

Narrative Report Routing Slip

Mr. Salyer _____

Mr. Ackerman CR

Mr. Crawford _____

Administrative Services

Miss Baum _____

Operations

Mr. ~~Demarech~~ _____

Mr. ~~Hopson~~ MR

Public Use

Mr. ~~Dikant~~ PAD

Mr. Kubichek _____

Mr. ~~Stallberg~~ SS

Resource Management

Dr. Morley _____

Mr. Hickok _____

Wildlife Management

Mr. Banko B

Mr. Stiles _____

Mr. Goldman _____

Refuge LOWER SOURIS

Period JANUARY - APRIL 1960

NARRATIVE REPORT
LOWER SOURIS NATIONAL WILDLIFE REFUGE
For
JANUARY - FEBRUARY - MARCH - APRIL
1960

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF SPORT FISHERIES AND WILDLIFE
FISH AND WILDLIFE SERVICE
UPHAM, NORTH DAKOTA

REFUGE PERSONNEL

Edward J. Smith, Jr.....Refuge Manager
Robert R. Johnson.....Refuge Manager
Vacant.....Refuge Manager
Roy W. Carlson.....Mechanic, Heavy Duty
Alvin Brandt.....Foreman, Mixed Gang
Raymond F. Badke.....Maintenanceman
Charles I. Varty.....Maintenanceman
Wilfred J. Hill.....Refuge Clerk

Merrill C. HammondWildlife Management Biologist
John H. Johanson (April).....Wildlife Aid

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I. GENERAL

A. Weather Conditions.

	<u>Snowfall</u>	<u>Precipitation</u>		<u>Max.</u>	<u>Min.</u>
		<u>This Month</u>	<u>Normal</u>	<u>Temp.</u>	<u>Temp.</u>
January	<u>13.2</u>	<u>.45</u>	<u>.48</u>	<u>43</u>	<u>-34</u>
February	<u>0.9</u>	<u>.04</u>	<u>.45</u>	<u>44</u>	<u>-23</u>
March	<u>4.7</u>	<u>.42</u>	<u>.82</u>	<u>55</u>	<u>-29</u>
April	<u>2.0</u>	<u>.51</u>	<u>1.31</u>	<u>70</u>	<u>16</u>
Total	<u>20.8"</u>	<u>1.42"</u>	<u>3.06"</u>	Extremes <u>70</u>	<u>-34</u>

The above weather data was obtained from weather station records maintained by Mr. Hill at refuge headquarters.

The winter was cold and snow cover of depths to 18" held throughout the period. Total precipitation this period, however, was below normal. Total snow accumulation for the entire winter period was 54.2". All snow was gone by April 13th and the last ice disappeared on April 19. Runoff began about the 27th of March and is still a problem of gate regulation at this writing.

Spring is later in arriving this year because of cooler temperatures and the greater amounts of moisture held since last fall. Farmers are just beginning to get into the fields for spring work at this writing.

No exceptional storm conditions were experienced this period. Strong winds were felt in March but believe that is normal for this area.

B. Habitat Conditions

1. Water

Rubble-Masonry Unit

When Willow Creek began to flood about April 7 this unit filled rapidly to an over-flowing condition. Water is still flowing over at Dam 2 and Willow Creek is dropping slowly. Latest record on the Creek was 250 cfs recorded April 29. As the water recedes this unit should provide an abundance of territorial sites for breeding pairs of waterfowl this spring as all the artificial potholes are full.

320 Unit

The radial gates were left open all winter and dropped when run-off first began the end of March. This gave us some time to open and draw water off from pools further downstream. We were held to a promise of only 2,000 cfs into Canada to prevent excessive flooding across the International Boundary and adjusted our gates accordingly. Incoming flow from the Souris plus side flow from Willow Creek was greater than 2,000 cfs and pools raised. A high of 1425.60 was reached on 320 Unit April 15 and had dropped to 1424.10 by the end of April. Approximately 2,064 cfs was still being released April 30.

Erosion on the dike and artificial islands was encountered due to high water and heavy wave action.

326 Unit

Stop logs had been inserted last fall to permit holding the level of this unit at about 1419.00 through the winter months. When runoff came the stop logs were removed and excess waters were handled by radial gates. A peak of 1420.40 was reached April 8 and is down slightly below the operating level of 1419.50 at this writing with 1,800 cfs passing through the gates.

332 Unit

Gates were kept closed during the winter months and spillage over the top occurred. During peak runoff this pool was difficult to hold down because of the side inflow from Deep River and Stone Creek. A peak of 1419.03 was reached on April 12 and has been steadily dropping since. Considerable flooding on private meadows due to backwater did occur. Complaints were received from Thor Jensen and Jesse Nermoe. This unit is now at operating level of 1417.00.

341 Unit

Gates on this unit were also in closed position during the winter months and later adjusted to release about 2000 cfs during peak runoff. No difficulty was experienced on this pool. A peak of 1416.50 occurred on April 6 but had dropped to 1415.0 by the end of the month. We still are one foot above the prescribed summer level of 1414.0

357 Unit

The center gate was cracked open one inch during the winter period to provide a minimum flow of 20 cfs into Canada. On March 30 the gates were opened to lower the pool from 1413.90 level to an operating level of 1412.75. Because we have been restricted to a 2000 cfs release, we still haven't attained our goal. A peak of 1414.40 was reached on April 18 and water washed over the open spillway. Boundary Creek contributed a heavy stream and is still running. At this writing we are down to 1413.00 and still spilling approximately 2,000 cfs into Canada. Now that peak runoff has passed, we may be able to reduce the flow into Canada considerably by the middle of May.

Most of our problems in managing water this spring stemmed from the following conditions:

We never knew what the Eaton project was doing upstream to affect the Souris River flow.

We went into freezeup with too much excess storage water.

It was difficult or impossible to anticipate side inflow from streams such as Stone Creek, Willow Creek, Deep River, Cut Bank, and District Irrigation Ditches.

The restricted release into Canada to prevent flood there gave us little latitude to prevent flooding here.

2. Food and Cover

Supplemental food such as ear corn and small grains was made available to upland game in major tree groves near headquarters and one area near the Nermoe bridge. Where deep snow was anticipated, the feeders were set up on stilted platforms. Use was made by pheasants, rabbits, sharptailed grouse and deer.

An abundance of waste grain was available when snow disappeared in April.

In spite of fairly deep snow at times, partridge, deer, grouse and pheasants survived in this area.

II. WILDLIFE

A. Migratory Birds

Ducks

The arrival of an American merganser on March 28, marked the beginning of the spring duck migration. By April 28, all common spring migrants had appeared on the refuge. A chronological tabulation of their first arrival dates is listed on page 6.

Compared with the same period last year, the refuge population of dabbling ducks was dissappointingly low. Waterfowl use days for these species dropped about eighty percent - with mallards, pintails and gadwalls showing the greatest decline. A late spring, about 10 days later than last year, plus an abundance of ideal habitat provided by flooded croplands in the refuge vicinity contributed to the slump in dabbler use days within the refuge boundary.

On the other hand, the overall number of diving ducks, mainly lesser scaup and canvasbacks was considerably above the numbers reported during past spring migrations. During the week of April 24, the refuge duck population was about 40,000 birds, with approximately 35,000 of the total being divers. Of the total diver population, lesser scaup numbered about 25,000 and canvasback about 9,000. This is nearly double the peak population recorded for these species last spring.

Coot

The first coot were observed on April 13. By the end of the period they numbered about 9,000 birds.

Again this year, 326 unit proved to be extremely attractive to both migrant and resident coot.

Whistling Swan

Whistling swan were first observed on April 12. The refuge population peaked at about 1,200 birds on April 15. By the end of the period only 20 "Whistlers" remained on the refuge.

Canada Geese

Canada geese returned to the refuge on March 21, the first day of spring. This is 12 days later than their arrival last year. The peak refuge population occurred during the week of April 10, when approximately 750 "Honkers" were using refuge pools. By the end of the period, only our resident flock of an estimated 240 "Canadas" remained.

Nesting by the resident Canada goose flock was well underway by April 13, when a survey of the nesting islands in 320 Unit revealed a total of 24 nests on 13 islands. The results of the survey are tabulated below:

<u>Island</u>	<u>No. Goose Nests</u>	<u>No. Eggs</u>
Ding	9	41
Near	1	6
Gadwall	2	9
West Broken	0	0
East Broken	0	0
Garrison	0	0
Gull	0	0
Cormorant	2	10
Flat	6	13
Varty	1	3
Badke	1	6
Otto	1	4
Bernie	1	3
Total	24	95

The captive goose flock came through the period without a single loss. On March 21, six full winged, immature geese of the 1959 flock and one adult captured during 1959 fall banding operations were transferred to the Kirwin Refuge in Kansas for immediate release in attempt to establish the birds on a new wintering area. The birds were marked with a solid white neckband. To date we have had no reports on these birds, nor have any of them, as far as we know, returned to Lower Souris.

The 1957 captive flock, consisting of nine free-flyers and three holdovers of the 1956 Lostwood flock, was released into the main goose pen on March 23, where the birds could escape at will. The flock showed no immediate concern to leave the pen; however, by the end of the period, all the birds were periodically flying in and out of the pen. At the present, there is little evidence that any of the birds are nesting.

White-fronted Geese

These birds were first noted in migration on April 10. The peak refuge population occurred on April 12, when an estimated 500 birds were seen in 320 Unit.

Snow and Blue Geese

Snow and Blue geese were first observed on April 12. This is 16 days later than their appearance last year. The flight of snows and blues was considerably above that of last year. An estimated 50,000 birds were present in the area at the end of the period. Most of these birds were feeding and resting in the flooded stubble fields along State Highway No. 5,

west of Bottineau. The peak refuge population was about 1000 snows and 1000 blues.

Water and Marsh Birds

Cranes: Sandhill crane were head in migration on
April 22. A group of 12 birds were seen on 320 pool on
April 23.

Grebes: Pied-billed and Horned grebes arrived during the third week of April. The other three species commonly found on refuge pools were not present by the end of the period.

Hérons: Both Great Blue Heron and Black-crowned Night Heron made their appearance during the third week of April. Thereafter, very few sightings were recorded for these species.

Shorebirds, Gulls and Terns

Shorebirds, gulls and terns began arriving April 11. Arrival dates are listed in the chronological record of migration.

Mourning Doves

The first mourning dove was seen around headquarters on April 16. By the end of the period these were very frequently observed throughout the area.

The following is a chronological record of the spring migration:

March	3	Horned Lark
	21	Canada Goose
	23	Crow
	28	Marsh Hawk, Meadowlark, American Merganser
	30	Mallard
	31	Pintail, American Goldeneye
April	1	Robin, Red-shouldered Hawk
	3	Slate-colored Junco
	4	Redwinged Blackbird
	5	Red-tailed Hawk
	6	Shoveler, Rough-legged Hawk
	7	Canvasback, Lesser Scaup, Ring-billed Gull
	8	Hooded Merganser
	10	White-fronted Goose, Tree Sparrow
	11	Coot, Sparrow Hawk, Killdeer, Bronzed Grackle, White Pelican
	12	Whistling Swan, Snow Goose, Blue Goose
	14	Double-crested Cormorant, Franklin's Gull, Green-winged Teal, Baldpate, Redhead, Ring-necked Duck, Bufflehead, Great Blue Heron
	16	Pied-billed Grebe, Mourning Dove

- April 17 Lesser Yellowlegs
 18 Yellow-headed Blackbird
 19 Black-crowned Night Heron, Marbled Godwit,
 Yellow-shafted Flicker, Vesper Sparrow,
 Blue-winged Teal
 20 Song Sparrow, Western Willet
 21 Horned Grebe, Gadwall, Chestnut-collared Longspur,
 Duck Hawk
 22 Sandhill Crane
 23 Myrtle Warbler
 25 Ruby-crowned Kinglet, Hermit Thrush, Swainson's
 Hawk
 26 Fox Sparrow, Purple Finch, Brown Creeper,
 Common Loon
 27 Kingfisher, Wilson Snipe
 28 Yellow-bellied Sapsucker, Ruddy Duck

B. Upland Game Birds

Ring-necked Pheasant

The refuge pheasant population is very low. Crowing counts conducted at the end of the period revealed nearly a 75 percent drop in the refuge cock population since last spring.

European Partridge

The breeding population of these birds is believed to be about the same as last spring.

Sharptailed Grouse

Dancing ground counts were not completed by the end of the period. The available data, however, indicates that the population trend is downward again this year.

C. Big Game Animals

Deer

An aerial census of the refuge deer herd on January 15 and 16 revealed a total of 160 deer. From 320 dike to the Canadian line, 41 deer - 20 percent bucks, 29 percent does, and 51 percent fawn - were tallied. In the area south of 320 dike 119 deer were seen. Heavy frost in the timbered river bottoms, however, reduced visibility, making it necessary to estimate the total population of deer in the Sandhills area. On the basis of the area covered and the deer seen, the estimated population for this area was 311 deer, which brings the total count up to 352 animals for the entire refuge.

D. Fur Animals, Predators, Rodents and other Mammals

Muskrat

326 Unit harbors a relatively high "rat" population again this spring. Other refuge units, on the other hand, support very few of the animals.

Mink

Sight and sign observations on this animal are common, especially in the vicinity of spillways and along the Souris River in the Sandhills area.

Beaver

Beaver sign is fairly common on all units. The Sandhills area supports the largest population.

Raccoon

We have more of these varmits than we prefer. They seem to be common on all parts of the refuge, despite our efforts to reduce their numbers.

Skunk

The population remains high.

Red Fox

Red Fox numbers appear lower this spring. The refuge bag by aerial hunters was considerably below that of last year.

Coyote

None were seen on the refuge this period. However, aerial hunting by Predator and Rodent Control personnel removed three animals in the Sandhills area.

Rabbits

Cottontails were noticeably scarce around the headquarters area. Jackrabbits appeared in fair numbers as soon as the snow disappeared. Snowshoe rabbits were not observed on the refuge during the period, but hunters reported them abundant in the Turtle Mountains to the east of the refuge.

Other

Porcupine and Red Squirrel are commonly observed in the wooded river bottoms this time of the year. Woodchucks were observed on 357 and 332 dikes and one observation near the Nelson bridge during early April. These are the first refuge observation on this species in a number of years.

E. Hawks, Eagles, Owls, Crows, Ravens and Magpies

Hawks

Six species were observed this period: Marsh hawk, Swainson's hawk, Rough-legged hawk, Red-shouldered hawk, Sparrow hawk and Duck hawk. Of these, the Marsh hawk is the most abundant, being commonly seen on all parts of the refuge.

Eagles

No Bald eagles were seen on the refuge this period. Two Golden eagles were frequently seen along the west side of 326 Unit during the late winter months.

Owls

Horned owls are relatively abundant. Almost every evening two or three birds can be heard in the headquarters area. Several Short-eared owls were observed during April. Six observations on Snowy owls were recorded during the period. The last of these was on April 5.

Crows and Magpies

A small number of Crows passed through the area during the last week of March. Magpies were relatively scarce. Only a few scattered observations on this species were recorded during the period.

G. Fish

Winter-kill hit some refuge pools again this year. Heaviest losses were behind the spillways in 332 and 341 Units. Suckers and Bullheads comprised the majority of the casualties, but a few Northern Pike were also noted.

Ice fishing on refuge waters was practically non-existent during the period. Only a handful of anglers have tried their luck since the heavy winter-kill of fish occurred during the past two winters.

I. Disease

None noted this period.

III. REFUGE DEVELOPMENT AND MAINTENANCE

A. Physical Development

Again the winter months precluded any but the most necessary outside work. The time was well spent readying

the old and newly acquired surplus equipment, performing inside maintenance and repairs that were put off until the winter period and inaugurating new ideas to make the coming summer's work an easier task. Following is a list of work projects accomplished:

Roads, Dikes and Structures

1. Snow removal, grading and filling on headquarters roads.
2. Several checks of all dikes during spring runoff were made to discover rat-run leakage.
3. Straw plugs were inserted at water control structures to prevent ice damage to gates.

Buildings

1. Complete headquarters cleanup to remove dead leaves, tree limbs and replace sod.
2. Completed renovation of kitchen which included new floor tile, new cupboards and cabinet, walls and ceiling and paint and a new clothes closet at Quarters No. 4.
3. Painted all interior walls and renovated bathroom which included new tub, floor, walls and pipe plumbing in Quarters No. 10-4.
4. New floor tile and walls installed in bathroom of Quarters No. 9-4.
5. New floor tile and woodwork and paint applied to kitchen and bathroom of Quarters No. 6.
6. New beam supports and joists installed in basements of Quarters No. 6, No. 4 and No. 2.
7. Remodeling of Transient Quarters which included new metal windows and new doors, shower and toilet stalls was begun this period.
8. All screens for Quarters No. 1 were painted.
9. Color coded all fire extinguisher locations in buildings.

Miscellaneous

1. Constructed tool and equipment boxes, pickup rack, new grain doors for cargo trailer, new saw horses, pheasant feeder hoppers and 36 grazing exclosures.

2. Repaired and serviced vehicle equipment as required.
3. Painted safety color coding on heavy equipment and trucks.
4. Daily care of captive goose flock entailed many man hours by Mr. Brandt - much of it on off-duty time.
5. Set out poison eggs on nesting islands to control predators in Units 320 and 326.
6. Set out grazing exclosures in refuge pastures for check on utilization and pasture condition.
7. In the office we were occupied with Land Use Plan map revision, Fire Prevention Plan revision, Hunting and Fishing Plan, Water Management Plan, Recreational Use Budget Plan, Budget Estimates, Major Property Inventory, Conference Papers, Records Disposal, Refuge Manager's Questionnaire and Performance Ratings, ad infinitum.

B. Plantings

1. Aquatic and Marsh Plants

None.

2. Trees and Shrubs

None.

3. Upland Herbaceous Plants

Al Brandt seeded 65 acres to a mixture of slender wheat, wild rye, sweet clover and alfalfa with fertilizer in G-48 as a part of the range rehabilitation project under S & M. Date of planting was April 6 - 8.

Seed mixture: 200 lbs. slender wheat
100 lbs. Canada wild rye
200 lbs. Sweet clover
30 lbs. Alfalfa
1000 lbs. 12-48-0 fertilizer.

4. Cultivated Crops

Refuge farm permittees were called in during the period and agreements and plans were made for the current crop year. Plowing in fields was first noted April 18.

Refuge personnel farm work will not get underway until mid-May.

IV. RESOURCE MANAGEMENT

A. Grazing

None this period.

B. Haying

None this period.

C. Fur Harvest

Beaver was the only furbearer trapped on the refuge this period. Five permittee trappers removed 57 animals during the season which ended on April 30. High water levels hampered trapping activities; even so, this year's catch was triple that of last year.

Predator control operations on nesting islands and around water control structures by maintenanceman Brandt netted 7 skunk, 3 mink, 1 weasel, 4 raccoon and 2 muskrat. The mink, muskrat, weasel and 1 raccoon were turned over in the round, to the State Game and Fish Department. We have no report on the price the furs brought.

Thirty-five mink pelts consigned to the New York Auction Company on December 22, 1959, brought a total of \$683.28, or an average price of \$19.52 per pelt. Mink pelts sold on the local market by permittee trappers averaged \$22.50 per pelt.

D. Timber Removals

None this period.

F. Other Uses

One special use permit for pasturing 300 bee colonies was in effect this period. Refuge income from this permit was \$30.00.

V. FIELD INVESTIGATION OR APPLIED RESEARCH

A. Progress Report

1. 1. Sharptailed dancing ground surveys began in mid-April and were completed at this writing. Land use tabulation in grouse study areas has not been completed.

2. Goose nesting islands were visited once in April to check on utilization by geese. A later check will be made in May to ascertain hatching success.

3. John Johanson Study - Mr. Johanson, graduate student from Utah State University, has arrived on duty for 6 months from April 1 - September 30 to conduct a study for master's thesis entitled "Some Effects of Cover Removal in Relation to Waterfowl Breeding Populations."

The study areas have been established and cover removed by burning in the designated study blocks.

Objectives are:

1. Determine effects of 100% cover removal on breeding populations.
2. Determine effects of 50% cover removal on breeding populations.
3. Determine effects of 75% cover removal on breeding populations.
4. To learn the modifications in nest distribution and nest density occurring with various degrees of cover removal.

The study will cover the two breeding season periods of 1960-1961.

VI. PUBLIC RELATIONS

A. Recreational Uses

No use of refuge recreation facilities was made during the winter period. There may have been bird watchers interested in viewing the concentration of snow and blue geese along State Highway 5 this spring, but none stopped into the office for direction.

B. Refuge Visitors

<u>Date</u>	<u>Name</u>	<u>Affiliation</u>	<u>Purpose</u>
1/11/60	J. McKenzie	NDG&F, Dickinson, N.D.	Courtesy call
1/14-15	A. Brazda	FWS, Minneapolis, Minn.	Aerial deer census
2/23	J. Lockhart	USGS, Grand Forks, N.D.	Ground water level survey
3/3	E. Zahn	FWS, Grace City, N.D.	Courtesy call
	W. Pfiefer	FWS, Minot, N.D.	" "
3/15	C. Grondahl	NDG&F	" "
	A. Adams	NDG&F, Rugby, N.D.	" "
	T. Klett	NDG&F, Bismarck, N.D.	" "
	H. Dubbert	NDG&F, Oakes, N.D.	" "
3/21	R. Means	FWS, Kirwin Refuge	Pickup Canada geese
4/8	H. Cosby	SCS, Minot, N.D.	Range management
4/9	E. Doeling	FWS, Minneapolis, Minn.	Water management
4/11	J. Frye	FWS, Kensal, N.D.	Pickup equipment

<u>Date</u>	<u>Name</u>	<u>Affiliation</u>	<u>Purpose</u>
4/12	D. Simpson	FWS, Minot, N.D.	GMA pickup scare devices
	D. McLaughlin	FWS, Coleharbor, N.D.	Mutual problems
4/14	W. Schmitz	FWS, Minneapolis, N.D.	Visit
4/20	J. Resler	McHenry Co. Commr.	Willow City road repair
4/20	C. Henry & wife	FWS, Bison Range	Courtesy call
4/22	C. Hall	FWS, Kensal, N.D.	Pickup posthole digger
4/23	Dr. D. Young & Students	MSTC, Minot, N.D.	Ornithology study
Occasional	J. Laughlin	FWS, Bottineau, N.D.	Predator control
	C. Decker	NDG&F, Upham, N.D.	Enforcement
	O. Crosby	USGS, Bismarck, N.D.	Water measurement
	Agr. Permittees	Refuge vicinity	Crop plans

C. Refuge Participation

- 1/21 - Smith met with Bottineau County Commissioners and Township Supervisors to discuss weed control in Bottineau County.
- 1/24- - Messrs. Smith, Johnson and Hammond attended Regional
1/30 Conference in Minneapolis.
- 3/2-4 - Johnson attended Radiological Monitoring School at Sand Lake Refuge.
- 4/5 - Hammond and Smith attended Bottineau County Sportsmen's Club meeting in Bottineau. Hammond presented information relative to establishment of a Canada Goose flock at Metigoshe Lake by the Club.
- 4/12 - Smith met with officers of Westhope Park Board and Country Club to discuss plans for spring work on the Meddaugh Park Recreational Area.
- 4/21 - Smith presented talk on "Wildlife as a Career" to students at North Dakota School of Forestry Career Day celebration.
- 4/23 - Smith conducted tour of refuge with Dr. D. Young and ornithology students from Minot State Teachers College.

VII. OTHER ITEMS

Vacancy created when Mr. LeRoy Sowl transferred to Lansing, Iowa in December 1959 still has not been filled.

Mr. John Johanson, graduate student at Utah State, has reported for duty April as Refuge Aid GS-4. He plans to work on a study involving cover removal and breeding waterfowl populations for a master's thesis.

The refuge personnel bowling team won 1st place in the Friday night league at Bottineau. LaFendrich Cigars was the sponsor. Messrs. Badke, Carlson, Hill, Johnson, Smith and Varty were members of the team.

Easement District III

High water and road washout conditions prevented us from visiting the Turtle Mountain Easements this period. A check was made in early May and data will be included in the next narrative report.

Photographs

Appended.

Credits

R. JOHNSON	:	Sections II, IV and all NR forms
E. SMITH	:	Sections I, III, V, VI, VII
W. HILL	:	Complete typing

SIGNATURE PAGE

Submitted by:

Edward J. Smith, Jr.
(Signature)
Edward J. Smith, Jr.

Refuge Manager
(Title)

Date: May 18, 1960

Approved, Regional Office:

Date: 5-25-60

James H. Carpenter
(Signature)

Regional Refuge Supervisor

3-1750
Form NR-1
(Rev. March 1953)

WATERFOWL

REFUGE Lower Souris

MONTHS OF January TO April 30, 19 60

[illegible]

3 -1750a

Cont. NR-1

(Rev. March 1953)

WATERFOWL (Continuation Sheet)

REFUGE Lower SourisMONTHS OF January TO April 30, 1960

(1) Species	(2) Weeks of reporting period								(3) Estimated waterfowl days use	(4) Production Broods: Estimated seen : total	
	3/6-12 11	3/13-19 12	3/20-26 13	3/27-4/2 14	4/3-9 15	4/10-16 16	4/17-23 17	4/24-30 18			
Swans:											
Whistling						1,175	60	20	8,785		
Trumpeter											
Geese:											
Canada			40	140	150	780	440	240	12,530		
Cackling											
Brant											
White-fronted						500			3,500		
Snow						1,500	500	1,000	21,000		
Blue						1,500	500	1,000	21,000		
Other											
Ducks:											
Mallard				15	510	835	590	805	19,285		
Black											
Gadwall							100	185	1,995		
Baldpate						30	30	590	4,550		
Pintail				10	1,460	300	480	1,185	24,045		
Green-winged teal						945	130	60	7,945		
Blue-winged teal							105	1,100	3,435		
Cinnamon teal											
Shoveler					160	1,060	95	335	11,550		
Wood											
Redhead						225	130	275	4,410		
Ring-necked								20	140		
Canvasback						655	2,150	8,960	82,355		
Scaup						12,825	26,800	25,285	454,370		
Goldeneye				2	100	300	30	30	3,134		
Bufflehead						64	30	90	1,288		
Ruddy								50	350		
Other											
Common Merganser				5	140	1,880	1,025	230	22,960		
Hooded Merganser					2	2	2		42		
Coot:						32	2,700	9,325	84,399		
				(over)							

	(5) Total Days Use	(6) Peak Number	(7) Total Production	SUMMARY	
Swans	8,785	1,175		Principal feeding areas	Refuge improvements
Geese	58,030	4,680			
Ducks	646,854	38,865		Principal nesting areas	
Coots	84,399	9,324			
				Reported by	Robert R. Johnson

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.
- (2) Weeks of Reporting Period: Estimated average refuge populations.
- (3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.
- (4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (5) Total Days Use: A summary of data recorded under (3).
- (6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.
- (7) Total Production: A summary of data recorded under (4).

3-1751

Form NR-1A

(Nov. 1945)

MIGRATORY BIRDS

(other than waterfowl)

Refuge Lower SourisMonths of January to April 30 1960

(1) Species	(2) First Seen		(3) Peak Numbers		(4) Last Seen		(5) Production			(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Number
I. <u>Water and Marsh Birds:</u>										
White Pelican	20	4/11/60								
Great Blue Heron	1	4/14								
Double-crested Cormorant	2	4/14								
Pied-billed Grebe	1	4/16								
Black-crowned Night Heron	1	4/19								
Horned Grebe	1	4/21								
Sandhill Crane	*	4/22								
Common Loon	1	4/26								
* Heard in migration										
II. <u>Shorebirds, Gulls and Terns:</u>										
Herring Gull	1	3/31/60								
Ring-billed Gull	50	4/7								
Killdeer	2	4/11								
Franklin's Gull	4	4/14								
Lesser Yellowlegs	1	4/17								
Marbled Godwit	2	4/19								
Willet	2	4/20								
Upland Plover	1	4/22								

(over)

(1)	(2)		(3)	(4)		(5)		(6)
III. <u>Doves and Pigeons</u> :	1	4/16/60						
Mourning dove								
White-winged dove								
IV. <u>Predaceous Birds</u> :								
Golden eagle	1	1/9		1	3/11/60			
Duck hawk	1	4/21						
Horned owl								
Magpie								
Raven								
Crow								
Snowy Owl	1	1/18		1	4/5			
Short-eared Owl	1	4/23						
Red-shouldered Hawk	1	4/1						
Rough-legged Hawk	1	4/6						
Swainson's Hawk	4	4/25						
Sparrow Hawk	1	4/11						
Marsh Hawk	1	3/28						
				Reported by <u>Robert R. Johnson</u>				

INSTRUCTIONS

- (1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiformes)
 II. Shorebirds, Gulls and Terns (Charadriiformes)
 III. Doves and Pigeons (Columbiformes)
 IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)
- (2) First Seen: The first refuge record for the species for the season concerned.
- (3) Peak Numbers: The greatest number of the species present in a limited interval of time.
- (4) Last Seen: The last refuge record for the species during the season concerned.
- (5) Production: Estimated number of young produced based on observations and actual counts.
- (6) Total: Estimated total number of the species using the refuge during the period concerned.

3-1752
Form NR-2
(April 1946)

UPLAND GAME BIRDS

1613

Refuge Lower Souris

Months of January to April 30, 1960

(1) Species	(2) Density	(3) Young Produced		(4) Sex Ratio	(5) Removals			(6) Total	(7) Remarks	
Common Name	Cover types, total acreage of habitat	Acres per Bird	Number broods obs'v'd.	Estimated Total	Percentage	Hunting	For Re- stocking	For Research	Estimated number using Refuge	Pertinent information not specificioally requested. List introductions here.
Ring-necked Pheasant									300	
European Partridge									400	
Sharptailed Grouse									400	

INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS.*

- (1) SPECIES: Use correct common name.
- (2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.
- (4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.
- (5) REMOVALS: Indicate total number in each category removed during the report period.
- (6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.
- (7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

* Only columns applicable to the period covered should be used.

3-1754
Form NR-4
(June 1945)

SMALL MAMMALS

Refuge Lower Souris

Year ending April 30, 1960

(1) Species	(2) Density		(3) Removals					(4) Disposition of Furs					(5) Total Popula- tion	
Common Name	Cover Types & Total Acreage of Habitat	Acres Per Animal	Hunting	Fur Harvest	Predator Control *	For Re- stocking	For Re- search	Share Trapping			Total Refuge Furs Shipped	Furs Donated	Furs Destroyed	
								Permit Number	Trappers Share	Refuge share				
Mink				66	10			T-9403	4	4	35	10*		300
								9406	3	4				
								9401	1½**	1½**				
								9404	2	2				
								9402	7	8				
								9405	13	16				
Muskrat					228							228*		3,000
Raccoon				44	26				44			6*		
Skunk				17	15				17					500
Badger				1	2				1					200
Weasel					2							2		100
Coyote					3***									10
Red Fox				2	69***				2			3		200
* List removals by Predator Animal Hunter														

* List removals by Predator Animal Hunter

REMARKS: * To North Dakota Game & Fish Department
 ** 1 pelt sold locally and proceeds divided
 *** Aerial hunting, 3 coyote and 18 red fox by PR agent
 " " , 47 red fox by one permittee

Reported by Robert R. Johnson

INSTRUCTIONS

Form NR-4 - SMALL MAMMALS (Include data on all species of importance in the management program; i. e., muskrats, beaver, coon, mink, coyote. Data on small rodents may be omitted except for estimated total population of each species considered in control operations.)

- (1) SPECIES: Use correct common name. Example: Striped skunk, spotted skunk, short-tailed weasel, gray squirrel, fox squirrel, white-tailed jackrabbit, etc. (Accepted common names in current use are found in the "Field Book of North American Mammals" by H. E. Anthony and the "Manual of the Vertebrate Animals of the Northeastern United States" by David Starr Jordan.)
- (2) DENSITY: Applies particularly to those species considered in removal programs. Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottom land hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) REMOVALS: Indicate the total number under each category removed since April 30 of the previous year, including any taken on the refuge by Service Predatory Animal Hunter. Also show any removals not falling under headings listed.
- (4) DISPOSITION OF FUR: On share-trapped furs list the permit number, trapper's share, and refuge share. Indicate the number of pelts shipped to market, including furs taken by Service personnel. Total number of pelts of each species destroyed because of unprimeness or damaged condition, and furs donated to institutions or other agencies should be shown in the column provided.
- (5) TOTAL POPULATION: Estimated total population of each species reported on as of April 30.
- REMARKS: Indicate inventory method(s) used, size of sample area(s), introductions, and any other pertinent information not specifically requested.

3-1754
Form NR-4
(June 1945)

SMALL MAMMALS

Refuge Lower Souris

Year ending April 30, 1960

(1) Species	(2) Density		(3) Removals					(4) Disposition of Furs					(5) Total Popula- tion	
Common Name	Cover Types & Total Acreage of Habitat	Acres Per Animal	Hunting	Fur Harvest	Predator Control *	For Re- stocking	For Re- search	Share Trapping			Total Refuge Furs Shipped	Furs Donated	Furs Destroyed	
								Permit Number	Trappers Share	Refuge share				
Beaver				26				T-9403	16	10				300
				11				9401	6	5				
				4				9404	****					
				10				9402	6	4				
				6				9405	3½	2½				
* List removals by Predator Animal Hunter														

* List removals by Predator Animal Hunter

REMARKS: ***** Furs yet to be divided.

Reported by Robert R. Johnson

INSTRUCTIONS

Form NR-4 - SMALL MAMMALS (Include data on all species of importance in the management program; i. e., muskrats, beaver, coon, mink, coyote. Data on small rodents may be omitted except for estimated total population of each species considered in control operations.)

- (1) SPECIES: Use correct common name. Example: Striped skunk, spotted skunk, short-tailed weasel, gray squirrel, fox squirrel, white-tailed jackrabbit, etc. (Accepted common names in current use are found in the "Field Book of North American Mammals" by H. E. Anthony and the "Manual of the Vertebrate Animals of the Northeastern United States" by David Starr Jordan.)
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- REMARKS: Indicate inventory method(s) used, size of sample area(s), introductions, and any other pertinent information not specifically requested.



Refuge personnel win First Place in Friday Night Bowling League at Bottineau, N.D. representing La Fendrich Cigars. Left to Right: Ray Badke, Ed Smith, Ike Varty, Roy Carlson, Bud Hill and Bob Johnson. (We scared em out of it!)



Spring freshets flow over boundary fence . Photo taken day after peak flow from SCS Drainageway. 4/7/60



Flood waters in 341 unit confine Jesse Nermoe's cattle to corral in feedlot. Photo taken 4/7/60.



View of southeast corner of J. Nermoe's feedlot. Photo taken 4/7/60