



CANADIAN WILDLIFE SERVICE  
FEDERAL MIGRATORY BIRD SANCTUARY REPORT

Birds of Redberry Lake

Wayne Renaud, Summer Assistant  
Prairie Migratory Bird Research Centre

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## Introduction

Since at least the 1930's Redberry Lake has been noted for the large numbers of colonial birds which nest there. Several physiographic features combine to make this lake one of the most suitable in Saskatchewan for such species as the white pelican (Pelecanus erythrorhynchos) and the double-crested cormorant (Phalacrocorax auritus).

Redberry Lake is permanent (unlike several other large lakes in southern Saskatchewan) and although it is fed by internal drainage, water levels do not fluctuate drastically from year to year. Consequently, island-nesting species are not threatened by flooding or drought. The lake is one of the largest in the area, covering 27 square miles (Rawson 1940). Several islands of varying size provide adequate nest sites for 5 species of colonial birds.

Decreasing water levels over at least the past 15 years (see Figure 1) may continue to change the shoreline of the lake. Although colonial birds formerly used at least 6 islands in the lake, the joining of 2 and the connection of another to the main shore have reduced this number to 4. The present distribution of colonial species on these 4 islands has been mapped (Figures 2 to 5). If water levels continue their slow decline, major shifts in breeding sites may be expected as new islands are formed and others become larger or become part of the shore. Human disturbance will likely continue to be a significant factor in the relocation and abandonment of colonial nesting birds and to a lesser extent other species which nest on the islands.

Figure 1.

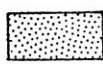
Redberry Lake Federal Migratory

Bird Sanctuary

Water Levels 1957 and 1971



1 1/4 inches = 1 mile



Land covered by water in 1957 but exposed in 1971.

### Bird species inhabiting Redberry Lake Sanctuary

Although the islands are extensively used as nest sites by many species of ducks, including the lesser scaup (Aythya affinis), mallard (Anas platyrhynchos) and pintail (Anas acuta), they are more important because of several other nesting species which, in general, are uncommon throughout much of their range, somewhat peripheral or extralimital in their occurrence or are characteristic of certain habitats found on these islands.

Late fall aerial surveys by Gollop (1954) and Hyshka and Nelson (1957) have already established the value of the lake to migrant waterfowl, especially ducks. However, little specific information has been recorded regarding the absolute numbers of several species nesting on the islands. The status of these breeding species has been summarized with the available banding data (Table 1).

The value of the sanctuary to other groups of birds, particularly migrant shorebirds, is unknown. However, extensive natural beaches both on the periphery of the lake and on the islands offer habitat which may be important feeding and resting areas for at least some species.

A list of some characteristic or unusual species breeding on the islands of Redberry Lake:

#### COMMON LOON (Gavia immer)

Apparently a few pairs nest on the lake each year. A nest with 2 eggs was found on Island #1 on July 14, 1963, another with 1 egg on July 1, 1965 and another with 1 egg on June 27, 1972 (on Island #3). According to Godfrey (1966) Redberry Lake would be near the southern limit of its present breeding range in western Saskatchewan.

#### WHITE PELICAN (Pelecanus erythrorhynchos)

From 80 to 150 pairs nest each year on Island #1 or #2, although in recent years they have favoured the latter. In 1971 they nested at the northern location on Island #2 (see Figure 3). Much has already been written about the threat of the nearby public beach and increased use of the lake for outdoor recreation. The size of the colony appears to be slowly decreasing. An extensive survey conducted in 1968 (Vermeer 1970) recorded only 8 active colonies in Saskatchewan. Banding: see Table 1.

#### DOUBLE-CRESTED CORMORANT (Phalacrocorax auritus)

A small colony varying in size from 20 to 70 pairs nests on Island #1 or #2. In some years they nest independently of the white pelicans. The southern location on Island #1 (see Figure 2) was only occupied in 1 year. In 1972 they nested with the white pelicans on Island #2. Their numbers do not appear to have been significantly reduced because of increased recreational use of the lake. Vermeer (1970) could locate only 9 active colonies in the province in 1968. Banding: see Table 1.

Gollop reported in 1957: "W. Hyshka . . . in 1954 saw about four pairs . . ., two of which had broods." In 1972 a nest containing broken eggshells and another containing 3 addled eggs were found on Island #2. Two adults were noted briefly but no young were seen. The species is apparently a rather uncommon and irregular breeder on the lake.

WHITE-WINGED SCOTER (Melanitta deglandi)

Up to 12 have been caught on the nest and banded in one day. Probably more than 50 pairs nest on the islands each year. Banding: 1958 (12), 1960 (1), 1961 (2), 1966 (8), 1967 (6), 1968 (4), 1969 (3), 1970 (6), 1971 (9), 1972 (9).

PIPING PLOVER (Charadrius melodus)

A regular and fairly common breeder on the shores and islands. The piping plover is absent or rare as a breeder through much of its range because of specific habitat requirements. Only about 15 breeding localities are known in Saskatchewan. Banding: 1964 (9), 1965 (2), 1966 (3), 1967 (3), 1968 (3), 1969 (3), 1971 (3), 1972 (2).

SPOTTED SANDPIPER (Actitis macularia)

A common breeder on the shores and islands of the lake. Probably more common than the piping plover. Nests containing 4 eggs were located July 14, 1963, July 1, 1966, June 24, 1967 and July 12, 1969. Banding: 1963 (3), 1964 (2), 1965 (3), 1966 (3), 1967 (7), 1969 (2), 1972 (2).

HERRING GULL (Larus argentatus)

A single young was banded on July 1, 1969, on Island #2. An adult was seen nearby. The nesting must be considered extralimital as the normal breeding range according to Godfrey (1966) begins much farther north in western Saskatchewan.

CALIFORNIA GULL (Larus californicus)

From 2,000 to 3,000 pairs nest on Island #1 and a few are found on the north side of the ring-billed colony on Island #2. The species does not seem to have been affected by increased recreational use of the lake. Banding: see Table 1.

RING-BILLED GULL (Larus delawarensis)

From 5,000 to 6,000 pairs nest on the high, rocky areas of Island #1 and more abundantly on Island #2. The species also formerly nested on an island off the east shore (now a peninsula) until increased disturbance forced its abandonment. Banding: see Table 1.

COMMON TERN (Sterna hirundo)

Although formerly restricted to Island #3 the recent exposing of Island #4 has shifted the majority of birds to this location. The nesting population of the lake is approximately 150 pairs. Banding: see Table 1.

Table 1. Colonial birds banded<sup>1</sup> at Redberry Lake.

(Note: In most cases the numbers banded do not represent the total number of young present.)

Year	White pelican	Double-crested cormorant	California gull	Ring-billed gull	Common tern
1936-37	328	153	unavailable	unavailable	unavailable
1955	82 <sup>2</sup>	10	129	-	-
1956	259	46	36	147	-
1957	123	-	11	-	-
1958	233 <sup>3</sup>	61 <sup>4</sup>	-	740	45 <sup>5</sup>
1960	87	-	145	106	-
1961	222	5	203	873	64
1962	-	-	264	142	-
1963	47	18	283	1,252	137
1964	190	39	145	1,180	126
1965	77	50	39	546	-
1966	182	64	876	1,052	175
1967	111	25	624	435	133
1968	128 <sup>6</sup>	52 <sup>7</sup>	258	399	192
1969	55	60	209	402	194
1970	114	29	559	745	37
1971	131	35	542	588	2
1972	99	17	601	399	155
Total	2,468	664	4,924+	9,006+	1,260+

<sup>1</sup>Banders: Lyon and McArthur 1936-37; Houston 1955-72.

<sup>2</sup>At least 150 young in colony.

<sup>3</sup>Another 30 young were too small to band.

<sup>4</sup>About 40 nests; about 12 young too small to band; 3 or 4 nests with eggs.

<sup>5</sup>Houston estimated 100+ nests.

<sup>6</sup>Vermeer (1970) recorded 139 nests.

<sup>7</sup>Vermeer (1970) recorded 62 nests.

## Description of island habitats and colonial bird distribution maps.

Island #1

Size: Approximately 93 acres in 1970. Highest point 30-40 feet above lake level.

Physical features: Sandy; broad area of exposed beach around much of island's periphery. A high ridge of boulders occurs near the north-east end of the island.

Vegetation: Ground cover consists mainly of tall grasses, snowberry (Symphoricarpos albus), rose (Rosa spp.) and gooseberry (Ribes stenosum). Scattered willow (Salix spp.) and aspen poplar (Populus tremuloides) grow on the higher areas. More recently exposed areas have grown into dense communities of lamb's quarter's (Chenopodium album), Canada thistle (Cirsium arvense), flixweed (Descurainia sophia), common burdock (Arctium minus) and sow thistle (Sonchus arvense). Along the higher beaches some stands of phragmites (Phragmites communis) occur.

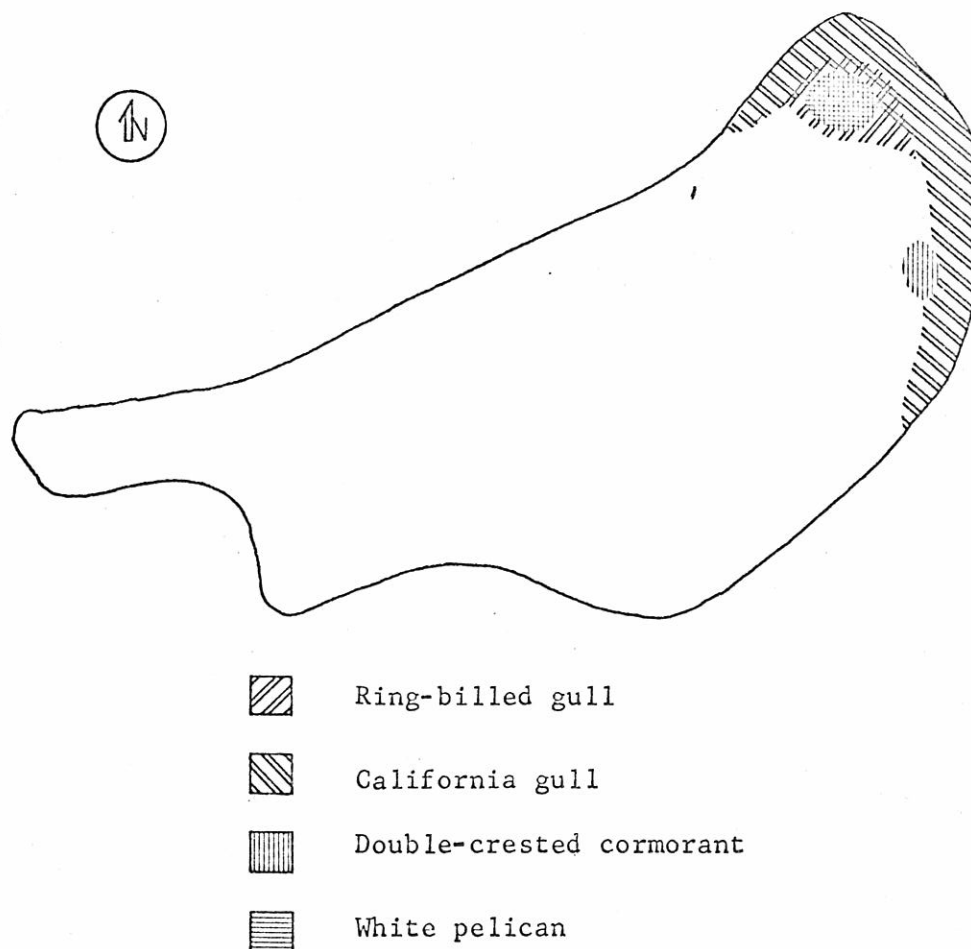


Figure 2. Breeding distribution of ring-billed gulls, California gulls, double-crested cormorants and white pelicans.



Island #2

Size: Approximately 85 acres in 1970. Highest point 20-25 feet above lake level.

Physical features: Beaches narrower than on Island #1 with well-distributed rocks and boulders.

Vegetation: Similar to Island #1 but with much more Canada thistle across the narrowest point about the centre of the island.

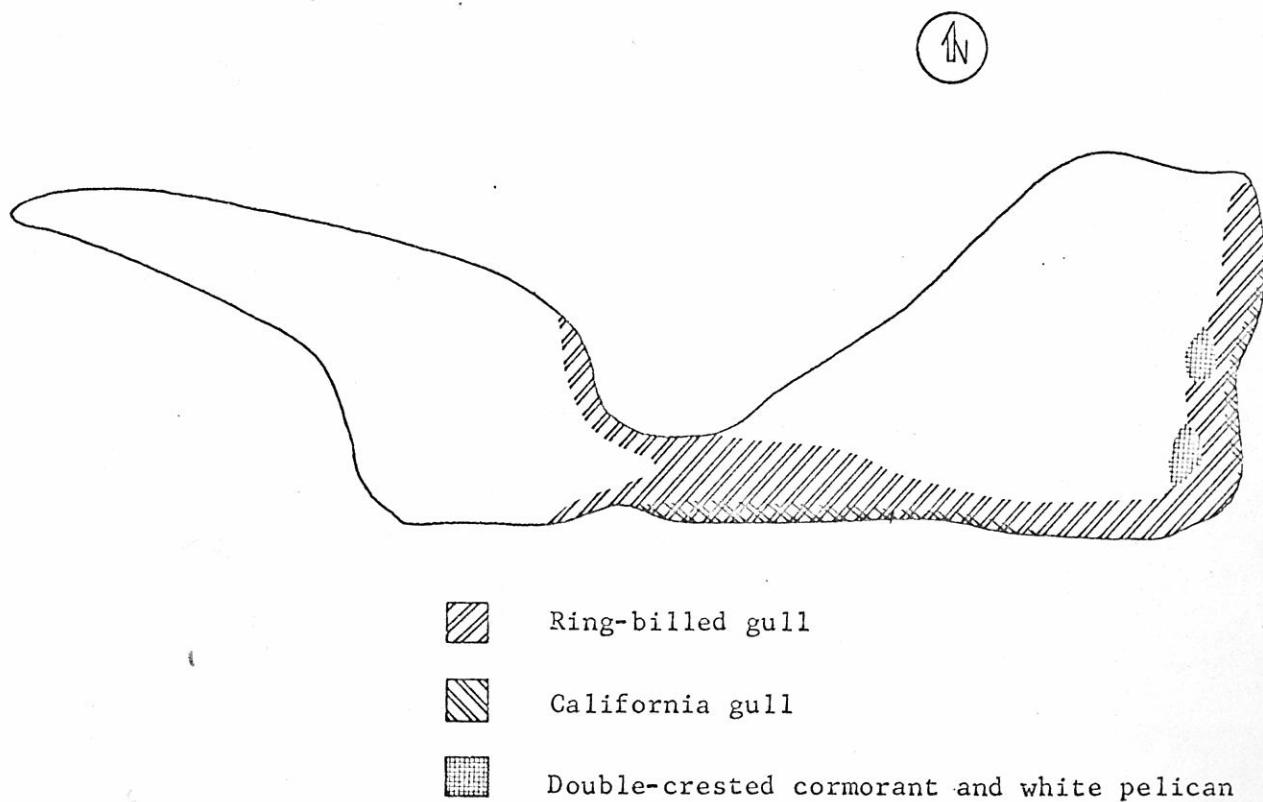


Figure 3. Breeding distribution of ring-billed gulls, California gulls, double-crested cormorants and white pelicans.



Island #3

Size: Approximately 10 acres in 1970. Highest point under 25 feet above lake level.

Physical features: Like Island #2 it has a less marked beach area due to greater relief. The shores are generally strewn with rocks except for a spit on the southwest end which consists of a narrow ridge of sand with little vegetation.

Vegetation: Similar to Island #1 and #2 but perhaps with fewer "weed" species.

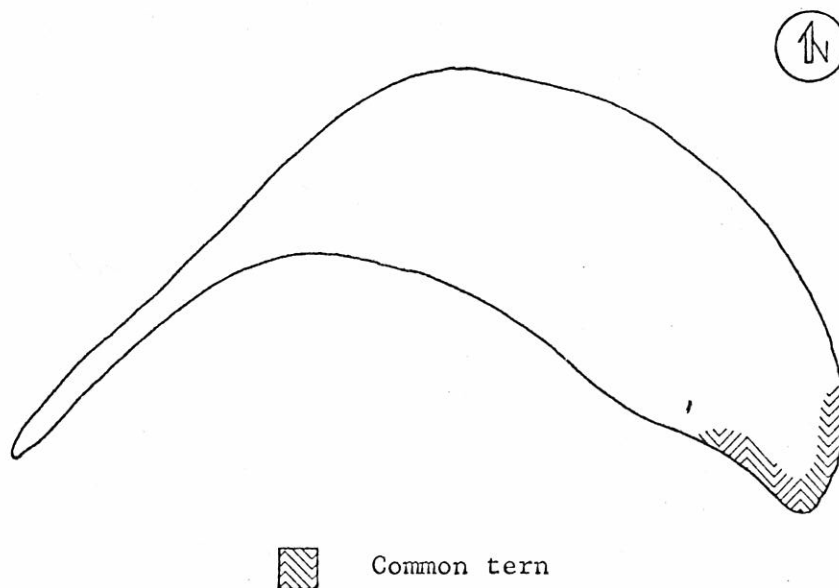


Figure 4. Breeding distribution of common tern.

Island #4

Size: Approximately 6 acres in 1970. Highest point about 5 feet above lake level.

Physical features: Boulders and rocks at north end grading into a long sandy spit at the south end.

Vegetation: Most species of plants found on the other islands are also found here with the exception of willows and aspen poplars.

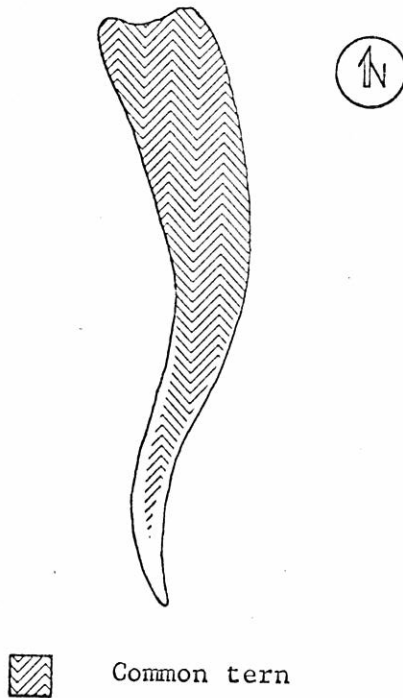


Figure 5. Breeding distribution of common tern.

Acknowledgments

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