

NO. 3011-100-037

UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF BIOLOGICAL SURVEY

Lower Souris Refuge

SPECIAL REPORT ON THE
FLORAL AND FAUNAL SURVEY OF
THE LOWER SOURIS REFUGE, WITH
BRIEF NOTES ON THE STATUS OF
EACH.

It is to be understood that the following information is far from complete. There are several reasons, including the fact that there is but little time available for this work. Most of our observations have been made while pursuing other forms of activity. However these lists should have some value, especially for future reference, and for comparative purposes.

Total observations extend from July 1, 1935 to December 31, 1936. As was to be expected, during 1936, we found some more or less radical changes in wildlife due to the creation of a vast new marsh. By comparing this report with the one prepared last year, these differences will readily be noted.

In a few cases it will be noted that I have given subspecific names. This has been done only when I have been definitely sure of my grounds, usually through the means of museum identification.

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FLORAL SURVEY

The following list, although far from complete,
is gradually growing larger. The 1936 additions are
included.

Redhead Grass (*Potamogeton perfoliatus*, variety *richardsonii*)
Common to abundant. Found in the river channel.

Sago Pondweed (*Potamogeton pectinatus*)
Locally common. Appeared over much of the newly flooded
area.

Sago Pondweed (*Potamogeton "vaginatus"*)
A coarse variety of Sago; occasional to common in the
river.

Leafy Pondweed (*Potamogeton foliosus*)
Common.

Small Pondweed (*Potamogeton pusillus*)
Occasional.

Horned Pondweed (*Zannichellia palustris*)
Abundant in Deep River. Appeared over much of newly flooded
area.

Waterweed (*Elodea canadensis*)
Fairly common.

Water Starwort (*Callitriche autumnalis*)
Locally common.

Water Milfoil (*Myriophyllum spicatum*)
Common locally; did not show up much in newly flooded area.

Coottail (*Ceratophyllum demersum*)
Common in "Sandhill Slough"; also noted in the river near
Westhope.

Musk Grass (*Chara*)
Uncommon. Found in Thompson and Hillman ponds.

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Mare's Tail (*Hippurus vulgaris*)
Fairly common.

Bladderwort (*Utricularia vulgaris*)
Became very abundant after flooding in 1936. From casual observations I would say that this is an important food for waterfowl, especially coots.

Floating Plants

Small Duck Weed (*Lemna minor*)
Rare to common locally, in 1935. Abundant in 1936.

Big Duck Weed (*Spirodela polyrhiza*)
Quite rare.

Star Duck Weed (*Lemna trisulca*)
Appeared over much of newly flooded area.

Marginal, or Semi-submerged Plants

Cattail (*Typha latifolia*)
Uncommon. Two patches near headquarters were eradicated by CCC labor in 1935. In 1936 it began to show up here and there, apparently from seed.

Duck Potato, or Arrowhead (*Sagittaria*)
Common.

Common Water Plantain (*Alisma plantago-aquatica*)
Common.

Geyer's Water Plantain (*Alisma geyeri*)
Common in Thompson Pond.

Bog Rush (*Eleocharis palustris*)
Common. Appeared almost everywhere on newly flooded lands.

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FLORAL SURVEY

Marginal, or Semi-submerged Plants

Needle Rush (Eleocharis acicularis)
Occasional.

Soft-stemmed Bulrush (Scirpus validus)
Common to abundant.

Hard-stemmed Bulrush (Scirpus occidentalis)
Very rare. Several tons of rootstalks were transplanted to the area with good success.

Three-square Bulrush (Scirpus americanus)
Occasional in isolated patches.

Prairie Bulrush (Scirpus ^{paludosus} ~~americanus~~)
Rare. A very large quantity of seed was planted with no apparent results as yet.

River Bulrush (Scirpus fluviatilis)
Common, but not producing seed heads except in rare cases in 1935. Produced abundant seeds in the newly flooded marshes.

Spike Rush (Juncus nodosus)
Common bordering Sandhill slough.

Spike Rush (Juncus dudleyi)
Occasional.

Spike Rush (Juncus balticus)
Occasional.

Pale Smartweed (Polygonum lapathifolium)
Abundant.

Smartweed (Polygonum pennsylvanicum(?))
Introduced from Squaw Creek. Grew in a few places.

Swamp Smartweed (Polygonum muhlenbergii)
Abundant; fertile only in water or very damp places. Made a wonderful comeback in newly flooded areas in 1936.

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Marginal, or Semi-submerged Plants

Bindweed (*Polygonum convolvulus*)
Abundant.

Lady's Thumb (*Polygonum persicaria*)
Occasional

Water Hemlock (*Circaea maculata*)
Occasional

Water Millet (*Echinochloa crus-galli*)
Rare to abundant. 1936 plantings were very successful.

Bur-reed (*Sparganium eurocarpum*)
Very common.

Bur-reed (*Sparganium diversifolium*)
Rare; represented by a small patch in Sandhill Slough.

Giant Reed (*Phragmites communis*)
Abundant.

Sedge (*Carex*)
Occasional along the river.

Wild Rice (*Zizania palustris*)
Introduced from Minnesota. Grew successfully in several places.

Wild Rice (*Zizania aquatica*)
Introduced from South-west of Towner. Grew successfully in Sandhill slough.

Other Plants

Dock (*Rumex britannica*?)
Uncommon.

Dock (*Rumex persicarioides*)
Common locally.

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Other Plants

Sunflower (*Helianthus maximiliana*)
Common.

Kingweed (*Iva xanthifolia*)
Very abundant.

Buttercups (*Ranunculus*)

Asters (*Aster*)

Plantain (*Plantago*)

Black-eyed Susan (*Rudbeckia*)

Ragweed (*Ambrosia artemisiifolia*)

Prairie Coneflower (*Ratibida*)

Silver-leaved Psoralea (*Psoralea argophylla*)
Found on dry prairie.

Pasture, or Silver Sage (*Artemisia frigida*)
Very common in regions suffering from overgrazing.

Beggar-ticks (*Bidens*)

Cocklebur (*Xanthium* sp.)
Common.

Burdock (*Arctium*)

Goldenrods (*Solidago*)
Common.

Thistles (*Cirsium*)

Mustard (*Brassica*)

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Other Plants

Gentian (*Gentiana amarella*, variety *acuta*)
Common on Thompson farm. A good quantity of seed was gathered.

Pigweeds (*Chenopodium*, etc.)

Nettles (*Urtica*)
Common locally.

Cinquefoils (*Potentilla*)
Common.

Russian Thistle (*Salsola*)
Very abundant.

Bindweed (*Convolvulus sepium*)
Fairly common.

Grasses

White-top (*Fluminia festucacea*)
Very abundant.

Green Foxtail Grass (*Setaria viridis*)
Common.

Redtop Grass (*Agrostis alba*)
Fairly common.

Reed Canary Grass (*Phalaris arundinacea*)
Fairly common on low ground.

Slough Grass (*Beckmannia erucaeformis*)
Common.

Salt Grass (*Distichlis spicata*)
Occasional.

Squirrel-tail Grass (*Hordeum jubatum*)
Common.

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Grasses

Nodding Wild Rye (*Elymus canadensis*)
Common.

Quack Grass (*Agropyron repens*)
Common.

Cord Grass (*Spartina michauxiana*)
Common. A fine nesting cover.

Sand Grass (*Calamovilfa longifolia*)
Common locally in Sandhills.

Blowout Grass (*Redfieldia flexuosa*)
Common locally in Sandhills.

Blue Grama Grass (*Bouteloua gracilis*)
Abundant.

Brome Grass (*Bromus inermis*)
Occasional.

Big Blue Stem (*Andropogon furcatus*)
Common.

Little Blue-stem (*Andropogon scoparius*)
Occasional.

American Manna-grass (*Glyceria grandis*)
In Sandhill slough.

Wild Oat Grass (*Danthonia*)
Occasional on barren hillsides.

Clovers

Yellow Sweet Clover (*Melilotus officinalis*)
Common. A very fine nesting cover.

White Sweet Clover (*Melilotus alba*)
Common. Also good nesting cover although not as desirable as the yellow.

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FLORAL SURVEY

Trees and Shrubs

Buckbrush, or western Snowberry (*Symphoricarpos occidentalis*)
Very common on the southern end of the refuge, occasional otherwise.

Black Haw, or Nannyberry (*Viburnum lentago*)
Found only in the heavily wooded sections.

Highbush Cranberry (*Viburnum trilobum*)
Found only in heavy woods.

Red-osier Dogwood (*Cornus stolonifera*)
Common on southern part of the refuge.

Bunchberry (*Cornus canadensis*(?))
Rare.

Green Ash (*Fraxinus pennsylvanica*, variety *lanceolata*)
Common.

Box Elder (*Acer negundo*)
Common.

Silverberry (*Eleagnus argentea*)
Common locally.

Choke Cherry (*Prunus virginiana*)
Abundant on southern end of refuge.

American Plum (*Prunus americana*)
Occasional in and around the Sandhills.

Hawthorn (*Crataegus*)
Common in the Sandhills.

Currants (*Ribes*)
Fairly common.

Roses (*Rosa*)
Very common. There are two varieties: the taller Meadow Rose(*Rosa woodsii*(?)) and the small Prairie Rose(*Rosa pratincola*). Both abundant.

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FLORAL SURVEY

Trees and Shrubs

Hazel (Corylus rostrata)

A small scrubby hazel was found only in one place in the Sandhills. However, the Turtle Mountains abound with this valuable shrub.

Willows (Salix)

Abundant.

Poplar (Populus tremuloides)

Abundant in southern portions.

Balsam Poplar (Populus balsamifera)

Found only in one portion of the Sandhills.

Cottonwood (Populus deltoides)

Common.

Oak (Quercus macrocarpa)

Common on southern part of refuge.

Elm (Ulmus americana)

Common.

Hackberry (Celtis occidentalis)

Occasional in Sandhills.

Raspberry (Rubus)

Rare; no fruiting plants were found.

Small Poison Ivy (Rhus rydbergii)

Common on southern end of refuge.

Grapes (Vitis)

Same habitat as Virginia Creeper.

Virginia Creeper (Parthenocissus quinquefolia)

Occasional in Southern portions of refuge.

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Trees and Shrubs

Mock Cucumber (*Micrampelis lobata*)
Found in woods; occasional.

Shadbush (*Amelanchier florida*)
Fairly common in south half of refuge.

Spireae (*Spireae*)
Fairly common in Sandhills.

Cactus (*Mamillaria missouriensis*)
Common in Sandhills.

Prickly Pear (*Opuntia fragilis*)
Common in Sandhills

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MAMMALS

American Elk (*Cervus canadensis*)

A large bull was seen by Messrs. Vogen and Shannon of the Biological Survey late this summer. This may be one of a pair that is reported to have been released near Towner a year or two ago.

Plains White-Tailed Deer (*Odocoileus virginianus macrourus*)

Common in the Sandhills and the wooded river bottom. The history of the deer in this area is very interesting. At one time they were very common. Then in more recent years they disappeared entirely. For many years there were no deer. Whether this disappearance was due to the gun, or to stock diseases, we can only guess. Then suddenly they appeared once more. At first they were very rare, but slowly increased until they are now well established. I have myself seen as many as nine in one bunch. It will be extremely interesting to watch this creature's reaction to protection, and the removal of the competition of livestock.

Red Squirrel (*Sciurus hudsonicus*)

Common in the wooded river bottom.

Striped Ground Squirrel (*Citellus tridecemlineatus*)

Occasional in the open meadows. These smaller ground squirrels are not at all common. We feel that this is largely due to the great numbers, and the lust to kill, of the Richardson's Ground Squirrel.

Franklin's Ground Squirrel (*Citellus franklinii*)

Frequent, but restricted to the brushy portions of the Sandhills.

Richardson's Ground Squirrel (*Citellus richardsonii*)

Very abundant almost everywhere in the more open country. These little rodents occur in many places in such large numbers as to be very destructive to crops.

Common Rat (*Rattus norvegicus*)

Fairly common around occupied buildings, or buildings that have been occupied recently. Otherwise they are quite rare.

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MAMMALS

Mice

As I have stated previously, our time has been far too limited to make any studies of these small rodents. However, we some day hope to be able to accurately list all forms of wildlife on the area.

Great Plains Muskrat (Fiber zibethicus cinnamominus)

With the flooding of the refuge, the muskrats suddenly found themselves to have many, many times the area they had the year before. Consequently, in spreading over such a large area, they became greatly scattered. For the area as a whole they can be rated only as occasional.

Beaver (Castor canadensis)

Probably the Canadian variety, (Castor canadensis canadensis), although we have never examined a specimen. We very seldom see these animals, but their lodges and cuttings are frequently noted along the river.

Yellow-haired Porcupine (Erethizon epixanthum e.)

Rare. Restricted to the timbered or brushy areas.

Nebraska Cottontail (Sylvilagus floridanus similis)

Occasional along the brushy fringes of the river bank.

Snowshoe Rabbit (Lepus americanus a.)

Fairly common in the Sandhills; much more common than the winter of 1935-36.

White-tailed Jack Rabbit (Lepus townsendii campestris)

Very common almost everywhere.

Northern Coyote (Canis latrans latrans)

Fairly common in the Sandhills and adjacent territory. Of the coyotes trapped here this winter, most are sufficiently large to be referable to this subspecies.

Plains Coyote (Canis latrans nebracensis)

One adult coyote was sufficiently small to be definitely of this variety. The coyotes seem to be most common on lighter soils, whereas the fox is usually found on the heavier soils.

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MAMMALS

Yellow-red Fox (*Vulpes fulva regalis*)

Most common in the Bottineau County portion of the refuge, although there are a few on the meadows as far south as Structure 320.

Long-tailed Weasel (*Mustela longicauda* l.)

Quite common everywhere. These animals are very destructive to wildlife on this area.

Bonaparte Weasel (*Mustela cicognanii* c.)

Quite uncommon. Only about five per-cent of our weasels are of this species.

Mink (*Lutreola vison letifera*)

Fairly common along the river, and especially in the wooded area. These are exceptionally large ones, much larger than I have ever seen anywhere. Like the Weasel, the Mink is very destructive to wildlife. However they are much less common, which along with the value of the fur, is sufficient reason to allow them some consideration. It is recommended that we trap them quite rigidly each year, and thus keep their numbers in check. There is no doubt that fur will provide a good income from this area in the future.

Northern Skunk (*Mephitis hudsonica*)

Very common in the marshy meadows and adjacent banks and coulees. Rare in the Sandhills. Due to the fact that Skunks are so destructive to duck nests, we plan to trap them so extensively as to have their numbers at a minimum by nesting season.

Badger (*Taxidea taxus* t.)

Rare.

Raccoon (*Procyon lotor* l.)

No sign of these animals on the area in 1936. One track was noted in 1935.

Moles, Shrews, and Bats are present, but no identifications have been made.

Least Weasel (*Mustela vison x.*)

*One specimen, five minutes before
this report went into mail.*

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FISHES

Results of preliminary fisheries research has revealed the following twelve species that occur in the Mouse River on the Lower Souris Refuge. Identifications were made by Dr. Carl L. Hubbs of the Institute of Fisheries Research, Ann Arbor, Michigan.

Common Sucker (*Catostomus commersonnii Sucklii*)
Abundant.

Northern Dace (*Margariscus margarita nachtriebi*)
One specimen.

Common Shiner. (*Notropis cornutus frontalis*)
Common.

Spot-tail Minnow (*Notropis hudsonius hudsonius*)
One specimen.

South-western Straw-Colored Minnow (*Notropis deliciosus missouriensis*)
Abundant.

Black-head Minnow (*Pimephales promelas promelas*)
Abundant.

Common Bullhead (*Ameiurus nebulosus nebulosus*)
Common.

Johnny Darter (*Boleosoma nigrum nigrum*)
One specimen.

Iowa Darter (*Poeciliichthys exilis*)
Common.

Brook Stickleback (*Eucalia inconstans*)
Common.

Trout-Perch (*Percopsis omiscomaycus*)
One specimen.

Common Pike (*Esox lucius*)
Occasionally common.

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REPTILES

No further findings have been made concerning the Reptilia. There are two species of Turtles and two of Snakes, so far as we know at the present time.

Turtles

Painted Turtle (*Chrysemys picta belli*)*
Fairly common.

Snapping Turtle (*Chelydra serpentina*)
Occasional.

Snakes

Garter Snake (*Thamnopsis*)

Hog-nose Snake (*Heterodon contortrix*)
Occasional in sandy areas. Known locally as "sand Adder" and believed by almost everyone to be poisonous.

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AMPHIBIANS

The Amphibia are well represented by an abundance of frogs, toads, and salamanders. As yet, but little has been done with the identifications of these animals, but it is hoped that we will have this class pretty well taken care of this year. The following are known positively to occur:

Leopard Frog (*Rana pipiens*)

Swamp Toad (*Pseudaeris nigrita septentrionalis*)*

Tiger Salamander (*Ambystoma tigrinum*)

* Identified by Dr. Carl L. Hubbs, Ann Arbor, Michigan.

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BIRD LIST

1. Horned Grebe (*Colymbus auritus*)

First noted April 26, 1936 in Deep River. Frequent for a short time but soon disappeared.

2. Eared Grebe (*Colymbus nigricollis*)

A few were seen on May 3rd. They soon became fairly common. Several pairs were known to nest in small colonies.

3. Western Grebe (*Aechmophorus occidentalis*)

First seen in 1936, and then only an occasional single bird.

4. Pied-billed Grebe (*Podilymbus podiceps*)

Somewhat more common than in 1935, nesting over most of the marshy area. First spring record was on April 22nd.

5. White Pelican (*Pelecanus erythrorhynchos*)

Seen occasionally during migration. First spring record April 28, 1936. None seen in fall after September.

6. Double-crested Cormorant (*Phalacrocorax auritus*)

One record for 1935, in August. The first 1936 record was May 8th. A few birds stopped here during spring migration, but none to nest. Once in a great while a single non-breeding bird would be noted here during the summer.

7. Great Blue Heron (*Ardea herodias*)

Seen only during migration; uncommon during spring migration; common in late summer and fall.

8. Black-crowned Night Heron (*Nycticorax nycticorax*)

Common. A nice colony nested in Unit 341(IV), in 1936. First spring record, May 19th.

9. American Bittern (*Botaurus lentiginosus*)

First seen on May 11th. Quite common during summer. Nests.

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10. Whistling Swan (*Cygnus columbianus*)

Several flocks stopped here in the spring of 1936, the first birds appearing on April 15th. Not so common during fall migration.

11. Canada Goose (*Branta canadensis*)

Occasional during migrations. First birds to appear in the spring arrived on the 14th of April. Last fall record for this year was November 1st.

12. White-fronted Goose (*Anser albifrons*)

Noted here on October 2nd. Twenty-two birds in all were seen that day near Dam 341. They stayed several days.

13. Mallard Duck (*Anas platyrhynchos*)

Found to be fifth most common nesting duck here in 1936 by Kalmbach (35 nests). Most common duck during late fall migration. Arrived April 10th.

14. Black Duck (*Anas rubripes*)

Extremely rare. I have not seen one here in a year and a half. Mr. Kalmbach saw one during the summer of 1936.

15. Gadwall (*Chaulelasmus streperus*)

Very common. Third most common nester (72 nests). First arrival May 2nd.

16. Baldpate (*Mareca americana*)

Common. Sixth most common nesting duck here in 1936. (23 nests). Arrived April 17th.

17. Pintail (*Dafila acuta*)

Very common. These ducks were extremely common during the height of the spring migration. The fourth most common nesting duck (69 nests). First noted on April 11th.

18. Green-winged Teal (*Nettion carolinense*)

Fairly common, especially during the fall migration. Eighth most common nester (9 nests). Arrived May 2nd.

19. Blue-winged Teal (*Querquedula discors*)

Very common. Most common nester Mr. Kalmbach and his crew found. (84 nests). Arrived April 19th.

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20. Shoveller (*Spatula clypeata*)

Very common. Second most common nester (78 nests).
Arrived April 17th.

21. Redhead (*Nyroca americana*)

Were here in fairly good numbers all summer. Thirteen nests were located, giving the Redhead seventh place as a nesting duck. However, the divers were not quite fairly represented due to the fact that most of the intensive nest hunting was done on high ground. First noted on April 20th.

22. Ring-necked Duck (*Nyroca collaris*)

Rare. Only a very few were noticed during periods of migration.

23. Canvasback (*Nyroca valisneria*)

Frequent, but not quite as common as the Redhead. Took ninth place as a nester with eight nests found. Arrived April 20th.

24. Scaup Duck (*Nyroca* sp)

Common during migration, occasional during the summer. Only two nests were found, giving it tenth place. All birds positively identified were Lesser Scaups. Arrived April 15th.

25. Common Golden-eye (*Glaucionetta clangula*)

Occasional during migration, with a few stopping to nest in the wooded river-bottom. No nests have been located, although I saw broods both in 1935 and 1936. First arrival April 17th.

26. Buffle-head (*Charitonetta albeola*)

Rare. About six birds in all were noted this fall (1936).

27. Ruddy Duck (*Eriamatura jamaicensis*)

Frequently seen in the well-watered areas. No nests were found, but several nice broods of young were observed.
Arrived May 2nd.

28. Hooded Merganser (*Lophodytes cucullatus*)

Occasional to rare. Nests in the wooded river-bottom.
One bird nested in one of our artificial bird houses in 1936.

29. American Merganser (*Mergus merganser*)

A few birds were seen in the late fall migration (1936).

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30. Turkey Vulture (*Cathartes aura*)
Accidental. One bird was shot this summer by a farmer near the refuge, on September 23, 1936.
31. Goshawk (*Astur atricapillus*)
Rare. One positive record on April 16, 1936.
32. Sharp-shinned Hawk (*Accipiter velox*)
Occasional. Earliest date in 1936 was April 16th.
33. Cooper's Hawk (*Accipiter cooperi*)
Occasional during migration. First arrival May 2nd.
34. Red-tailed Hawk (*Buteo borealis*)
Fairly common, especially in the wooded areas, during late summer.
35. Swainson's Hawk (*Buteo swainsoni*)
Common, especially during late summer. A few pairs nest on the wooded parts of the refuge. Arrived April 15th.
36. Common Rough-legged Hawk (*Buteo lagopus*)
A winter resident, usually arriving in October. The height of the spring migration hit us in mid-April.
37. Ferruginous Rough-legged Hawk (*Buteo regalis*)
Uncommon. A few were noted in late summer.
38. Golden Eagle (*Aquila chrysaetos*)
It is most interesting that no Golden Eagles were seen here by us until the fall of 1936, when they suddenly became quite common. Quite a number are wintering in the Sandhills, but last winter there were none.
39. Bald Eagle (*Haliaeetus leucocephalus*)
One record, April 16th, at the "Sandhill Slough".
40. Marsh Hawk (*Circus hudsonius*)
Common. Quite a number of nests were discovered during the waterfowl nesting studies conducted here this summer. Arrived March 18th.

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41. Prarie Falcon (*Falco mexicanus*)
Occasional during late summer and migrations.
42. Peregrine Falcon (*Falco peregrinus*)
Occasional during late summer and migrations. In 1936, first noted on May 9th.
43. Pigeon Hawk (*Falco columbarius*)
Occasional during migration, first arriving on May 4th.
44. Sparrow Hawk (*Falco sparverius*)
Fairly frequent. A few remain to nest in the wooded parts of the refuge. First arrival was April 15th.
45. Prairie Chicken (*Tympanuchus cupido*)
These birds showed a slight increase over the previous year. They stick pretty well to the wide open places, whereas the sharp-tailed Grouse is usually found in brushy country. There is a marked increase in both species in October and November.
46. Sharp-tailed Grouse (*Pediocetes phasianellus*)
There has been a marked increase in 1936.
47. Gray, or Hungarian Partridge (*Perdix perdix*)
This fine game bird is well established, and apparently increasing.
48. Ring-necked Pheasant (*Phasianus colchicus*)
Fairly common, especially near water where the cover is good. These birds do not winter as successfully as the native game birds or the Hungarian Partridges.
49. Sandhill Crane (*Grus canadensis*)
Occasionally seen flying over in migrations. First noted on ~~May 1st, 1936~~ April 18, 1936.
50. Virginia Rail (*Rallus limicola*)
None seen in 1935. Very rare in 1936.
51. Sora Rail (*Porzana carolina*)
A very common summer resident. Spring arrival, May 14, 1936.
52. Coot (*Fulica americana*)
Quite rare in 1935. After flooding in 1936, they were here by the thousands, nesting in every favorable area.

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53. Semi-palmated Plover (*Charadrius semipalmatus*)
Occasional during late summer.
54. Killdeer Plover (*Oxyechus vociferus*)
Very common summer resident. In 1936 the arrival date was April 11.
55. American Golden Plover (*Pluvialis dominica*)
Occasional during migration. Arrival May 18th.
56. Black-bellied Plover (*Squatarola squatarola*)
Quite common during migrations. Arrived May 15th.
57. Wilson's Snipe (*Capella delicata*)
Very common in late summer on favorable flats. Arrival April 20th.
58. Upland Plover (*Bartramia longicauda*)
About the same numbers as in 1935. Nests in the Sandhills Meadows and in Unit I(320). Arrival May 12th.
59. Spotted Sandpiper (*Actitis macularia*)
Common summer resident. Arrival May 6th.
60. Solitary Sandpiper (*Tringa solitaria*)
Common during migrations. Arrival May 10th.
61. Western Willet (*Catoptrophorus semipalmatus inornatus*)
Common summer resident. Arrival April 30th.
62. Greater Yellow-legs (*Totanus melanoleucus*)
Uncommon.
63. Lesser Yellow-legs (*Totanus flavipes*)
Common. Very abundant during late summer. Arrival April 23rd.
64. Pectoral Sandpiper (*Pisobia melanotos*)
Common during migrations. Arrival April 20th.
65. Baird's Sandpiper (*Pisobia bairdi*)
Occurs, but due to difficulty in distinguishing from several others, I am not sure how common it is.
66. Least Sandpiper (*Pisobia minutilla*)
Common during migration. Arrived May 4th.

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67. Red-backed Sandpiper (*Pelidna alpina sakhalina*)
Occasional during migrations.
68. Dowitcher (*Limodromus griseus*)
Occasional during spring migration. Very abundant during fall. First arrivals May 4th.
69. Stilt Sandpiper (*Micropalma himantopus*)
Saw a nice flock on June 2, 1936.
70. Semi-palmated Sandpiper (*Reunetes pusillus*)
Common during migrations. Arrival April 19th.
71. Marbled Godwit (*Limosa fedoa*)
A fairly common summer resident. Arrived April, 25, 1936. Departed in August.
72. Hudsonian Godwit (*Limosa haemastica*)
A flock of eight birds were noted on a small flat near Dam 332, on April 19th. They remained in this same spot for four days.
73. Sanderling (*Crocethia alba*)
One noted on September 26th.
74. Avocet (*Recurvirostra americana*)
Rare. Only record was two birds May 3rd, about a mile north of headquarters.
75. Wilson's Phalarope (*Steganopus tricolor*)
Common summer resident. Arrival May 8th.
76. Northern Phalarope (*Lopipes lobatus*)
One flock, June 2nd near south end of refuge.
77. Herring Gull (*Larus argentatus*)
Uncommon. An occasional bird here or there is noted during migrations. First noted in 1936 on April 27th.
78. Ring-billed Gulls (*Larus delawarensis*)
Very spasmodic in their occurrence, often appearing for a few days in large numbers. None stayed during summer. First noted on April 21st.

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79. Franklin's Gull (*Larus pipixcan*)
Here by the tens of thousands all during late summer.
None nested. First arrival May 7th.
80. Forster's Tern (*Sterna forsteri*)
Occasional during migrations.
81. Common Tern (*Sterna hirundo*)
Occasional during migrations. Due to the difficulty in distinguishing between the common and Forster's tern without careful study, I am not certain which is the most common.
82. Black Tern (*Chlidonias nigra*)
Common. Nested freely on the newly flooded marsh units.
83. Mourning Dove (*Zenaidura macroura*)
Common summer resident. Arrived April 17th.
84. Black-billed Cuckoo (*Coccyzus erythrophthalmus*)
Common summer resident in 1935. Quite rare in 1936.
85. Barn Owl (*Tyto alba*)
Very rare. Only the one record for 1935. No records in 1936.
86. Screech Owl (*Otus asio*)
Frequent in the wooded areas.
87. Great Horned Owl (*Bubo virginianus*)
Quite common, nesting in the wooded areas.
88. Snowy Owl (*Nyctea nyctea*)
Occasional. A winter visitor during about four months of the year.
89. Burrowing Owl (*Speotyto cunicularia hypugaea*)
A fairly common summer resident. Arrived April 27th.
90. Long-eared Owl (*Asio wilsonianus*)
Found two birds in a small Poplar grove on June 10, 1936.

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91. Short-eared Owl (*Asio flammeus flammeus*)
Common year around resident on the meadowlands.
92. Nighthawk (*Chordeiles minor*)
Occasional, nesting in the Sandhills. Arrived May 30th.
93. Ruby-throated Hummingbird (*Archilochus colubris*)
Rare. Two noted in Sandhills on May 21st.
94. Belted Kingfisher (*Megasceryle alcyon*)
Occasional along the river. First arrival April 20, 1936.
95. Yellow-shafted Flicker (*Colaptes auratus*)
Arrived April 22, 1936. Common during migration.
96. Yellow-bellied Sapsucker (*Sphyrapicus varius*)
Frequent in migration. Arrived May 1st.
97. Hairy Woodpecker (*Dryobates villosus*)
Resident; Frequently noted in wooded river bottom.
98. Downy Woodpecker (*Dryobates pubescens*)
Resident. Quite common in the wooded areas.
99. Eastern Kingbird (*Tyrannus tyrannus*)
A very common summer resident. Arrived May 12th.
100. Arkansas Kingbird (*Tyrannus verticalis*)
A very common summer resident. Arrived May 8th.
101. Phoebe (*Sayornis phoebe*)
One record, a very noisy individual at the Johnson bridge on June 8, 1936.
102. Say's Phoebe (*Sayornis saya*)
Occasional during migration. First record in 1936, May 9th.
103. Alder Flycatcher (*Empidonax traillii*)
Several pairs were noted on June 11th in the willows along the river about two miles north of headquarters.

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104. Least Flycatcher (*Empidonax minimus*)
Common summer resident; arrival May 18th.
105. Wood Pewee (*Myiochanes virens*)
Occasional in the wooded areas.
106. Horned Lark (*Otocoris alpestris*)
Several specimens submitted to the University of Michigan for identification were the Saskatchewan Horned Lark (*Otocoris alpestris anthemia*). Horned Larks arrived by the thousands in early March.
107. Tree Swallow (*Iridoprocne bicolor*)
Fairly common. Arrived May 4th.
108. Bank Swallow (*Riparia riparia*)
Very common in suitable areas. Arrived May 18th.
109. Cliff Swallow (*Petrochelidon albifrons*)
Spasmodic. Nests in small colonies under eaves of chosen barns. First noted May 24th.
110. Purple Martin (*Progne subis*)
Only one record for refuge; on May 12th one sat on a twig within a few feet of the office window.
111. Barn Swallow (*Hirundo erythrogaster*)
Common. Arrived May 5th.
112. Blue Jay (*Cyanocitta cristata*)
Rare to occasional in the wooded river bottom.
113. Magpie (*Pica pica hudsonia*)
Fairly common resident in the Sandhills, where it nests. We find them easy to trap with steel traps set around Rabbits or other Carrion.
114. Crow (*Corvus brachyrhynchos*)
Very common summer resident. Exceedingly abundant during migrations. Entirely absent from November to March. Arrived March 11.
115. Black-capped Chickadee (*Penthestes atricapillus*)
Fairly common resident in wooded areas.

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116. White-breasted Nuthatch (*Sitta carolinensis*)
Resident in wooded river-bottom.
117. Red-breasted Nuthatch (*Sitta canadensis*)
Quite rare. Noted only during migrations.
118. House Wren (*Troglodytes aedon*)
Fairly common summer resident. First noted May 12th.
119. Long-billed Marsh Wren (*Telmatodytes palustris*)
Occasional. No nesting birds were found in 1936. Arrived in May; a few stay on into October.
120. Catbird (*Dumetella carolinensis*)
Fairly common summer resident in brushy land. Arrived May 21st.
121. Brown Thrasher (*Toxostoma rufum*)
Fairly common summer resident. Arrived May 14th.
122. Robin (*Turdus migratorius*)
Fairly common during migration. Not so common during nesting season. Arrived April 16th.
123. Hermit Thrush (*Hylocichla guttata*)
Occur during migrations.
124. Wilson's Thrush (*Hylocichla fuscescens*)
A summer resident frequently observed in the darkest, most dense portions of the wooded river-bottom.
125. Bluebird (*Sialia sialis*)
Rare. A few are noted in migration.
126. Mountain Bluebird (*Sialia currucoides*)
One record in wooded river-bottom on September 23rd.
127. Golden-crowned Kinglet (*Regulus satrapa*)
Rare. One bird was seen on the headquarters grounds on May 5th.
128. Ruby-crowned Kinglet (*Corthylio calendula*)
A few are noted during migrations, probably being most common in September.

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129. American Pipit (*Anthus spinoletta*)
Common in migrations. First noted April 22nd.
130. Sprague's Pipit (*Anthus spraguei*)
Very rare in 1936. The large nesting colony of 1935 was completely without Pipits. Evidently they do not return, to the same area each year.
131. Northern Shrike (*Lanius borealis borealis*)
There are a few each winter in the brushy fringes of the river bottom, and in the sandhills.
132. Migrant Shrike (*Lanius ludovicianus migrans*)
Summer resident, not nearly so common in 1936 as in 1935.
133. Red-eyed Vireo (*Vireo ~~gilvus~~ flavoviridis*)
Common summer resident in the wooded and brushy areas. First observed on May 30th.
134. Warbling Vireo (*Vireo gilvus*)
A fairly common summer resident in wooded and brushy areas. First noted May 21st.
135. Black and White Warbler (*Mniotilta varia*)
Occasional during migration. Most often noted during August and September.
136. Tennessee Warbler (*Vermivora peregrina*)
Has been noted during migration. First noted May 21st.
137. Orange-crowned Warbler (*Vermivora celata celata*)
Has been noted during migration. Earliest record May 4, 1936.
138. Yellow Warbler (*Dendroica aestiva*)
A very common summer resident. Arrived May 12, 1936.
139. Myrtle Warbler (*Dendroica coronata*)
Very abundant during height of migration periods. Arrived April 27th. Myrtle Warblers were very abundant for a few days including May 10th to 12th. Also very common during first week of October.
140. Chestnut-sided Warbler (*Dendroica pennsylvanica*)
Occasional during migrations.

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141. Black-poll Warbler (*Dendroica striata*)
Frequent during migration. First noted May 12th, 1936.
142. Palm Warbler (*Dendroica palmarum*)
Common during migrations.
143. Oven-bird (*Seiurus aurocapillus*)
A summer resident in the heavily wooded river bottom.
144. Mourning Warbler (*Oporornis philadelphia*)
One record, June 2, 1936.
145. Yellow-throat (*Geothlypis trichas*)
A common summer resident. Arrived May 24th.
146. Redstart (*Setophaga ruticilla*)
Occasional during migrations. First noted on May 31st.
147. English Sparrow (*Passer domesticus*)
Quite common, especially around farm buildings.
148. Bobolink (*Dolichonyx oryzivorus*)
First seen on May 8th.
149. Western Meadowlark (*Sturnella neglecta*)
An abundant summer resident. Arrived March 19th.
150. Yellow-headed Blackbird (*Xanthocephalus x.*)
Rare in 1935. Abundant in 1936 after the marshes were flooded. Nested in large numbers. Arrived May 3rd.
151. Red-winged Blackbird, (*Agelaius phoeniceus*)
An abundant summer resident. First arrival appeared on March 19th.
152. Rusty Blackbird (*Euphagus carolinus*)
Very common during migration. Arrived April 20th.
153. Brewer's Blackbird (*Euphagus cyanocephalus*)
A common summer resident. First noted April 26th.
154. Bronzed Blackbird (*Quiscalus quiscula*)
Occasional. A summer resident. Appeared April 17th.
155. Baltimore Oriole (*Icterus galbula*)
Quite frequent, nesting in favorable groves of trees.
First noted May 21st.

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156. Cowbird (*Molothrus ater artemisiae*)
Fairly common, especially during migration. Arrived April 25th.
157. Rose-breasted Grosbeak (*Hedymeles ludovicianus*)
Occasional. A summer resident along the heavily wooded portions of the river bottom.
158. Common Purple Finch (*Carpodacus purpureus*)
Occasional during migration.
159. Pine Grosbeak (*Pinicola enucleator*)
No records for 1936. Only records were those given in report for 1935.
160. Common Redpoll (*Acauthis linaria linaria*)
A very common winter resident. Arrive in November and stay until April.
161. Greater Redpoll (*Acauthis linaria rostrata*)
Not noted in 1936. Only record was for 1935.
162. Goldfinch (*Spinus tristis*)
A not too common summer resident. More numerous during migration.
163. Towhee (*Pipilo erythrophthalmus*)
One record on June 2, 1936; south end of refuge.
164. Lark Bunting (*Calamospiza melanocoryo*)
An occasional summer resident on the open prairie country. It usually nests in colonies.
165. Savannah Sparrow (*Passerculus sandwichensis*)
A summer resident, the most common sparrow on the meadowland.
166. Bairds Sparrow (*Ammodramus bairdi*)
A common summer resident on the pasture lands, found most usually in grasses that are not too long.

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167. Grasshopper Sparrow (*Ammodramus savannarum*)
An occasional summer resident on the meadows.

168. Nelson's Sparrow (*Ammospiza caudacuta nelsoni*)
Entirely absent in 1935. Noted quite frequently in 1936 in the newly created marsh area. First noted on May 31st.

169. Western Vesper Sparrow (*Pooecetes gramineus confinis*)
A very common summer resident. Arrived April 22nd.

170. Lark Sparrow (*Chondestes grammacus*)
Rare. Two birds were seen in the north-western tip of the Sandhills on June 8th.

171. Slate-coloured Junco (*Junco hyemalis h.*)
Very common during migrations; in winter of 1935-36 they disappeared on February 15th and reappeared on March 23rd.

172. Tree Sparrow (*Spizella arborea*)
Very common during migrations. Arrived March 8th, after being absent since January 1st.

173. Chipping Sparrow (*Spizella passerina*)
A far from common summer resident. Arrived May 1st.

174. Clay-coloured Sparrow (*Spizella pallida*)
A common summer resident. First noted May 3rd.

175. Field Sparrow (*Spizella pusilla*)
Very rare. Two records in 1935, and one record for 1936 on August 3rd.

176. Harris's Sparrow (*Zonotrichia querula*)
Very abundant during migrations. Arrived May 5th.
Abundant during September and October.

177. White-crowned Sparrow (*Zonotrichia leucophrys*)
Occasional during migration. Arrived May 5th.

178. White-throated Sparrow (*Zonotrichia albicollis*)
Very common during migration. First noted May 2nd.
Abundant during September and October.

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179. Fox Sparrow (*Passerella iliaca*)

Rarely noted during migration.

180. Swamp Sparrow (*Melospiza georgiana*)

Rare. Caught, and banded one bird in the Service Building on October 5th.

181. Song Sparrow (*Melospiza melodia*)

A common summer resident. First noted April 18th.

182. Lapland Longspur (*Calcarius l. lapponicus*)

Very abundant, especially during spring migrations. Arrived March 20, were present until late April.

183. Alaska Longspur (*Calcarius lapponicus alasceusis*)

Noted occasionally during migration, especially during late fall.

184. Chestnut-collared Longspur (*Calcarius ornatus*)

A very common summer resident. Arrived April 17th.

185. Snow Bunting (*Plectrophenax nivalis*)

An abundant winter resident, arriving first part of October, and a few lingering on until late April.

186. Holboell's Grebe (*Colymbus grisegena holboelli*)

Rare. Very few birds have been noted during migrations.