

Sand Lake National Wildlife Refuge

Narrative Report

January 1, 1959 to April 30, 1959

Personnel

Bruce P. Stollberg - - - - - Refuge Manager in Charge
James B. Monnie - - - - - Refuge Manager
Theodore O. Wahl - - - - - Refuge Clerk
Elmer P. F. Podoll - - - - - Mechanic
Albert W. Krege - - - - - Maintenance man

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Sand Lake National Wildlife Refuge

January 1, 1959 to April 30, 1959

I. GENERAL

A. Weather Conditions

A summary of weather data for the period January through April for the years 1957, 1958 and 1959 is given in the tables below, as recorded at the official weather station located at the refuge headquarters.

Sand Lake Weather Data

Month	Snowfall			Precipitation		
	'57	'58	'59	'57	'58	'59
January	2.5	3.0	2.0	.16	.22	.14
February	8.0	T	5.0	.29	1.72	.31
March	3.0	T	T	.10	T	.06
April	6.0	1.0	T	4.36	2.10	.49
Totals	19.5	4.0	7.0	4.91	4.04	1.00

Month	Max. Temp.			Min. Temp		
	'57	'58	'59	'57	'58	'59
January	35	54	48	-27	-13	-18
February	44	58	40	-21	-24	-30
March	52	59	63	2	13	5
April	79	88	85	11	17	11
EXTREMES	79	88	85	-27	-24	-30

The period opened in a dry condition and closed an even drier one. Precipitation was the lowest of record at Sand Lake.

Temperatures were also below normal. Record depths of frost were believed to have been reached. This is the result of extreme dry conditions allowing the cold to penetrate to as deep as five feet and removed to be lower. Refuge facilities operated at normal efficiency.

Subsoil and topsoil moisture conditions are really at a low ebb. Miraculously the spring planted grains are slowly coming along yet, while rain is sorely needed. Grasses have only changed color while not showing any measureable amount of growth. It is apparent that grazing operations will be affected, due to low moisture and cool temperatures.

B. Habitat Conditions

1. Water

a. Dakota Lake

At the start of the period Dakota Lake was at spillway level, with no water flowing down toward Sand Lake. The first flow was observed on March 26, when 2 inches of water was going over the spillway. Just five days later this flow had increased to 4 inches, which lasted about a week. The James River then started to fall rather rapidly, until by the end of April the Dakota Lake level was two inches below the spillway. Actually, this was more run-off than we expected due to the lack of soil moisture and scant snowfall.

b. Mud Lake

At the start of this period Mud Lake had a reading of 1270.67, which was .33 feet below the level desired for that time. This pool started to rise toward the end of March, so that by the end of April it was up to 1271.45, which was .35 feet below the elevation approved for that time. Very strong hot winds during the latter part of the period no doubt prevented this pool from reaching several inches higher than the level attained. Now that no water is entering from Dakota Lake, and the strong winds continue, we can expect this pool to fall all too rapidly.

c. Sand Lake

This pool had an ice reading of 1268.13 at the start of the period. This level was .87 feet under the draw-down reading desired for the winter period. No water was released from Mud Lake into this pool, since it is planned to hold as much reserve as we can there until a reasonably safe summer elevation is reached. Even this does not now seem likely.

The difficulty in holding a reserve water supply in a large comparatively shallow lake bed has been readily apparent here. Strong winds drive water over mud flats that have been exposed and dried out for several days. Then a wind shift will drive the water from these flats to those exposed prior to the change in wind direction. The result is an accelerated water loss due both to percolation and evaporation. This pool has dropped considerably by the end of the period, although no gauge and reading is possible due to the restricted channel between the gauge and Sand Lake proper at these low levels.

May 19 River 2

2. Food and Cover

We entered this period with 394 acres of standing corn, 240 acres of standing barley, 126 acres of standing millet and of course a large acreage of potential browse in our pastures. The supply of Sago seed for divers has no doubt been in short supply. The corn averaged about 15 bushels to the acre at the start of the period, a somewhat low figure due to fall blackbird damage and above-normal use by waterfowl. By the time we knocked down the corn in early March the food supply was further reduced by the large wintering population of pheasants and also numerous deer. We estimate that our corn averaged about eight bushels to the acre by the time spring migrants got to it.

Use of barley was quite a disappointment, both during the fall and spring. Last year the geese practically mowed it down as they moved across the fields. This year they hardly touched it, so that all the good we got from it was some very local feeding by ducks and geese, and more general feeding by pheasants. We can think of two reasons for the light use this year. The first could be the unusually dense stands, which limited visibility on the ground and may have discourage feeding by geese, which are unusually wary in this type of situation.

On the other hand, corn was thinned out by the drouth, and weed growth was less than normal, leaving most fields quite open and inviting. This situation was further improved by the normally short stalks, which made a considerable quantity of food available to both ducks and geese. By the time the blackbirds and ducks got through with the millet last fall there was little left for spring migrants.

Not as much goose browsing in refuge grazing units was noted this year in comparison with the past few years. Some small grain fields that were disced last fall also had a fair amount of volunteer green growth that was hardly used. This lack of browsing could have been due to the drouth, which no doubt lessed the palatability of the early spring growth.

We can't help but believe that we could greatly increase our use by divers if we could improve sago production. The carp removal and die-off in Sand Lake and Mud Lake could be a good start in this direction, as well as the aeration of the bottom of the sago-producing bays in Sand Lake.

Cover was considered ample during the period. Puddle ducks and geese generally preferred the few inches of water and mud flats in the bays of Sand Lake, although the Phragmites and cat-tail-lined channels and bays in Mud Lake also received good loafing use, especially during windy weather. One advantage of an uneven shoreline such as we have is that waterfowl can find sheltered water areas regardless of wind direction.

II. WILDLIFE

A. Migratory Birds

1. Waterfowl

a. Population Information

The weekly population estimates may be found on N.R. 1 and the observed arrival dates for all species is listed on page 5.

During the second week of January the 15 remaining Common Canadas left the refuge and 11 returned the week ending February 14. This flock increased to a spring peak of 6,250 during the last week of March.

The most striking aspect of the Snow and Blue Goose migration was the slow but steady increase of the flock over a four week period. This is quite a change from the years when about 100,000 pile into the refuge in a day. The peak population occurred during the week ending April 11. At that time 80,000 Snows and Blues were on the refuge and another 53,000 were using Hyatt Slough, Dakota Lake and Renziehausen Slough. These are rest areas located a few miles north and east of the refuge. This spring there was 56% less Snow and Blue use-days then in 1958.

The large flock of Mallards (30,000 - 50,000) which used the refuge during this period a year ago, was not present this year. Our wintering flock numbered only 3,000 birds for a duration of eight weeks during this period. This is about normal for the refuge.

b. Feeding or Nesting Preferences

The vast expanse of exposed mud flats available this spring was very attractive as loafing sites for waterfowl. In past years the refuge grazing units were used for this purpose and consequently more grazing of the refuge pastures occurred in those years.

There was very little feeding on the refuge this spring. Standing small grain was abundant and a fair amount of corn was available but the geese insisted on feeding away from the refuge. Near the end of the period a few thousand geese began browsing some of the disced and newly sprouted small grain fields on the refuge. Goose feeding off the refuge was mainly in harvested corn fields and the ducks mainly used stubble fields.

Twelve Canada Goose nests were located this spring. Ten of these were on islands, one on a muskrat house and one on the Columbia Dam. We believe that more time should be devoted to the locating of goose nests on this area. It seems that in some years muskrat houses are used extensively and that the natural phragmites islands are used more in other years. This year the lower water levels which produced dryer islands seemed to hold the most attraction. The artificial nests proved unattractive. For a report on this see Sec. V.

c. Predator Pressure

Predators, especially raccoon, appear to be one of the limiting factors in our goose nesting success. All of the islands on which goose nests were located showed sign of coons being present. Two destroyed nests have been located in only a couple hours of observation. Some of the islands are located a half-mile from the nearest shore and have water a couple feet in depth surrounding them. Possibly the coons were isolated on these small islands when the ice went out, but we believe they swim out to them also.

2. Other Waterbirds, Shorebirds and Doves

The arrival dates of these birds can be found in NR 1A and on page 5. The most interesting comparison to be made with last year is that all of the marsh and water birds arrived about a week later then last year and that most of the shorebirds and gulls arrived earlier then last year. The many acres of exposed mud flats probably attracted and held early arriving shorebirds and the numerous winter-killed fish did the same for gulls. In other years these early arrivals may just pass through the area and not be seen. This probably accounts for the earlier observations of shorebirds and gulls. The later arrival of marsh and water birds is difficult to explain unless our lower water levels could account for this.

The first cooing of Mourning Doves was noticed April 11. At the close of the period nest building is started.

Sand Lake Refuge Arrival Dates Migratory Birds Spring - 1959

<u>Date</u>	<u>Number</u>	<u>Species</u>
February 14	11	Common Canada Geese
March 3	5	Little Canadas
7	2	Black Duck
7	1	White-fronted Goose
9	1	Marsh Hawk
11	3	Common Merganser
12	12	Slate-colored Junco
14	2	Pintail
14	1	Rough-legged Hawk
19	=	Good Pintail migration
19	150	Redwing Blackbird
19	1	Killdeer
19	1	Sparrow Hawk
20	10	Herring Gull
22	2	Green-winged Teal
22	75	Snow Goose
22	3	Ring-billed Gull
22	3	Gadwall
23	4	Bairds Sandpiper
23	=	Blue Geese

<u>Date</u>	<u>Number</u>	<u>Species</u>
March 23	10	Lesser Scaup
23	10	Robin
23	1	Red-tailed Hawk
23	2	American Goldeneye
24	100	Redhead
24	6	Ring-necked Duck
25	2	Shoveller
25	25	Purple Grackle
26	31	Whistling Swan
28	17	Canvasback
28	1	Baldpate
28	1	Greater Yellow-legs
30	2	Bufflehead
31	1	Yellow-shafted Flicker
April 2	1	Mourning Dove
5	3	Ruddy Duck
7	3	Double-crested Cormorant
8	=	Considerable influx of Bairds Sand- piper and Marsh Hawks.
8	1	Great Blue Heron
8	1	Pied-billed Grebe
9	1	Coot
9	2	Blue-winged Teal
10	15	Pelican
10	1	Kingfisher
11	=	First Mourning Dove cooing.
11	1	Sharpshin Hawk
14	5	Franklin's Gull
14	1	Burrowing Owl
15	1	Avocet
15	1	Yellow-headed Blackbird
17	1	Sandhill Crane
17	1	Brown Creeper
17	5	Hudsonian Godwit
17	2	Purple Martin
17	2	Wilson Snipe
18	4	Marbled Godwit
18	20	Song Sparrow
18	3	Upland Plover
21	2	Horned Grebe
22	10	Black-crowned Night Heron
26	10	Lowitcher
26	=	Tree Swallows
26	1	American Egret
27	3	Wilson Phalarope
27	1	Western Grebe
27	1	Barn Swallow
27	40	Cliff Swallow
27	4	Lesser Yellow-legs
30	3	Semi-palmated Plover

B. Upland Game Birds

Ring-necked Pheasants are abundant. The mild winter with lack of heavy snowfall caused very little concentrating of birds. Little to no winter loss was experienced. Nesting has begun and it appears that the weather will be favorable for a good hatch. There is talk that one hen may be allowed in the bag this fall.

Grey Partridges are present in low numbers. Sight records this spring indicate that the population is about the same as a year ago. The mild winter and a good nesting season may help increase this species.

No observations were made of Prairie Chickens this period, except after our release of birds on the area. One sight record was recorded during the early days of winter. (Last Period). For information on Prairie Chicken releases see Section V.

Predation on the above species will probably remain at a high level as fox, raccoons and skunks are plentiful.

C. Big Game Animals

White-tailed Deer is the only species present in this category. Lack of snow cover prevented an adequate winter census. Again this year some deer retained their antlers up to the middle of April.

If the State Department opens Brown County for gun hunting this fall it would be advisable to have a season on the refuge.

D. Fur Animals, Predators, Rodents and Other Mammals

1. Fur Animals

Mink are fairly abundant on the refuge. The two trappers removed 59 this season which is the largest catch on record at this station since 1946 before which time records are vague. The drying up of water areas around the refuge and the muskrat freeze-out may have been inducive for mink to move into the area.

Muskrats were hit hard by the low water conditions and thick ice. Many rats were noted running on the ice, across public roads and even in the courtyard. We do not have an accurate guesstimation of the population, but feel sure that the population was reduced by the freeze-out.

No noted change in Beaver or Weasel population.

2. Predators

No change in population has been noted in the group. As had been expected in the past, raccoons are raising havoc with the goose nests. Coon sign has been located on every nesting island and two destroyed nests have already been located. A closer check, after the hatch is completed, will be made to determine the fate of the 12 known goose nests.

3. Rodents

A Woodchuck was killed in a shelterbelt about one-half mile east of the refuge near the George Crawford home. This appears to be the first Woodchuck record in this area for a number of years.

No change in the status of other rodents.

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

Hawks and Snowy Owls were much less common then a year ago. A few magpies were observed in January but then left the area. No ravens present. Bald and Golden Eagles were both present but in very small numbers. (1 Bald and 2 Golden).

F. Other Birds

Nothing new to report.

G. Fish

The extremely low water in Sand Lake Unit and the very cold weather this winter resulted in a near 100 percent kill in this unit. No fish sign has been observed this spring. In Mud Lake Unit the die-off was not complete as carp have been noted in the area. The turbidity of water in both units has been reduced and it is expecially noticeable in the smaller bays where wind action doesn't rile up the water. This spring for the first time since I came to the refuge a year ago, I could see the lake bottom through foot of water. Let's hope that before we have to open the gates at the lower end of the refuge, an effective carp dontrol device can be obtained.

Fishing was generally poor at the Hecla Recreation Area. A few northerns and perch were caught.

H. Reptiles

Nothing unusual observed. The first grass snake was observed on April 15.

I. Disease

None noted this period.

III. REFUGE DEVELOPMENT AND MAINTENANCE

A. Physical Development

1. Hauled 20 loads of rock for spot repair of levees and spread with motor patrol.
2. Made hose reels for fire hose at each residence.
3. Installed water filters in clerk's quarters and headquarters pump room. Also installed pressure tank and converted former large pressure tank into supply tank. Rearranged pump room and installed storage cabinet.
4. Installed glass in overhead door windows, painted doors, assembled and installed in new metal building.
5. Constructed new rack for diesel fuel tank.
6. Painted entire office space, rearranged furniture and bulletin boards. Constructed and installed sliding doors for the office wall cabinet.
7. Constructed and set up goose nesting platforms Two were of the platform type and ~~nine~~ were tubs mounted on single wooden posts. All were made predator-proof, we think.
8. Converted boom-type sprayer to jet-type.
9. Mounted 600 gallon water tank, with pump and hose, on Dodge dump truck and kept full for emergency fire use.
10. Constructed new stop logs for Mud Lake Structure, creosoted and installed as needed.
11. Smoothed dirt over trench to Site 4 well which contains new water pipe.
12. Graded roads on west side of refuge.
13. Completed construction of interior of second outdoor toilet at headquarters.
14. Made new martin house for headquarters area.
15. Spread 450 pounds of Borascue and Urebor on Leafy Spurge.

B. Plantings

All refuge units needing it have now been laid out in strips. Practically all small grain has been planted. Wheat, which was planted first, is now showing green in many fields, but growth is uneven due to inadequate moisture and low temperatures.

C. Collections and Redeipts

None

D. Control of Vegetation

375 pounds of Borascue and 75 pounds of Urebor were spread on Leafy Spurge patches during this period. The Rome disc was used again this period to enlarge the area in G-17 where we disced Phragmites last fall, and also to disc alternate strips in G-16 and 18 to compare this method of control with mulching.

Whether this method of control is practical remains to be seen. In spite of repeated working, it leaves the ground so rough that spraying

with a tractor will not be possible in the event that noxious weeds get a start. However, had we been able to flood the areas disced last fall, it is probable that the ground would have been smoothed out again by the action of the waves and silting. We also found it impossible to pull this disc through Phragmites in the north end of G-4, where there are no good openings between water and upland nesting habitat. This area has been dry since early last fall, and it appears that discing here during a drawdown will have definite limitations unless the drawdown period is an extended one. We plan to attempt to disc this area again after several weeks of drying weather.

E. Planned Burning

None.

IV. RESOURCE MANAGEMENT

A. Grazing

None

B. Haying

None

C. Fur Harvest

During the 1958 - 1959 trapping season, permits were issued to the following:

Robert Pence, Columbia, S. Dak.
Jack A. Telin, Hecla, S. Dak.

The following table summarizes the take of the trappers during the season.

1958-59 Fur Trap Take

<u>Species</u>	<u>Trappers Share</u>	<u>Gov't Share</u>
Mink	30	29
Muskrat	17	19
Beaver	one	0
Weasel	4	0
Skunk	39	0
Raccoon	145	0
Badger	6	0
Red Fox	75 (including 28 pups)	0

Government prices received at fur action were as follows:

19 mink @ \$17.75 for \$337.25
7 mink @ 14.00 for 98.00
3 mink @ 3.25 for 9.75
4 rats @ .82 for 3.28
12 rats @ .64 for 7.68
3 rats @ .30 for .90

Total commission of \$18.27

Fur sales by the trappers were a good deal better, averaging \$20.00 apiece for the entire lot for the season on mink.

The table on the following page summarizes the take of the trappers during the past years.

	SAND LAKE TRAP TAKE							
	Mink	Muskrat	Beaver	Weasel	Skunk	Raccoon	Badger	Red Fox
58-1959	59	36	1	4	39	145	6	75 (incl pups)
57-1958	32	115	2	3	22	229	1	31
56-1957	15	108	7	2	20	195	4	21 ←
55-1956	30	127	13	0	37	213	5	48
54-1955	32	0	8	1	7	440	0	5
53-1954	50	8	2	1	17	373	1	1
52-1953	36	5	0	5	62	97	10	1
51-1952	20	0	0	0	30	35	2	14
50-1951	12	3	0	0	30	15	2	2
49-1950	0	0	0	3	43	14	0	0
48-1949	12	0	0	1	75	34	3	1
47-1948	0	815	0	0	0	6	0	8
46-1947	10	1079	0	0	8	4	0	6

Av'g not representative.

D. Timber Removal

None

E. Commercial Fishing

None

F. Other Uses

One permit has been issued for keeping up to 150 hives on the refuge, a long standing custom here.

V. FIELD INVESTIGATIONS OR APPLIED RESEARCH

A. Artificial Goose Nesting Sites

Eleven artificial nesting sites were erected this winter, but none of these attracted nesting birds. Two platforms like the one shown in the photograph section were placed on the edge of Phragmites islands. Nine old wash tubs or similar objects were placed on poles and erected as shown in the photo section. All of these devices were placed in areas which have been frequented by pairs in past years. Predator proofing was accomplished by placing inverted tin cones on the poles.

After locating nests this spring we have concluded that at least two errors were made when planning this operation. First of all, only one nesting device was placed in the Mud Lake Unit where most of the nesting occurred this year. Last year under more normal water conditions more broods were seen in Sand Lake Unit. Secondly, we were of the impression that geese preferred to see around their nests in all directions. Therefore, our artificial sites were placed so that the top of the tub or platform would be level with the Phragmites tops. The nests, located this year, were constructed so that the geese's view was blocked on one or two sides.

It is our plan to expand the artificial nesting program next year. We will locate these devices throughout the refuge and lower part of them so that the bottom of the platform, or tub, will be only a foot above the normal spring peak elevation. We also will locate these devices on some of the islands which had nests this year and on which nest predation occurred.

The holes, to erect the tub supports posts in, were made during the winter using the Ford tractor and post hole digger along with some hand labor. Studite was welded on to the cutting edges of the auger and it remained fairly sharp after cutting 17 holes through ice and frozen mud.

B. Restoration of Prairie Chickens

Considerable interest has been expanded by various departments, toward the restoration of prairie chickens in this general area. One of the original reasons for establishment of Sand Lake Refuge at this location was for preservation of this species. An effort was made this period to transplant up to 50 birds here.

Approval was received from our State Department to trap birds near Bonesteel and Lake Andes, S. Dak. for release here. Four trips were made to the area and 15 males and 2 females were caught. The difficulty of obtaining females and unfavorable weather the latter part of the season left us short of the desired goal. All trapping was done with six cannon net traps located on the booming grounds.

At the time of one of the four releases, a recording of booming birds was played along with silhouette decoys of displaying males. This did not stimulate the two males released and they just walked away. This method of release should be given more use before deciding on its merits. The area mowed off for the release site is a large grassy area north of the Hecla Grade on the west side of the river.

At present no booming activity has been observed on or near the refuge. On two occasions chickens have been seen on the refuge and once off the refuge close to the release site. Undoubtedly these birds are scattered but still present in the area. We hope that next year a larger number of birds will be released and that a booming ground will be established.

Planning of the entire operation was directed by Merrill Hammond and Dave McLauchlin, biologists for the area. Prairie Chickens have been sighted in the area only rarely since the 40's. There has been no booming activity in this area for many years. Older area residents are as anxious as we are for our success in restoring the chickens to Sand Lake.

VI. PUBLIC RELATIONS

A. Recreational Use

The usual number of bird watchers descended upon us along with the spring migrants. Several groups camped on the picnic grounds, and all were considerate of our efforts (or lack of any) to give them the best opportunity to make their trip successful.

While there was some ice fishing early in the period at the Hecla Recreation Area, success was not very good due to shallow water, and there was little effort after the weather became cold.

B. Refuge Visitors

- 1/5 Mark Worcester, Dist. Agent, Br. Rodent & Predator Control, re: predators.
- 1/9 J. Cook, Weather Bureau Office, re: weather records.
- 1/27 Grady Mann, WHP Biologist, visit.
- 1/27 N. Ordal, Minnesota Conservation Dept., visit.
- 1/29 A. Gramm, Wildlife Editor, Aberdeen American New, refuge tour.

- 2/7 H. Dill, Mud Lake Refuge Manager, loan of equipment.
- 2/22 M. Reeves, WHP Biologist, visit.

- 3/20 D. Minehart, Area Conservationist SCS, farming program
- 3/27 H. Jensen, USGMA, enforcement.
- 3/31 C. Simmons, River Basins Biologist, water levels, wildlife etc.
- 3/31 S. Broshears, River Basins Engineer, water levels.

- 4/2-3 H. Nelson, Ass't. Ref. Supervisor, inspection research planning.
D. McLaughlin, Ref. Mgr. Biologist, Lake Andes, research planning.
M. Hammond, Biologist, Lower Souris, research planning.
- 4/3 E. Bush, American Chemical Co., re herbicide experiments
- 4/4 L. Jacques and part, artist, bird watching.
- 4/5 H. Nelson, Ass't Reg. Ref. Supervisor, re inspection
- 4/7 D. McLaughlin, Ref. Mgr. Biologist, Lake Andes, Prairie Chicken release.
- 4/7 M. Hammond, Biologist, Lower Souris, Prairie Chicken, release.
- 4/10 D. Saunders, Freelance photographer, re: movies.
- 4/11 Dr. Stan Harris, Minn. Conservation Dept., bird watching.
R. Jessen, same
C. Schroeder, N. Dak. State Game & Fish Dept., bird watching.
B. Adams, same
Dr. D. W. Warner, U. of Minn., bird watching.
- 4/14 M. Reeves, WHP Biologist, photography.
- 4/16 M. Hammond, Biologist Lower Souris Refuge, Prairie Chicken release.
- 4/29 A. E. Borell, Biologist, SCS, tour of refuge.
D. Minehart, Conservationist SCS, tour of refuge.

The following were frequent visitors:

- J. Hopkins, USGMA, Aberdeen, S. Dak.
- B. J. Rose, Area Game Manager, Aberdeen, S. Dak.
- E. Richardson, Game Warden, Aberdeen, S. Dak.
- K. Dybsetter, Tewaukon Refuge Manager.

C. Refuge Participation

- 1/20 The refuge manager attended a county meeting in Columbia on the control of insects in stored grain.
- 1/27 The refuge manager and assistant attended the annual meeting of the Brown County Crop Improvement Association of Hecla.
- 1/29 - 3/26 The refuge manager attended the meeting of the Brown County Sportsmen's Association.
- 2/11 The assistant manager attended a meeting of the Hecla Sportsmen.
- 2/21 The refuge crew participated in a permittee meeting at the Columbia Auditorium.
- 3/10 The refuge manager and assistant attended part of the annual meeting of the South Dakota Department of Game, Fish and Parks at Pierre.
- 3/24 The refuge manager showed a movie and gave a talk on migration at a meeting of the Lanford Garden Club and Junior Audubon Society.
- 4/11 The assist manager discussed refuge wildlife and took on a tour of the refuge an ornithology class and friends from the U. Of Minn.

VII. OTHER ITEMS

A. Easement Refuges

1. Dakota Lake

This 1,048 acre easement refuge is located four miles north of the most northern boundary of Sand Lake. It consists primarily of the James River channel with narrow strips of land on each side. The river itself varies in width from 1/4 to 1/2 mile depending upon the amount of water going over the spillway near the south end of the refuge. Elevations of the water backed up by the spillway near the south end of refuge are given with the records of water levels from Sand Lake.

Comparatively little use was made of this refuge this spring. In fact, two public hunting areas in the area showed considerably greater use than this easement refuge. Possibly the narrow stretch of water or some other factor deters any extensive waterfowl buildup.

Two to three inches of water went over the spillway for approximately three weeks in April. At the close of the period the water was two inches below the spillway with little prospect of additional inflow.

Populations reached a peak of 23,000 Snows and Blues and 2,300 Canada Geese. Very few ducks used the area this spring.

2. Maple River

This 1,120 acre easement refuge is located 14 miles northwest of the north end of Sand Lake. The water acreage is normally 150 acres although this figure is now lower due to dry conditions in that area. At the end of the period there was a slim chance that all but the river would be completely dry for the rest of the summer. With proper and adequate management this refuge offers excellent possibilities for duck and goose nesting habitat. Little to no waterfowl use was recorded.

B. Items of Interest

Refuge Assists Fire Fighting

With the lack of moisture creating a tinder box of the surrounding area numerous fires went out of control. Four times the refuge was called to assist with prairie fire control, and all but one time participated in squelching big wild fires. At no time was refuge land endangered but the refuge is part of the community fire program where all units are on call to all areas.

In addition the biggest contribution was to the school fire in Columbia. Since prairie fires had become so prevalent, the 600 gallon tank used during weed spraying operations had been readied for use in addition to the 100 gallon pickup truck pumper. This big tank was quite a noteworthy asset in the savings of adjoining buildings when the old frame school at Columbia burned the evening of April 29th.

Four loads of water were hauled by Krege and Podoll for transfer to fire trucks at the scene. Meanwhile Manager Stollberg was busy with the Panama pumper protecting rooftops of nearby homes. For a time at the peak of the fire, much of the town was endangered, emphasized by a brisk wind from the northeast and tinder dry surroundings.

Publicity favorably commended the refuge facilities and efforts and no doubt enhanced public relations a great deal. Sand Lake was the first auxiliary unit on the scene and were later joined by Hecla, Claremont, Groton, Leola, Frederick, Brown County Highway Department water trucks, the National Guard, Highway Patrol and Sheriffs Department as well as volunteers from the entire area. We can look forward to good support from outsiders in the event of a refuge fire. We must never lose sight of all the help we would need in one refuge fire. We should also continue to upgrade our facilities and maintain our high ranking with neighboring departments.

C. Credits

Monnie - Sections II, III B; V A, B; VII D.

Stollberg - Sections I B; III A, B, C, D, E; VI A, B, C.

Wahl - Sections I A; IV A, B, C; VII A, B.

D. Photographs

Photographs were taken by Stollberg and Monnie.

Bruce P. Stollberg, Refuge Manager

signature

James B. Monnie

Date

Assistant Refuge Manager

Approved Regional Office

Date

signature

name

title



One of the twelve Canada Goose nests located this year. 50-50L-836



This island on which the above nest was located. This island is in the Mud Lake Unit and is part of an old CCC dike. One nest on the opposite end of this island was destroyed by coons.



One of the artificial nesting tubs constructed this period. This particular one is made from the inside of an automatic washing machine. During years of normal water levels this would be in six inches to one foot of water.

SD-50L-837



This nesting platform looks inviting but had no use. In the future we will lower the poles so that the bottom of the platform will be about one foot above our normal high water level. In this picture the platform is about 4 feet above the water.

SD-50L-838



The completed new metal storage building.
It looks good and appears to be a well
made building.



This area was selected as the release
site for the Prairie Chickens. The moderate
grazing on the north end of the refuge
should make very suitable habitat for these
birds. We hope!



The drought conditions and windy days this spring found us enclosed in a cloud of dust for many days. Despite the establishment of strip farming some of the refuge fields were blowing. An accelerated tree planting program is needed. 50-50L-839



Same view on a clear day, without blowing dust. 50-50L-840



This picture shows what one permittee did to protect a sandy piece of ground. The corn crop failed here last year and millet was planted. The above practice was instrumental in saving this piece of ground from severe blowing this spring.

SD-SOL-841

W A T E R F O W L

REFUGE SAND LAKE

MONTHS OF January TO April 30, 1959

		(2)									
		Weeks of reporting period									
(1) Week ending	1/3	1/10	1/17	1/24	1/31	2/7	2/14	2/21	2/28	3/7	
Species	1	2	3	4	5	6	7	8	9	10	
<u>Swans:</u>											
Whistling											
Trumpeter											
<u>Geese:</u>											
Canada	15						11	11	11	100	
Cackling Little										5	
Brant											
White-fronted										1	
Snow											
Blue											
Other											
<u>Ducks:</u>											
Mallard	5000	5000	4000	3000	3000	3000	3000	3000	3000	3000	
Black											2
Gadwall											
Baldpate											
Pintail				1							
Green-winged teal											
Blue-winged teal											
Cinnamon teal											
Shoveler											
Wood											
Redhead											
Ring-necked											
Canvasback											
Scaup											
Goldeneye											
Bufflehead											
Ruddy											
Other											
<u>Coot:</u>											

3 -1750a

Cont. NR-1
(Rev. March 1953)WATERFOWL
(Continuation Sheet)REFUGE SAND LAKEMONTHS OF January TO April 30, 1959

(1) Week ending	(2) Weeks of reporting period								(3)	(4)
	3/14	3/21	3/28	4/4	4/11	4/18	4/25	5/2	Estimated waterfowl days use	Production: Broods: Estimated seen: total
Species	11	12	13	14	15	16	17	18		
<u>Swans:</u>										
Whistling			20	24	20	15	15	5	683	
Trumpeter										
<u>Geese:</u>										
Canada Common	1000	1500	6250	3750	2400	800	550	250	115,976	
Cackling (Little)	5	100	425	650	2000	3500	3000	1600	75,795	
Brant										
White-fronted	1	20	1	100	125	150	50		3,136	
Snow			5000	11000	22000	26000	28000	11000	699,000	
Blue			14750	33000	46000	54000	35000	14000	1,349,250	
Other										
<u>Ducks:</u>										
Mallard	3000	2000	5200	5000	4000	4000	2500	700	408,000	
Black	2	6	5	5	5	5			210	
Gadwall			25	70	70	100	100	100	3,055	
Baldpate			10	150	175	200	175	100	5,470	
Pintail	2	100	1000	950	900	800	600	300	31,971	
Green-winged teal			50	175	175	200	200	100	6,100	
Blue-winged teal					5	20	60	300	2,095	
Cinnamon teal										
Shoveler			10	30	60	125	175	200	3,800	
Wood										
Redhead			600	350	200	125	60	50	9,595	
Ring-necked			100	60	30				1,330	
Canvasback			25	20	75	75	30	10	1,625	
Scaup			400	325	450	500	350	400	16,175	
Goldeneye			50	40	20				770	
Bufflehead					10	10	15		245	
Ruddy				5	5	15	80	100	1,235	
Other Comm. Merganser	3		50	40	25		5		861	
Barrows Golden Eye			1						7	
Hooded Merganser				5	5				70	
<u>Coot:</u>					10	175	600		5,495	

(over)

	(5) Total Days Use	(6) Peak Number	(7) Total Production
Swans	683	24	
Geese	2,242,977	84,450	
Ducks	492,614	7,526	
Coots	5,495	600	

SUMMARY

Principal feeding areas fields adjacent to the refuge

Principal nesting areas Canada geese - between Mud Lake
Dike and 4-mile grade.

Reported by Stollberg & Monnie

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).

(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'd. Estimated Total	Percentage	Hunting For Re- stocking For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Ring-necked Pheasant	Marsh fringe, upland 10,000 acres					6,000	strictly estimate, insufficient snow last winter for adequate census.
European Partridge	Upland meadows & fields 4,000 ac.					30	
Prairie Chicken	Upland meadows 1000 acres					17	Transplanted on the refuge this period.
No Sharptail	Grouse seen or heard this period.						

3-1751

Form NR-1A

(Nov. 1945)

MIGRATORY BIRDS
(other than waterfowl)Refuge Sand Lake Months of January to April 30 1959

(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
<u>I. Water and Marsh Birds:</u>										
Horned Grebe	2	4/21	10	4/30	still	present				
Western Grebe	2	4/27	30	4/30	"	"				
Pied-billed Grebe	1	4/8	20	4/30	"	"				
White Pelican	15	4/10	300	4/30	"	"				
Double crested Cormorant	3	4/7	200	4/30	"	"				
Great Blue Heron	1	4/8	20	4/30	"	"				
Black-crowned N. Heron	10	4/22	20	4/30	"	"				
Sandhill Crane	1	4/17	1	4/17	1	4/17				
American Egret	1	4/26	1	4/26	1	4/26				
<u>II. Shorebirds, Gulls and Terns:</u>										
Dowitcher	10	4/26	100	4/30	still	present				
Killdeer	1	3/19	400	4/25	100	4/30				
Wilson's Snipe	2	4/17	10	4/30	still	present				
Willet Avocet	1	4/15	100	4/30	"	"				
Greater Yellow-legs	1	3/28	30	4/30	"	"				
Lesser Yellow-legs	4	4/27	70	4/30	"	"				
Baird's Sandpiper	4	3/23	200	4/30	"	"				
Marbled Godwit	4	4/18	20	4/30	"	"				
Hudsonian Godwit	5	4/17	10	4/30	"	"				
Herring Gull	10	3/20	300	4/10	50	4/30				
Ring-billed Gull	3	3/22	1500	4/10	500	4/30				
Franklin's Gull	5	4/14	5000	4/30	still	present				
Semi-palmated Plover	3	4/30	15	4/30	"	"				
Upland Plover	3	4/18	10	4/30	"	"				
Wilson's Phalarope	3	4/27	70	4/30	"	"				

* Very rough estimate mainly for comparative use.

SMALL MAMMALS

Refuge Sand Lake

Year ending April 30, 1959

(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	Marsh, Upland 5000			59				T-7696	30	29	29			50
Muskrat	Marsh 5000			36				and	17	19	19			500
Beaver	Marsh, Upland 5000			1				T-7697	1	0				10
Weasel	Marsh, Upland 10000			4					4	0				80
Striped Skunk	Marsh, Meadow 10000			39					39	0				400
Raccoon	Marsh, Upland 13000			145					145	0				400
Badger	Meadow, Field 8000			6					6	0				100
Red Fox	Marsh, Upland 8000			75					75	0				100

* List removals by Predator Animal Hunter

* List removals by Predator Animal Hunter

REMARKS:

Reported by James B. Monnie