal)	"
<u>Smilacina stellata</u>	(Star Flowered Solomons Seal)	"
<u>Zigadenus elegans</u>	(Smooth Camas)	"
<u>Lilium philadelphicum</u>	(Wood Lily)	"
<u>Corallorhiza striata</u>	(Striped Coral-root)	Orchidaceae
<u>Cypripedium calceolus</u>	(Small Yellow Lady's Slipper)	"
<u>Populus tremuloides</u>	(Trembling Aspen)	Salicaceae
<u>Populus balsamifera</u>	(Balsam Poplar)	"
<u>Salix</u> spp.	(Willow)	"
<u>Betula papyrifera</u>	(White Birch)	Betulaceae
<u>Betula occidentalis</u>	(Water Birch)	"
<u>Corylus cornuta</u>	(Beaked Hazelnut)	"
<u>Anemone canadensis</u>	(Canada Anemone)	Ranunculaceae
<u>Anemone cylindrica</u>	(Long-Fruited Anemone)	"
<u>Thalictrum venulosum</u>	(Veiny Meadow-Rue)	"
<u>Thalictrum dasycarpum</u>	(Tall Meadow-Rue)	"
<u>Actaea rubra</u>	(Red Baneberry)	"
<u>Ribes</u> spp.	(Gooseberry)	Saxifragaceae
<u>Rubus strigosus</u>	(Wild Red Raspberry)	Rosaceae
<u>Rubus pubescens</u>	(Dewberry)	"
<u>Prunus pensylvanica</u>	(Pin Cherry)	"
<u>Prunus virginiana</u>	(Choke Cherry)	"
<u>Amelanchier alnifolia</u>	(Saskatoon)	"
<u>Rosa</u> spp.	(Rose)	"
<u>Crataegus</u> spp.	(Hawthorn)	"
<u>Fragaria vesca</u>	(Woodland Strawberry)	"

## PLANTS OF THE ASPEN BLUFF AREAS

<u>Vicia americana</u>	(American Vetch)	Leguminosae
<u>Lathyrus ochroleucus</u>	(Cream Coloured Vetchling)	"
<u>Hedysarum boreale</u>	(Silvery Hedysarum)	"
<u>Viola adunca</u>	(Early Blue Violet)	Violaceae
<u>Viola nephrophylla</u>	(Northern Bog Violet)	"
<u>Viola rugulosa</u>	(Western Canada Violet)	"
<u>Elaeagnus commutata</u>	(Wolf Willow)	Elaeagnaceae
<u>Zizia cordata</u>	(Heart Leaved Alexanders)	Umbelliferae
<u>Cornus stolonifera</u>	(Red Osier Dogwood)	Cornaceae
<u>Cornus canadensis</u>	(Bunchberry)	"
<u>Castilleja coccinea</u>	(Scarlet Paint Brush)	Scrophulariaceae
<u>Galium boreale</u>	(Northern Bedstraw)	Rubiaceae
<u>Lonicera glaucescens</u>	(Twining Honeysuckle)	Caprifoliaceae
<u>Symphoricarpos occidentalis</u>	(Western Snowberry)	"
<u>Viburnum trilobum</u>	(High Bush Cranberry)	"
<u>Taraxacum laevigatum</u>	(Red-Seeded Dandelion)	Compositae
<u>Achillea lanulosa</u>	(Woolly Yarrow)	"
<u>Achillea millefolium</u>	(Yarrow)	"
<u>Erigeron philadelphicus</u>	(Philadelphia Fleabane)	"

## PLANTS OF THE GRASSLAND AREAS

<u>Setaria viridis</u>	(Green Foxtail)	Gramineae
<u>Bromus</u> spp.	(Brome Grass)	"
<u>Hierochloe odorata</u>	(Sweet Grass)	"
<u>Lilium philadelphicum</u>	(Wood Lily)	Liliaceae
<u>Allium cernuum</u>	(Nodding Onion)	"
<u>Sisyrinchium montanum</u>	(Common Blue-eyed Grass)	Iridaceae
<u>Salsola pestifer</u>	(Russian Thistle)	Chenopodiaceae
<u>Amaranthus retroflexus</u>	(Red-root Pigweed)	Amaranthaceae
<u>Amaranthus graecizans</u>	(Prostrate Amaranth)	"
<u>Cerastium arvense</u>	(Field Chickweed)	Caryophyllaceae
<u>Anemone patens</u>	(Prairie Crocus)	Ranunculaceae
<u>Heuchera Richardsonii</u>	(Alum Root)	Saxifragaceae
<u>Geum triflorum</u>	(Three-flowered Avens)	Rosaceae
<u>Potentilla anserina</u>	(Silverweed)	"
<u>Potentilla concinna</u>	(Early Cinquefoil)	"
<u>Potentilla fruticosa</u>	(Shrubby Cinquefoil)	"
<u>Oxytropis</u> spp.	(Loco Weed)	Leguminosae
<u>Dodecatheon pauciflorum</u>	(Shooting Star)	Primulaceae
<u>Monarda fistulosa</u>	(Wild Bergamot)	Labiatae
<u>Plantago eriopoda</u>	(Saline Plantain)	Plantaginaceae
<u>Plantago Purshii</u>	(Pursh's Plantain)	"
<u>Galium boreale</u>	(Northern Bedstraw)	Rubiaceae
<u>Symphoricarpos</u> spp.	(Snowberry)	Caprifoliaceae
<u>Campanula rotundifolia</u>	(Hare Bell)	Campanulaceae
<u>Lactuca pulchella</u>	(Blue Lettuce)	Compositae

## PLANTS OF THE GRASSLAND AREAS

<u>Sonchus</u> spp.	(Sow -thistle)	Compositae
<u>Taraxacum laevigatum</u>	(Red-seeded Dandelion)	"
<u>Taraxacum officinale</u>	(Dandelion)	"
<u>Achillea lanulosa</u>	(Woolly Yarrow)	"
<u>Achillea millefolium</u>	(Yarrow)	"
<u>Antennaria aprica</u>	(Low Everlasting)	"
<u>Artemisia biennis</u>	(Biennial Wormwood)	"
<u>Artemisia frigida</u>	(Pasture Sage)	"
<u>Artemisia gnaphalodes</u>	(Prairie Sage)	"
<u>Aster conspicuus</u>	(Showy Aster)	"
<u>Aster ericoides</u>	(Many-flowered Aster)	"
<u>Aster laevis</u>	(Smooth Aster)	"
<u>Cirsium arvense</u>	(Canada Thistle)	"
<u>Cirsium undulatum</u>	(Wavy-leaved Thistle)	"
<u>Erigeron caespitosus</u>	(Tufted Fleabane)	"
<u>Grindelia perennis</u>	(Gum-weed)	"
<u>Helianthus Maximiliani</u>	(Narrow-leaved Sunflower)	"
<u>Helianthus petiolaris</u>	(Prairie Sunflower)	"
<u>Helianthus subtuberosus</u>	(Tuberous-rooted Sunflower)	"
<u>Liatris ligulistylis</u>	(Meadow Blazing-star)	"
<u>Liatris punctata</u>	(Dotted Blazing-star)	"
<u>Matricaria matricarioides</u>	(Pine-apple Weed)	"
<u>Solidago</u> spp.	(Goldenrod)	"

## PLANTS OF THE WETLANDS

<u>Typha latifolia</u>	(Common Cattail)	Typhaceae
<u>Sparganium eurycarpum</u>	(Broad-fruited Bur-reed)	Sparganiaceae
<u>Triglochin maritima</u>	(Seaside Arrowgrass)	Juncaginaceae
<u>Triglochin palustris</u>	(March Arrowgrass)	"
<u>Fluminea festucaceae</u>	(White Top)	Gramineae
<u>Beckmannia syzigachne</u>	(Slough Grass)	"
<u>Carex lanuginosa</u>	(Woolly Sedge)	Cyperaceae
<u>Eleocharis acicularis</u>	(Needle Spike Rush)	"
<u>Scirpus paludosus</u>	(Prairie bulrush)	"
<u>Scirpus validus</u>	(Great Bulrush)	"
<u>Carex rostrata</u>	(Beaked Sedge)	"
<u>Lemna spp.</u>	(Duckweed)	Lemnaceae
<u>Rumex spp.</u>	(Dock)	Polygonaceae
<u>Ranunculus cymbalaria</u>	(Seaside Buttercup)	Ranunculaceae
<u>Ranunculus subrigidus</u>	(White Watercrowfoot)	"
<u>Caltha palustris</u>	(March Marigold)	"
<u>Potentilla anserina</u>	(Silverweed)	Rosaceae
<u>Hippuris vulgaris</u>	(Mare's Tail)	Hippuridaceae
<u>Sium sauve</u>	(Water Parsnip)	Umbelliferae
<u>Mentha arvensis</u>	(Wild Mint)	Labiatae
<u>Stachys palustris</u>	(Marsh Hedge Nettle)	"
<u>Orthocarpus luteus</u>	(Owls Clover)	Scrophulariaceae
<u>Utricularia vulgaris</u>	(Greater Bladderwort)	Lentibulariaceae
<u>Petasites sagittatus</u>	(Arrow-leaved Coltsfoot)	Compositae
<u>Petasites palmatus</u>	(Palmate-leaved Coltsfoot)	"



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